AN-CPAL70-01
Cell Phone Signal Booster

User Manual

Introduction

With the popularity of mobile communications, people want to make a call anytime, anywhere, so the coverage requirement of communication network is higher and higher, but the reality is not so, sometimes mobile phone signal is not very good, you want to make a smooth call, even in some places cell phone cannot dial out. in this cases, cell phone signal booster can solve this problem in a certain extent.

Features

■ AGC(Automatic Gain Control): When the downlink output signal is too strong or self- oscillated, the uplink and downlink can automatically reduce the gain and reduce the interference signal

■ Self- Oscillation elimination: The system detects self- Oscillation, first reduces the link gain, then detects the loop, and finds that the self- oscillation is eliminated, the system returns to normal working state, otherwise, the power is turned off to prevent interference signal.

■ Inactivity Mode: When no user calls, the device is in standby mode, the uplink power amplifier is switched off, and the static power is decreased by 30%, so as to achieve the purpose of energy saving.

SAFETY WARNINGS

WARNING:

This equipment should be installed and operated with minimum distance 20cm （8 inches）between the radiator& your body.

FCC Cautions:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- 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 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.

SAFTY WARNING:

- End users must follow the specific operating instruction for satisfying RF exposure

Name	Model	Gain/Loss	photo

compliance.

- Do not remove the covers during working.
- Do not try to repair or replace any components inside of the equipment. Alteration or abuse of the equipment or other components will void this product's warranty, and could be dangerous to the user.

PACKAGE CONTENTS

(1) Packages include the following：

① 1Pcs AN-CPAL70-01 Booster with N Female connectors.

②AC/DC Power Adaptor.

③Screws Mounting Kits.

④User manual (this document).

(2) Booster interface description:

①Manual gain control knob and LED light：You can manually rotate the knob to adjust the gain of the corresponding frequency band .The corresponding LED on the right is used to indicate the following different working conditions of the booster.

LED Indicator	Booster working conditions
LED LIGHT	Continuous GREEN @normal; Twinkly GREEN @input signals may be not enough;
	Continuous YELLOW @ stronger input signals, AGC is working; Twinkly YELLOW@ self-oscillation happen ,AGC is working.
	Continuous RED@ power supply is shut down; Twinkly RED@ self-oscillation happen but power supply is NOT shut down.

②Power supply jack: The booster uses a power input range of DC 5-12V.

③INDOOR and OUTDOOR port： The two ports are used to connect outdoor and indoor antennas.

(3)Antennas and Cables:

In order to use the Booster, you still need the corresponding indoor antenna 1pcs, outdoor antenna 1pcs, outdoor cable 1pcs and indoor cable 1pcs.

Antennas and cables kitting information are as follows

Indoor Antenna	Rubber Antenna	PTE-RB-800-2100	3dbi @698-787MHz 3dbi @824-894MHz 3.5dbi@1710-1755MHz 3.5dbi @1850-1990MHz 3.5dbi @1710-2155MHz	
	Ceiling Antenna	PTE-CI-800-2500	3dbi @698-787MHz 3dbi @824-894MHz 4.5dbi@1710-1755MHz 4.5dbi @1850-1990MHz 4.5dbi @2110-2155MHz	
	Indoor Panel Antenna	AN-101	6dbi @698-787MHz 6dbi @824-894MHz 8dbi@1710-1755MHz 8dbi @1850-1990MHz 8dbi @2110-2155MHz	
Outdoor Antenna	YAgi Antenna	PTE-YG-800/1900	8dbi @698-787MHz 8dbi @824-894MHz 10dbi@1710-1755MHz 10dbi 1850-1990MHz 10dbi @2110-2155MHz	
	LPDA Antenna	AN-201	6dbi @698-787MHz 6dbi @824-894MHz 8dbi@1710-1755MHz 8dbi 1850-1990MHz 8dbi @2110-2155MHz	
	Omnidirectional glass fiberAntenna	PTE-GF-700-2500	3dbi @698-787MHz 3dbi @824-894MHz 5dbi@1710-1755MHz 5dbi @1850-1990MHz 5dbi @2110-2155MHz	
Indoor Cable	20feet 3D-FB Coaxial cable with N male connector	PTE-3D-FB-5NB	2.19db @698-787MHz 2.29db @824-894MHz 2.42db@1710-1755MHz 2.55db 1850-1990MHz 2.86db @2110-2155MHz	
Outdoor Cable	50feet 3D-FB Coaxial cable with N male connector	PTE-3D-FB-10NB	5.21db @698-787MHz 5.49db @824-894MHz 5.89db@1710-1755MHz 6.25db @1850-1990MHz 6.86db @2110-2155MHz	

Notes：The above model antennas are suitable for AN-CPAL70-01 booster.

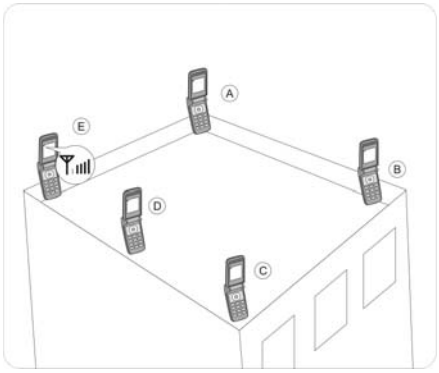
Warning：Unauthorized antennas，cables and/or coupling devices are prohibited by FCC rules. Please contact FCC for details：1-888-CALL-FCC

The antenna, cables, and other accessories of the booster kits shall not be modified without the approval of the ANNTLENT company, otherwise it shall be deemed invalid.

INSTALLATION INSTRUCTIONS

（1）Installation of Outdoor Antenna

The booster's main function is to improve weak RF signals of an area. A simple formula: Input power+ Gain= Output power. The signal strength from the outdoor antenna directly affects the efficiency of the indoor coverage. It is very important to choose the outdoor antenna location in order to get the best signals.



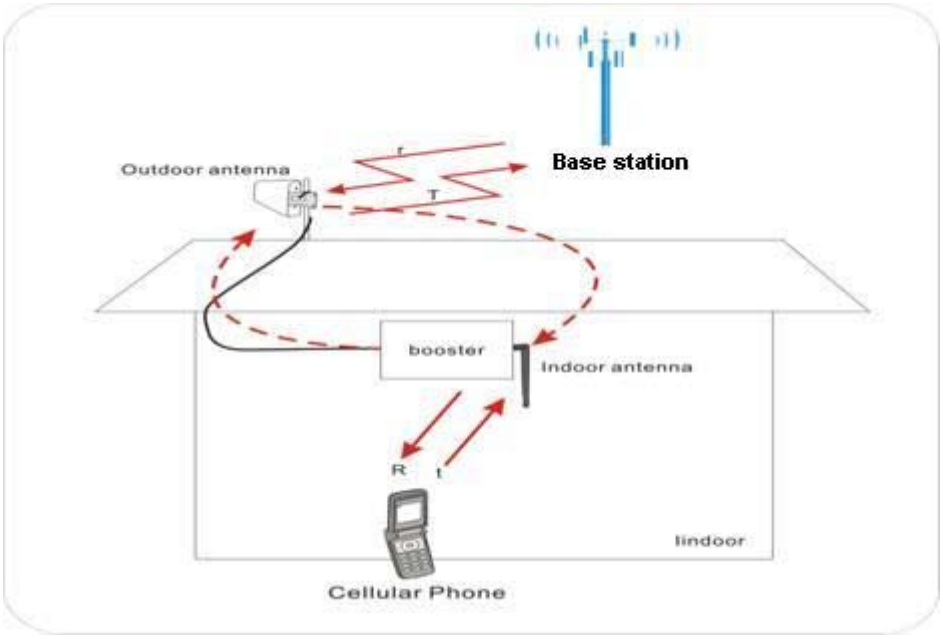
- Testing the signal strength received from outdoor antenna mounted in site by mobile phone:
- Please select the top of building to install the outdoor antenna if total floors are less than 7 floors, and shall try your best to select places like balcony or platform lower than 7th floor for outdoor antenna if the buildings are over 7 floors, because the mobile signals are clean at less than 7th floor.
- The mobile phone shall display full bar signals in location where the outdoor antenna is installed
- The phone calls or data transmission shall be smooth and stable by 3 times testing in location where the outdoor antenna is to be installed
- As shown from the above illustration, testing the signals from A to E, and select a

best place that displays full bar signals to install the outdoor antenna.

- Selecting the installation direction of outdoor antenna.
- The outdoor antenna shall point to the direction of the tower, and it would be much better to keep line of sight.
- Please select the opposite directions for outdoor antenna and indoor antenna. If outdoor and indoor antennas have to be installed in the same direction, please install them only after the signal quality is tested and the self-oscillation is avoided. If the directional antenna is selected, the main directional angle should point to the tower antenna.
- If the performance is poor due to weak signals or poor phone call quality, please adjust the direction of outdoor antenna or change its position in order to obtain the best calling effect.
- The wide band booster supports all mobile operators or different mobile systems, so please adjust the outdoor antenna direction to have balance between signals of different mobile operators or various mobile systems.
- Connect the outdoor antenna to the booster connector marked **OUTDOOR** with 10 meters 3D-FB Coaxial cable with N male connector

Important : Outdoor antenna installation ---Notes:

- In order to avoid interference, please note that the outdoor antenna should be far away from the following objects of metal, high-voltage line, RF antenna and high-voltage transformer.
- Booster is a two-way signal Booster. So proper isolation between outdoor antenna and indoor antenna is necessary in order to avoid self-oscillation.
- The minimum distance between outdoor antenna and indoor antenna shall be more than 10 meters; again the direction of outdoor and indoor antennas shall be opposite.
- As shown in the below illustration, the booster the downlink signal **r** from the tower and send to the indoor antenna hereafter. If the distance between outdoor antenna and indoor antenna is less than the required distance, the amplified signal **R** will go back from indoor antenna to outdoor antenna. So it will lead to self-oscillation and reduce the coverage area, also the bad calling quality could happen at the same time, and the worse is that the mobile network could be influenced badly and the operators will finally come to shut off the booster system.



- If isolation can't be achieved by the limited distance, the roof of the building or any other barriers can be used in between to increase isolation.
- Fix the donor antenna after selecting the best position, and adjust slightly its height or angles in order to get the signals with suitable input power level and calling quality.

（2）Installation of Indoor Antenna

- Proper antennas shall be selected according to the site conditions and the requirement.
- Omni antenna (Indoor ceiling omni antenna or whip antenna), is suitable to be installed in the center and radiate all directions.
- Indoor antenna must be operated at a fixed location inside a building, it is better to use a directional panel antenna when the coverage building is long and narrow.
- Connect the indoor antenna to the booster connector marked **INDOOR** with 20 FEET 3D-FB Coaxial cable with N male connector

Notes：

Booster transmitting in 1710-1755 MHz should be install/operate in one of two ways:

(i) the antenna for the device must be installed to comply with the 10 meter above ground maximum antenna height limitation OR

(ii) the antenna for the device has a 10 meter above ground maximum antenna height limitation when the device is used with a handset that covers the 1710-1755 MHz band and that owners could be subject to potential FCC enforcement action for noncompliance.

（3）Booster Installation

- Do not place the equipment in direct sunlight or in an area that has abrupt temperature and humidity changes .
- it is suggested that the booster is installed in a cool，dry and ventilated room without erosive gas and smoke.
- Connect power adaptor to the booster，connect The other end of power adaptor to the power outlet.

WARNING:

The input voltage for the booster is 5~12V DC. DO NOT use this Booster with a regular power supply that NOT 5~12V DC . otherwise, it will be damaged and the user may also be injured.

TROUBLESHOOTING AND SUPPORT

Problem	Resolution
LED is not light	1.Find an alternate power adaptor and try again. 2.Check the power outlet, the power adapter plug maybe is poor connected. 3.If the problem is still not solved, please contact our company support at support@ANNTLENT.com
Booster has no effect	1. Check whether the direction of the booster is worng connected. 2. Make a call to your mobile phone operator to determine if the frequency band is correct. 3. Check whether the indoor and outdoor antenna is installed correctly 4. At the location where the outdoor is installed, if your mobile phone is able to receive a stable 3 bars cell phone signal, If not, find a location where the mobile phone can receive a better signal to install the outdoor antenna. 5. Whether or not your house is a metal roof. If so, you will need to set up your outdoor antenna at least 3 meters above the roof.
Booster has effect ,but the effect is not ideal	Check if your outdoor signal is very weak. If you can only receive one or two bars cell phone signal in the outdoor. If so, contact our customer service and ask to replace the booster or antenna with a higher gain alternative.
Mobile phone can receive full signal, but can not normally	It Usually means that the booster is self-oscillated, please make the distance between the indoor and outdoor antenna as far as possible, it is better to use a wall or metal to Separate the indoor antenna and the out door antenna.

make a call	

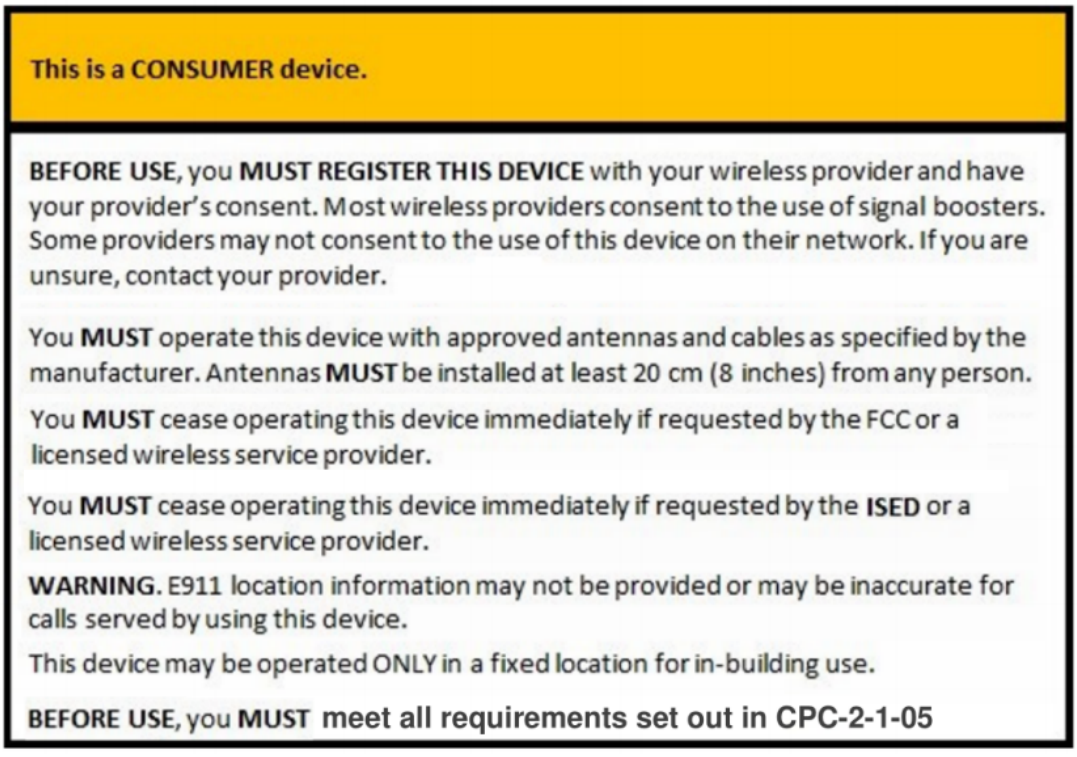
During using your Booster, if the Booster interferes with your radio or other electronic device, move the Booster further away from those devices, you might be able to solve it yourself.

If necessary，please contact your local dealer or send e-mail to our support team by the following methods:

E-mail: support@ANNTLENT-tech.com

If you want to know about ANNTLENT Company and products for more information, please visit at: www.ANNTLENT.com

Consumer booster warning label:



A subscriber must have the consent of a wireless provider to operate a Consumer Signal Booster. Subscribers may obtain provider consent in a variety of ways. For example, AT&T, Sprint, T–Mobile, and Verizon Wireless have voluntarily committed to allow their subscribers to use properly certificated Consumer Signal Boosters (i.e., boosters that meet the new rules) on their networks. Also, a signal booster manufacturer could seek

authorization for use of a particular booster model on behalf of all subscribers of individual providers. Alternatively, a provider may specify a testing protocol that if satisfied would result in licensee consent to specific booster models. A subscriber may also seek a licensee's express consent to operate a signal booster, e.g., by phone call or e-mail

The following selected information about wireless providers' Consumer Booster registration mechanisms supplements the requirements and information，and the FCC Signal Boosters website (http://wireless.fcc.gov/signal-boosters/).

Sprint Nextel will allow consumers to register their signal boosters by calling their toll-free number. They have already trained their calling center and have designated an engineer to handle inquiries. They may eventually allow consumers to register on their website but they want to gauge how the process works via phone first.

- T-Mobile online registration link: (www.T-Mobile.com/BoosterRegistration); (https://saqat.t-mobile.com/sites/SignalBooster#).
- Verizon's online registration link: (http://www.verizonwireless.com/wcms/consumer/register-signal-booster.html).

- AT&T will allow online registration and will inform OET Lab with the weblink when it is ready.
- U.S.Cellular : (http://www.uscellular.com/uscellular/support/fcc-booster-registration.jsp).

WARRANTY

Warranty information applicable to your Booster

- Warranty Period: 2 year.
- Type of Warranty Service: Customer Replaceable Unit and Customer Carry-In or Mail-In Service.
- ANNTLENT Company is not responsible for Shipping Cost.

For Warranty service consult the telephone list at www.ANNTLENT-tech.com/contact us.

What this Warranty Covers

ANNTLENT warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to ANNTLENT's Official Published Specifications which are available on request.

The warranty period for the Machine starts on the original date of installation. The date

on your invoice or sales receipt is the date of installation unless ANNTLENT or your reseller informs you.

This warranty does not cover the following:

Failure resulting from misuse, accident, modification, unsuitable physical or operating environment, or improper maintenance by you;

The warranty is voided by removal or alteration of identification labels on the Machine or its parts.

IC Statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation,
Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.
The term "IC: " before the certification/registration number only signifies that the Industry
Canada technical specifications were met. This product meets the applicable Industry Canada technical specifications.
Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada.
L'exploitation
est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage,
et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même sile
brouillage est susceptible d'en compromettre le fonctionnement.
Vous devez utiliser cet appareil avec des antennes et des câbles approuvés comme spécifié par le fabricant. Les antennes doivent être installées à au moins 20 cm (8 pouces)
de toute personne.
This product meet all requirements set out in CPC-2-1-05, URL:
http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08942.html
Ce produit répond à toutes les exigences énoncées dans CPC-2-1-05, URL:
http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08942.html

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