

INSTRUCTION MANUAL

**Uniden® U70** 

UNI-2020-CPAL



**Uniden®**  
cellular signal boosters



## SAFETY AND WARNINGS

- **Turn AC power OFF** at the mains before working on any electrical connections.
- All AC power wiring and coaxial cable wiring must conform to local or national codes.
- The AC line voltage must be within 10% of the voltage specified for the booster.
- A solid copper conductor no less than No. 8 AWG should be connected to ground.
- **DO NOT** connect a ground wire to a gas supply line.
- **DO NOT** open the booster. There are no serviceable parts inside. Touching internal parts could cause damage from static electrical discharge.

Opening the base unit **DOES VOID THE WARRANTY.**

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**NOTE:** This manual contains important safety and operating information. Please read and follow the instructions in this manual, failure to do so could be hazardous and result in damage to your cellular booster.

## 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 networks. 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 20 cm (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.

## ABOUT THE BOOSTER KITS

Our goal is to give you a proven solution that ends your frustration with weak and dropped cellular signals so you can enjoy excellent call quality, more convenience and greater productivity.

## BOOSTER KIT COMPONENTS



**UNIDEN U70 4G QB CELLULAR  
BOOSTER (UNI-2005CPAL)**

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### OUTDOOR ANTENNAS (signal)



**YAGI LDPA**



**PANEL**



**POST**

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### INDOOR ANTENNAS (distribution)



**WHIP**



**PANEL**



**DOME**

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### CABLES (various lengths available)



**U5D**



**U400**

# ANTENNA KITTING OPTIONS

## Outdoor Antenna & Cable Kit Options

- UNI-601 Outdoor Yagi Antenna (UNI-366) & 30' U5D Coaxial Cable (UNI-103)
- UNI-602 Outdoor Yagi Antenna (UNI-366) & 50' U5D Coaxial Cable (UNI-104)
- UNI-603 Outdoor Yagi Antenna (UNI-366) & 75' U5D Coaxial Cable (UNI-123)
- UNI-604 Outdoor Yagi Antenna (UNI-366) & 100' U5D Coaxial Cable (UNI-105)
- UNI-605 Outdoor Yagi Antenna (UNI-366) & 30' U400 Coaxial Cable (UNI-111)
- UNI-606 Outdoor Yagi Antenna (UNI-366) & 50' U400 Coaxial Cable (UNI-112)
- UNI-607 Outdoor Yagi Antenna (UNI-366) & 75' U400 Coaxial Cable (UNI-121)
- UNI-608 Outdoor Yagi Antenna (UNI-366) & 100' U400 Coaxial Cable (UNI-113)
- UNI-609 Outdoor Yagi High Gain Antenna (UNI-367) & 30' U5D Coaxial Cable (UNI-103)
- UNI-610 Outdoor Yagi High Gain Antenna (UNI-367) & 50' U5D Coaxial Cable (UNI-104)
- UNI-611 Outdoor Yagi High Gain Antenna (UNI-367) & 75' U5D Coaxial Cable (UNI-123)
- UNI-612 Outdoor Yagi High Gain Antenna (UNI-367) & 100' U5D Coaxial Cable (UNI-105)
- UNI-613 Outdoor Yagi High Gain Antenna (UNI-367) & 30' U400 Coaxial Cable (UNI-111)
- UNI-614 Outdoor Yagi High Gain Antenna (UNI-367) & 50' U400 Coaxial Cable (UNI-112)
- UNI-615 Outdoor Yagi High Gain Antenna (UNI-367) & 75' U400 Coaxial Cable (UNI-121)
- UNI-616 Outdoor Yagi High Gain Antenna (UNI-367) & 100' U400 Coaxial Cable (UNI-113)
- UNI-617 Outdoor Panel Antenna (UNI-363) & 30' U5D Coaxial Cable (UNI-103)
- UNI-618 Outdoor Panel Antenna (UNI-363) & 50' U5D Coaxial Cable (UNI-104)
- UNI-619 Outdoor Panel Antenna (UNI-363) & 75' U5D Coaxial Cable (UNI-123)
- UNI-620 Outdoor Panel Antenna (UNI-363) & 100' U5D Coaxial Cable (UNI-105)
- UNI-621 Outdoor Panel Antenna (UNI-363) & 30' U400 Coaxial Cable (UNI-111)
- UNI-622 Outdoor Panel Antenna (UNI-363) & 50' U400 Coaxial Cable (UNI-112)
- UNI-623 Outdoor Panel Antenna (UNI-363) & 75' U400 Coaxial Cable (UNI-121)
- UNI-624 Outdoor Panel Antenna (UNI-363) & 100' U400 Coaxial Cable (UNI-113)
- UNI-625 Outdoor Post Antenna (UNI-362) & 30' U5D Coaxial Cable (UNI-103)
- UNI-626 Outdoor Post Antenna (UNI-362) & 50' U5D Coaxial Cable (UNI-104)
- UNI-627 Outdoor Post Antenna (UNI-362) & 75' U5D Coaxial Cable (UNI-123)
- UNI-628 Outdoor Post Antenna (UNI-362) & 100' U5D Coaxial Cable (UNI-105)
- UNI-629 Outdoor Post Antenna (UNI-362) & 30' U400 Coaxial Cable (UNI-111)
- UNI-630 Outdoor Post Antenna (UNI-362) & 50' U400 Coaxial Cable (UNI-112)
- UNI-631 Outdoor Post Antenna (UNI-362) & 75' U400 Coaxial Cable (UNI-121)
- UNI-632 Outdoor Post Antenna (UNI-362) & 100' U400 Coaxial Cable (UNI-113)
- UNI-633 Outdoor Post Antenna (UNI-362) & 100' U400 Coaxial Cable (UNI-113)
- UNI-634 Outdoor Post Antenna (UNI-362) & 100' U400 Coaxial Cable (UNI-113)

## Indoor Antenna & Cable Kit Options

- UNI-373 Indoor Whip Omni Directional Antenna (UNI-373)
- UNI-651 Indoor Panel Antenna (UNI-374) & 3' U5D Coaxial Cable (UNI-119)
- UNI-652 Indoor Panel Antenna (UNI-374) & 15' U5D Coaxial Cable (UNI-118)
- UNI-653 Indoor Panel Antenna (UNI-374) & 30' U5D Coaxial Cable (UNI-103)
- UNI-654 Indoor Panel Antenna (UNI-374) & 50' U5D Coaxial Cable (UNI-104)
- UNI-655 Indoor Panel Antenna (UNI-374) & 75' U5D Coaxial Cable (UNI-123)
- UNI-656 Indoor Panel Antenna (UNI-374) & 100' U5D Coaxial Cable (UNI-105)
- UNI-657 Indoor Panel Antenna (UNI-374) & 30' U400 Coaxial Cable (UNI-111)
- UNI-658 Indoor Panel Antenna (UNI-374) & 50' U400 Coaxial Cable (UNI-112)
- UNI-659 Indoor Panel Antenna (UNI-374) & 75' U400 Coaxial Cable (UNI-121)
- UNI-660 Indoor Panel Antenna (UNI-374) & 100' U400 Coaxial Cable (UNI-113)
- UNI-661 Indoor Dome Antenna (UNI-372) & 3' U5D Coaxial Cable (UNI-119)
- UNI-662 Indoor Dome Antenna (UNI-372) & 15' U5D Coaxial Cable (UNI-118)
- UNI-663 Indoor Dome Antenna (UNI-372) & 30' U5D Coaxial Cable (UNI-103)
- UNI-664 Indoor Dome Antenna (UNI-372) & 50' U5D Coaxial Cable (UNI-104)
- UNI-665 Indoor Dome Antenna (UNI-372) & 75' U5D Coaxial Cable (UNI-123)
- UNI-666 Indoor Dome Antenna (UNI-372) & 100' U5D Coaxial Cable (UNI-105)
- UNI-667 Indoor Dome Antenna (UNI-372) & 30' U400 Coaxial Cable (UNI-111)
- UNI-668 Indoor Dome Antenna (UNI-372) & 50' U400 Coaxial Cable (UNI-112)
- UNI-669 Indoor Dome Antenna (UNI-372) & 75' U400 Coaxial Cable (UNI-121)
- UNI-670 Indoor Dome Antenna (UNI-372) & 100' U400 Coaxial Cable (UNI-113)

## QUICK INSTALL OVERVIEW

### 1. Uniden Booster - Select Location

Install the Uniden Booster in an area that is protected from the weather, properly ventilated and is away from excessive heat and moisture.

### 2. Donor (Outdoor) Antenna - Select Location

The ideal location for the outdoor antenna is on the roof of the building or a mast structure. The antenna should be placed in a manner that allows it to capture the best possible cellular signal.

### 3. Outdoor Coaxial Cable - Select Location

Connect the outdoor coaxial cable to the connection on the back of the outdoor antenna and run the cable to the Uniden Booster and attach it to the connector labelled "outdoor" on the Uniden Booster.

### 4. Indoor Coaxial Cable - (if used)

Connect the indoor coaxial cable to the connector labelled "indoor" on the Uniden Booster. Run the cable to the location of your indoor antenna and attach it to the connector on the back of the indoor antenna.

### 5. Indoor Antenna

The ideal location for the indoor 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.

**Whip Antenna** - connect the whip antenna directly to the Uniden Booster to the connector labelled "indoor".

**Panel or Dome Antenna** - mount to wall or ceiling in your selected location and attach to coaxial cable that is connected to the Uniden Booster.

### 6. Lightning Surge Protector - (sold separately)

The lightning surge protector connects in between the outdoor antenna and the Uniden Booster. The lightning surge protector can be installed indoors or outdoors. When connecting outdoors, install the lightning surge protector inline between the outdoor antenna and the outdoor coaxial cable. When connecting indoors, install the lightning surge protector inline between the outdoor coaxial cable and the Uniden Booster.

### 7. Commissioning The System

A. Before powering up the Uniden Booster, be sure that all connections are tight and confirm the power adapter is connected to the AC 110 volt line.

B. Power on the Uniden Booster by connecting the power adapter to the device.

C. Check the status of the alarm LED lights and be sure they are all green.

The gain control dip switches on the Uniden Booster are set in the off position when shipped, please refer to the instruction manual for more detailed instructions to attenuate your Uniden Booster.



## 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.

## TOOLS REQUIRED



Phillips Screwdriver

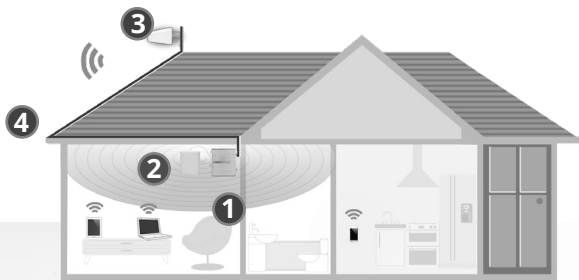
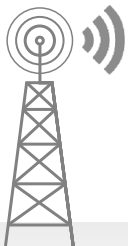


Drill



Cellular Phone  
(to check signal strength)

## HOW TO INSTALL YOUR NEW CELLULAR BOOSTER



**1** Booster

**2** Indoor Antenna

**3** Outdoor Antenna

**4** Coaxial Cable

## 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. If you do not understand the instructions in full, please contact technical support at **1-800-215-7015**.

**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**

### **SIGNAL 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 signal (outdoor) antenna to the booster.

**4**

### **INDOOR COAXIAL CABLE - (IF USED)**

The indoor coaxial cable is used to connect the distribution (indoor) antenna to the booster.

**5**

### **DISTRIBUTION 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.**

# 6

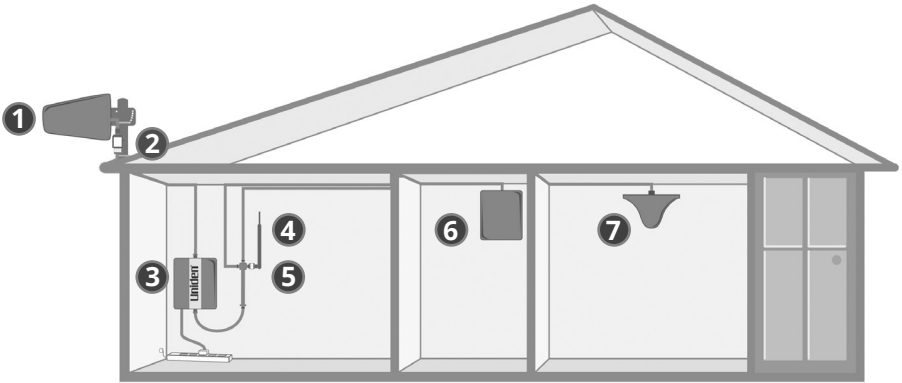
## LIGHTNING SURGE PROTECTOR - (SOLD SEPARATELY)

The lightning surge protector connects in between the signal antenna and the booster.

**IMPORTANT: Lightning surge protector must be grounded.**

# 7

## COMMISSIONING THE SYSTEM



- 1 Signal Antenna (**outdoor**)
- 2 Surge Protector
- 3 Booster
- 4 Distribution Antenna (**indoor**)

- 5 Splitter  
(if using multiple antenna)
- 6 & 7 Distribution Antennas  
(optional antennas for additional coverage)

## **GETTING STARTED**

### **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.

### **IDENTIFY THE BEST LOCATION TO INSTALL THE SIGNAL (OUTDOOR) ANTENNA.**

#### **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 the area**

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

## **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.

## **INSTALL THE SIGNAL (OUTDOOR) ANTENNA**

### **Mount the signal (outdoor) antenna:**

The signal antenna should be located as high as possible in order to capture the best quality signal from the cellular tower.

When installing a directional antenna, in order to avoid large trees or obstacles, you may need to slightly tilt the antenna upwards to capture a usable signal.

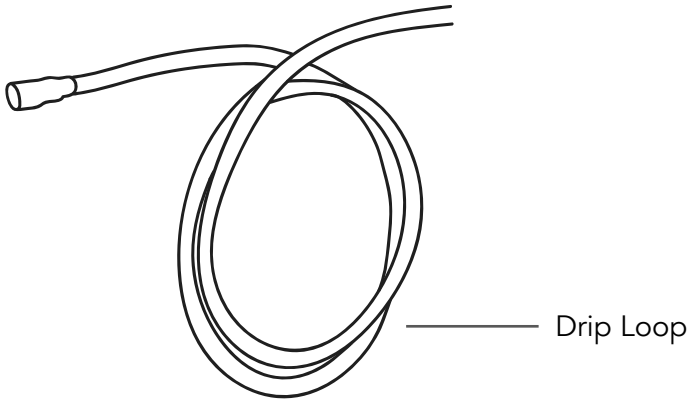
Use the mounting hardware in the kit to attach the signal (outdoor) antenna to the building.

### **Connect the signal (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. (see image next page).

Once mounted, connect one end of the coaxial cable to the signal (outdoor) antenna and the other end to the cellular booster where it is marked "outdoor".



**CAUTION:** please ensure neither you nor the antenna come in contact with electrical power lines.

## UNDERSTAND THE DIFFERENT SIGNAL (OUTDOOR) ANTENNA

Signal (outdoor) antennas, are needed to capture the signal emanating from your carrier's cellular tower. There are different types of signal (outdoor) antennas each designed to meet your specific needs. The yagi lpda antenna, the post antenna & the panel antenna.



### The Yagi Uda 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 Post Antenna

The post is an omni-directional antenna with a 360 degree reach. This antenna should be installed in an elevated position. It is designed to capture the signal from multiple carrier towers.



### 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.

## LIGHTNING SURGE PROTECTOR (sold separately)

The lightning surge protector can be installed indoors or outdoors. When connecting outdoors, install the lightning surge protector inline between the signal antenna (*outdoor*) and the coaxial cable. When connecting indoors, install the lightning surge protector inline between the outdoor coaxial cable and the booster.



**IMPORTANT:** Lightning surge protector must be grounded. Connect a ground wire to the appropriate place on the lightning surge protector and connect the other end to a verified ground source.

## INSTALL THE DISTRIBUTION (INDOOR) ANTENNA

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

### **Dome 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.

### **Whip omni directional antenna**

Mount directly to the connector marked "indoor" on the cellular booster.



## **CONNECTING THE DISTRIBUTION (INDOOR) ANTENNA**

### **Dome omni directional antenna**

Connect one end of the coaxial cable to the dome antenna and the other end to the cellular booster where it is marked "indoor".

### **Panel directional antenna**

Connect one end of the coaxial cable to the panel antenna and the other end to the connector on the cellular booster where it is marked "indoor".

### **Whip omni directional antenna**

Connect the antenna's end directly to the connector on the cellular booster where it is marked "indoor".

**NOTE:** In some cases multiple distribution antennas will be required for complete coverage in large buildings and multiple levels.

## UNDERSTAND THE DIFFERENT DISTRIBUTION ANTENNAS

There are several types of distribution (indoor) antennas: the whip antenna, the dome antenna & the panel antenna.

### INDOOR ANTENNAS



#### The Whip Antenna

The whip 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 connected directly to the booster.



#### The Dome Antenna

The dome 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.

The following diagrams show the reach of each antenna based on the layout of the space they are mounted in:



: **Booster**



: **Indoor Panel Antenna**



: **Splitter  
(2 way cavity splitter  
shown)**



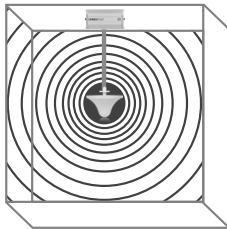
: **Indoor Dome Antenna**

**NOTE:** installing additional distribution (**indoor**) antennas may be necessary when the area that needs coverage is very large or has barriers that block cellular signals such as multi level homes and buildings.

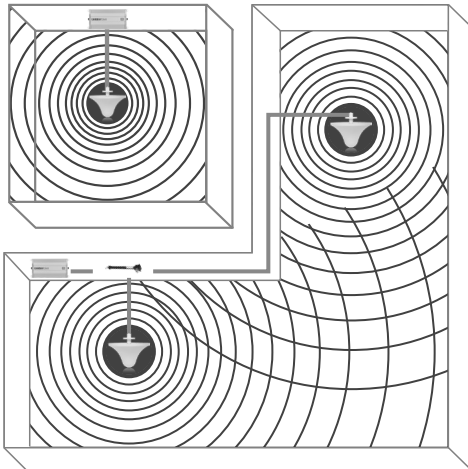
**Image 1&2:** Omni directional antennas will provide better coverage for square rooms.

**Image 3:** Directional antennas will provide better coverage in rectangular rooms.

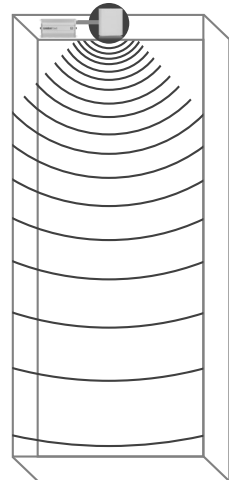
**Image 1**



**Image 2**



**Image 3**



## ANTENNA SEPARATION



**IMPORTANT:** Do not connect your cellular device to the cellular booster, as it may damage your cellular device.

## **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.

## **POWER UP YOUR CELLULAR BOOSTER**

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

# IMPORTANT:

- 1** Never point the front of the yagi signal (**outdoor**) antenna towards the inside of the distribution (**indoor**) antenna.
- 2** Verify that the supplied coaxial cables from both the signal (**outdoor**) antenna and the distribution (**indoor**) antenna are properly connected to the cellular booster before powering it up.
- 3** Carefully plug in the supplied 110-volt power adaptor into the back of the cellular booster where it is marked 'power' and connect the other end to a power outlet.



**WARNING!** Using a power supply that is not included in your kit could damage your equipment and void your warranty.

## CHECK THE CELLULAR BOOSTER LED ALARM LIGHTS

Your cellular booster comes equipped with electronic sensors designed to identify cellular signal overload or oscillation which can hinder signal-boosting performance. Your cellular booster is specially designed to automatically decrease gain to compensate for these circumstances. The device also has a feature to automatically shut down in case of excessive oscillation.

Improper equipment installation and unusable signal quality can cause oscillation, this is why it is important to fully understand the LED alarm lights on your booster, as they will help you identify and solve any potential issues.

The color of the LED indicates the status of the booster system.

## LED INDICATORS

The color of the LED indicates the status of the booster for each of these frequencies.

There is one alarm LED light for each of the cellular frequency ranges.

## CHECKING THE SIGNAL STATUS

The signal indicator's LED will notify you as to whether your cellular booster is experiencing any oscillation or feedback. The purpose of these LED's is to allow you to fine tune your booster to achieve optimal signal quality.

The bullet list below indicates what measure should be taken based on the color of the LED alarm lights.

- **Green:** indicates the system is working properly.
- **Orange:** the system is experiencing slight oscillation and requires slight adjustment. See next page for adjustment procedures.
- **Red:** the system is experiencing severe oscillation. Turn the unit off and make adjustments as outlined on the next page.
- **OFF:** if the LED is off it is likely the system went into oscillation so severe that the auto gain and level control circuits turned the cellular booster off.

## ADJUSTING THE MANUAL GAIN CONTROL

The Uniden U70 4G QB (UNI-2005CPAL) allow you to manually attenuate the db gain of the device in increments of 1db with a maximum of 31 db.

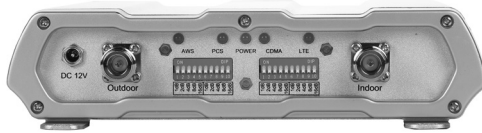
The manual gain control (MGC) adjusts the overall amplification level (gain) of the booster. The Manual Gain Control is used to resolve the issue of oscillation without the need of readjusting your antennas, in most cases.

The MGC allows you to easily reduce the amount of gain (amplification) the booster is emitting. This is done with a set of dip switches to attenuate the gain on the side of the booster.

There are four sets of dip switches, when put into the "ON" position will reduce the gain of the booster for the designated frequency. When the LED alarms indicate oscillation (turns orange, red or off) you need to reduce the gain of booster for the appropriate frequency. Do this gradually in order to determine the ideal level.

The Uniden U70 4G QB (UNI-2005CPAL) can be have the gain reduced by 31 db. When a dip switch is moved up to the "ON" position it will implement a reduction for the amount of gain indicated. Therefore, to implement a 5 db reduction, push the dip switch marked 4 & 1 up. To implement a 10 db reduction push the dip switch marked 8 & 2 up.





**Uniden U70 4G QB (UNI-2005-QB-CPAL) MGC dip switches**

## HERE IS A BREAKDOWN OF THE DIP SWITCH SECTIONS

**The first section is labeled 'AWS'** The first set of dip switches control the attenuation of the 1700/2100 MHz frequency range.

### **The second section is labeled 'PCS'**

The first two dip switches control the attenuation of the 1900 MHz frequency range.

### **The third section is labeled 'CDMA'**

The first two dip switches control the attenuation of the 850 MHz frequency range.

### **The fourth section is labeled 'LTE'**

The first two dip switches control the attenuation of the two 700 MHz frequency ranges.

Each set of dip switches gives you the ability to reduce the amplification by 31db in 1db increments. The first dip switch represents a 1 db reduction, the second a 2db reduction, the third a 4db reduction, the fourth an 8db reduction and the fifth a 16db reduction.



## POWERFUL

70 dB max gain and 20 dbm of linear output power.  
Ideal for areas with extremely weak signal.

## WIRELESS CONNECTIVITY

Wirelessly connect up to 100 cellular devices, including phones, smart phones, tablets and data cards.

## NETWORK COMPATIBILITY

2G, 3G, 3G+, 4G  
Works on all technologies including CDMA, PCS, HSPA, HSPA+, AWS, LTE.

## MANUAL GAIN CONTROL

Adjust the uplink and downlink gain of your device during installation to ensure crystal clear signal.

## AUTO GAIN CONTROL

The AGC function will automatically adjust the strength of your signals for you to enjoy optimum cellular performance.

## AUTO SHUT OFF

Automatically shuts down the device incase of oscillation or an overloaded signal in order to prevent interference.

## BOOSTER TECHNICAL SPECIFICATIONS

Electrical Specifications		Uplink	Downlink
Frequency range	LTE (A+B)	704 ~ 716 MHz	734 ~ 746 MHz
	LTE C	776 ~ 787 MHz	746 ~ 757 MHz
	CDMA	824 ~ 849 MHz	869 ~ 894 MHz
	PCS	1850 ~ 1910 MHz	1930 ~ 1990 MHz
	AWS	1710 ~ 1755 MHz	2110 ~ 2155 MHz
Band width	LTE (A+B)		12 MHz
	LTE C		10 MHz
	CDMA		25 MHz
	PCS		60 MHz
	AWS		45 MHz
Max. Gain		≥65dB	≥70dB
Max. Output Power		≥17dBm	20~25dBm
MGC (Step Attenuation)		31dB/1dB step	
Automatic Level Control		≥ 15dB, auto shut off after 15dB	
Automatic Gain Control		51dB	
Inter-modulation	9KHz~12.75GHz	≤-13dBm	≤-13dBm
SpuriousEmission	9KHz~12.75GHz	≤-13dBm	≤-13dBm
LED Alarm		Standard	
Power LED		Power Indicator	
ALC LED		Orange @ ALC 1~5dB, Red @ ALC 15dB LED off after 5 seconds red color.	
Mechanical Specifications		Standard	
I / O Port		N-Female	
Impedance		50 ohm	
Operating Temperature		-10°C~+80°C	
Environment Conditions		IP40	
Dimensions		218*165*50mm	
Weight		≤ 2.5Kg	
Power Supply		Input AC90~264V, Output DC12V / 3A	

## NOTES AND WARNINGS

**Warning:** Never point the directional antenna towards the inside distribution antenna, this will cause oscillation and the booster will shut down.

**Note:** Oscillation (feedback) can occur when the outside (signal) antenna is too close to the inside (distribution) antenna. Oscillation in a signal booster is similar to when a microphone is too close to a speaker in PA system which cause a loud screeching sound. When this oscillation happens, it can potentially interfere with nearby cellular towers.

**Warning:** Never connect the signal booster directly to your cellular device as this may damage your cellular device.

**Warning:** Any antenna used with this device must be at least 8 inches from any person.

**Warning:** Ensure that both antenna's are connected to the signal booster before commissioning the system.

**Note:** This device complies with Part 15 of FCC rules. Operation is subject to 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. Changed or modification not expressly approved by Signifi Mobile Inc could void the authority to operate this equipment.

**Important Note:** Before use, you must register this consumer device with your wireless provider and have their consent. The majority of wireless providers have consented to the use of signal boosters. You must operate this device with approved antennas and cables as specified in the install guide. If requested by the FCC or a cellular service provider, the device will need to be turned off immediately. Warning: E911 location information may be inaccurate for calls placed while using this device.

### **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.

### **Important Note Related to Industry Canada**

Radio equipment that is installed, activated, modified, repaired, maintained or allowed to be operated is duly authorized and operated in accordance with the aforementioned authorization, by checking the operator's license, or, failing that, consulting the following website at: <http://spectrumdirect.ic.gc.ca>

## TROUBLESHOOTING

The LED alarm lights represent the status of the booster on each frequency. When the lights are green the device is operating normally meaning that it is not experiencing any oscillation (feedback) and it is boosting the signal at maximum power. When the LED lights begin to change color from green to orange to red, it means that particular frequency is experiencing some oscillation (feedback).

If the oscillation is excessive the booster will shut down for that particular frequency. The booster will still work for the other frequency on a multi-band booster.

Oscillation is caused when the indoor (distribution) antenna sends a signal back into the outdoor (signal) antenna. Similar to a PA system, when the microphone gets too close to the speaker it causes feedback. This will occur if your antennas are too close together, or the indoor antenna is pointed at the outdoor antenna. Make sure you have adequate separation and some type of shielding between the antennas (usually your roof or a cement wall is good enough).

## IMPORTANT NOTES

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

1

A good input signal (**the best you can find**)

2

Isolating the outdoor (**signal**) antenna from the indoor (**distribution**) antennas so they do not feedback into each other.

By capturing the best input signal you will be able to enjoy the maximum coverage and best quality signal inside where your distribution 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 (signal) 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 its important to be sure that your distribution antenna (indoor) is not sending the signal back into the outdoor (signal) antenna.

## THINGS TO CHECK WHEN EXPERIENCING WEAK CELLULAR SIGNAL

**1** Ensure the signal antenna (*outdoor*) 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.

**5** Signal antenna (*outdoor*) and the distribution antennas (*indoor*) have adequate separation and are not causing feedback.

## FREQUENTLY ASKED QUESTIONS



### WHY ARE THE LED LIGHTS TURNING ORANGE, 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 signal (outdoor) antenna and distribution (indoor) antenna too close together. Please review the following guidelines to help resolve this issue:

1. Adjust the direction of the signal (outdoor) antenna. If the system is receiving a very high input signal, you can point your signal (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 signal (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 signal (outdoor) antenna and the distribution (indoor) antenna. This can be achieved by increasing the distance between the two antennas or by placing barriers between them, such as moving the distribution (indoor) antenna to an adjacent room where there would be an additional wall separating them from the signal (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.

**See page 22 for more details.**





## **I INSTALLED THE BOOSTER AND MY SIGNAL STRENGTH IS STILL WEAK**

In order to correct a weak signal; essentially you have the options of:

- Adjust the aim of the signal (outdoor) antenna or replace it with a higher gain antenna.
- Move the distribution (indoor) antenna.
- Increase the number of distribution (indoor) antennas.
- Reducing the attenuation values you chose when setting the manual gain control.



## **I CANNOT MAINTAIN CALLS, MY SIGNAL STRENGTH FLUCTUATES**

If you find the booster is working but drops calls or delivers fluctuating signal levels, the most likely cause is oscillation between the signal and distribution antenna(s).

Determine the status of the cellular booster led alarms. If so there is insufficient isolation between antennas. You can either increase the distance between antennas or place barriers between them to attenuate the signals or adjust the manual gain control settings.

A second cause for this symptom is poor cable connections. Confirm that all cable connections are tight and secure.

A third cause may be interference from other cellular service providers operating in the same frequency bands. If their signals are stronger than the cellular signals you want to receive from the cell tower. In this case the unwanted signal needs to be attenuated either by repositioning or re-aligning the signal (outdoor) antenna, or by using barriers (buildings, trees, etc) to block the signal.



## **MY LED'S ARE ALL GREEN BUT MY SIGNAL IS STILL WEAK - MY COVERAGE IS POOR**

If you receive a signal where you did not previously... or, if the radius of the service area covered is small...and your LED's are all green... the booster is working properly but for some reason the signal is not very strong. This can be due to weak input signal.

- Adjust your signal (outdoor) antenna to point more accurately at the cellular tower in order to increase the input signal.
- Check the coaxial cable to ensure there are not any creases or cuts in it. Perhaps the cable was damaged during installation.



## **WHY ISN'T MY CELL PHONE INDICATING MORE SIGNAL WITH MORE BARS?**

You may not always observe more bars on your signal meter because of the signal spreading out from the antenna. If your phone has a db meter, 3db is a significant increase of 2 times, 6db is 4 times, and 10db is 10 times. on a four bar phone, one "bar" equals about 10db.

The increase in signal you will see depends upon:

- The level of signal at the signal (outdoor) antenna
- The care of the antenna placement (2 feet away from metal, adequate antenna separation [30 feet recommended] ).
- The distance of your phone/device from the distribution (indoor) antenna (signal spreads or diminishes rapidly with distance.)



**Uniden<sup>®</sup>**  
cellular signal boosters

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## INSTRUCTION MANUAL

Phone: 1-800-215-7015  
Email: [support@unidencellular.com](mailto:support@unidencellular.com)  
[www.unidencellular.com](http://www.unidencellular.com)