

FCC Part 22 Transmitter Certification

Test Report

FCC ID: SO4YX500-CEL

FCC Rule Part: CFR 47 Part 22 Subpart H

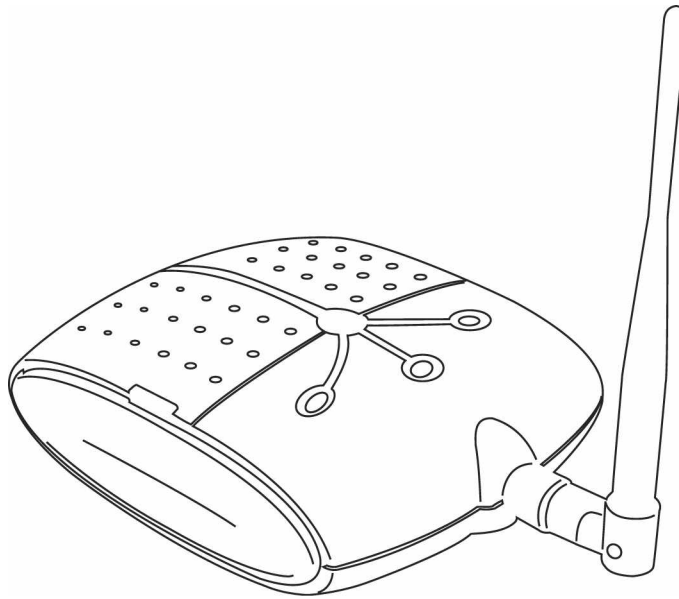
ACS Report Number: 05-0343-22H

Manufacturer: Wireless Extenders
Equipment Type: Cellular Band Bi-Directional Booster
Model: YX500-CEL

Installation Guide



YX500-CEL Installation Guide



Copyright Notice

This manual is copyrighted. All rights reserved. This manual, whole or in part, may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form for distribution. This manual, whole or in part, may not be modified without prior consent, in writing, from Wireless Extenders.

Copyright © 2005 by Wireless Extenders, Inc. 330 Research Court Suite 250, Norcross, GA 30092, U.S.A.

Trademarks

Wireless Extenders, the Wireless Extenders logo, and Wireless Where You Want It are registered trademarks of Wireless Extenders, Inc.

iDEN is a registered trademark of Motorola.

Nextel is a registered trademark of Nextel Communications Corp.

FCC Information

FCC ID: SO4YX500-CEL

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 the 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 a professional installer for help.

Industry Canada Regulations

Canada IC: 5544A-YX500CEL

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. 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.

Cet appareillage numérique de la classe [B] répond à toutes les exigences de l'interférence canadienne causant des règlements d'équipement. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif peut ne pas causer l'interférence nocive, et (2) ce dispositif doit accepter n'importe quelle interférence reçue, y compris l'interférence qui peut causer l'opération peu désirée.

Read First Before Installing the YX500-CEL

YX500-CEL For Cell Phones Operating on Cellular 800MHZ Frequencies Only

Before unpacking this box, verify that your phone operates on Cellular 800MHz frequencies. The YX500-CEL will enhance your in-building coverage for local provider networks operating at the 800MHz (Cellular) frequency.

To verify that your phone uses Cellular 800MHz frequencies, please follow these four simple steps:

- 1) Unpack the Base Unit and the Base Unit power supply only.
- 2) Connect the power supply to the Base Unit and plug it into an outlet. All of the lights will flash for several seconds. The Power light should now be solid green.
- 3) While standing about 1 foot away from the Base Unit, turn on your cell phone or make a call. If the Signal light begins flashing green, you can proceed with the installation of the YX500. If it flashes red, move your phone away from the Base Unit (typical for GSM).
- 4) If the Signal light does not flash green, try to place another call with your cell phone directly touching the YX500 (typical for CDMA). If the Signal light still does not flash green, your cell phone may not be compatible with the YX500-CEL. Contact Wireless Extenders technical support at 1-800-871-1612 for further assistance.



Note: The YX500 is fully automatic. The Install, Signal, and Power lights on the Base Unit are not buttons. There are no buttons to press on the Base Unit.

Safety and Product Warranty Information

Safety Guidelines

Please adhere to the following safety guidelines during the installation of the YX500-CEL.

- 1) In accordance with FCC requirements of human exposure to radiofrequency fields, the radiating element (antenna) shall be installed such that a minimum separation distance of 8 inches (20cm) is maintained between the radiating element and the user and/or general population.
- 2) If a ladder is required to install the YX500, make sure that the ladder feet are on a flat surface and the ladder is securely fixed. It is highly recommended that you have someone assist you while you are on the ladder.
- 3) You should always wear proper eye protection when working with power tools.
- 4) Keep all plastic bags away from children to avoid suffocation hazard.
- 5) Before drilling make sure you know where existing electrical wiring is so as not to hit the wiring, which could cause an electrical shock and severe the wiring.

Limited Liability

In no event shall Wireless Extenders be liable for any direct, indirect, special, punitive, incidental, exemplary or consequential damages, or any damages, whether in an action under contract, negligence, or any other theory, arising out of or in connection with the installation of, use of, inability to use, or performance of the information, services, products, and materials available from this manual. These limitations shall apply notwithstanding any failure of essential purpose of any limited remedy. Because some jurisdictions do not allow limitations on how long an implied warranty last, or the exclusion or limitation of liability for consequential or incidental damages, the above limitations may not apply to you.

Technical Support

If you have any problems with the operation of your YX500 please visit our website <http://www.WirelessExtenders.com> or contact Wireless Extenders customer support at 1-800-871-1612 for assistance.



Warning: Changes or modifications not expressly approved by Wireless Extenders could void the user's authority to operate this equipment and/or void the product warranty.

Outdoor Installation of the Signal Antenna

Grounding the Signal Antenna

If you decide to install the Signal Antenna outdoors, it must be properly grounded. This will help protect your property against lightning strikes during a lightning storm.

The installation must be in accordance with Article 810 of the National Electric Code (NEC). A listed antenna discharge unit must be provided for the lead-in coaxial cable per NEC article 8.10.20 or the shield of the coaxial cable must be permanently and effectively grounded in accordance with NEC article 8.10.21. Please consult a professional installer or electrician for more information. Additional instructions and hardware are also available in the Wireless Extenders Outdoor Installation and Grounding Kit (Part# YX011).

Securing Cable with a Drip Loop

If you install the Signal Antenna outdoors, create a drip loop with the coaxial cable at the point where the cable enters the building through an outside wall. This can be done by twisting and securing the cable into a loop (no less than 4" across) near the entry point. This will help prevent moisture from gathering at entry point and leaking into the building. Consult a professional installer if you need more information. Additional instructions are also available in the Wireless Extenders Outdoor Installation and Grounding Kit (Part# YX011).

Avoid Drilling or Nailing into the Roof

Avoid any drilling or nailing directly into the roof. This could allow water to leak into your home and cause damage.

This Page Intentionally Left Blank

Table of Contents

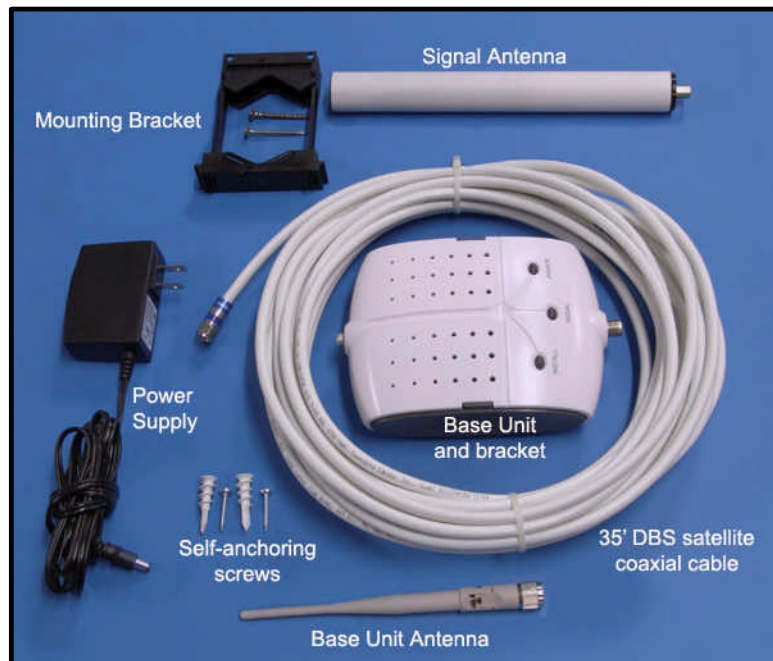
<i>Read First Before Installing the YX500-CEL</i>	<i>i</i>
YX500-CEL For Cell Phones Operating on Cellular 800MHZ Frequencies Only.....	<i>i</i>
<i>Safety and Product Warranty Information</i>	<i>ii</i>
Safety Guidelines	<i>ii</i>
Limited Liability	<i>ii</i>
Technical Support	<i>ii</i>
<i>Outdoor Installation of the Signal Antenna</i>	<i>iii</i>
<i>Package Contents</i>	<i>1</i>
<i>Accessories - Improve your coverage</i>	<i>2</i>
<i>YX500-CEL Product Overview</i>	<i>3</i>
Overview	<i>3</i>
Why Signals Can be Weak	<i>3</i>
<i>Preparing to Install the YX500-CEL</i>	<i>4</i>
Check Signal Availability	<i>4</i>
Determine the Needed Coverage Area.....	<i>5</i>
Location of Signal Antenna and Base Unit Antenna.....	<i>5</i>
Additional Cable Requirements.....	<i>5</i>
Power Requirements.....	<i>5</i>
Installation Tools	<i>6</i>
<i>Installing the YX500-CEL</i>	<i>6</i>
Installing the Signal Antenna.....	<i>6</i>
Attic Installation of the Signal Antenna	<i>6</i>
Running the Coaxial Cable to the Base Unit.....	<i>9</i>
Additional Cable Requirements.....	<i>10</i>
Installing the Base Unit	<i>10</i>
Confirm that the YX500-CEL is Working Properly.....	<i>12</i>
Improving Your Coverage Area	<i>13</i>
<i>Troubleshooting the YX500-CEL</i>	<i>14</i>
Base Unit Light Operation.....	<i>14</i>
<i>YX500-CEL Technical Specifications</i>	<i>15</i>

This Page Intentionally Left Blank

Package Contents

Before you begin, make sure all of the following parts came with your kit:

Item	Quantity	Part #	Description
1	1	DMAN-0009	Before Unpacking Sheet
2	1	DMAN-0008	Installation Overview Poster
3	1	DMAN-0010	YX500-CEL Installation Guide
4	1	APRD-0003	YX500-CEL Base Unit
5	1	CPSP-0001	YX500 - Base Unit Power Supply
6	4	CHDW-0007	YX500 - Base Unit rubber feet
7	1	FHSG-0004	YX500 - Base Unit Bracket
8	1	CANT-0010	0dBi YX500-CEL Base Unit Antenna
9	1	CANT-0009	3dBi YX500-CEL Signal Antenna
10	1	CHDW-0008	Signal Antenna mounting bracket
11	1	CCBL-0001	35' white, DBS satellite coaxial cable
12	2	CHDW-0001	Self-tapping #6 x 7/8" Philips Screw
13	2	CHDW-0002	Self-tapping #6 Sheet Rock Anchor
14	2	CHDW-0005	Wood Screw #6 x 1" Philips



Accessories - Improve your coverage

The following accessories are also available to improve signal reception and provide increased coverage in your home or office or improve installation.

To order, call 1-800-871-1612 or visit, www.WirelessExtenders.com.

Part #	Description
YX010	Professional Installation
YX011	Outdoor Installation and Grounding Kit
YX013	Wall mounting bracket for the YX023
YX022-CEL	6dBi Omni Signal Antenna upgrade – 2 feet long
YX023-CEL	8dBi Directional Signal Antenna upgrade – Flat Panel
YX024-CEL	5dBi Directional Base Unit Antenna upgrade
YX025-CEL	7dBi Directional Signal Antenna upgrade – 14" Yagi
YX030-15W	15 ft. outdoor coax extension cable, white, low-loss RG-6
YX030-35W	35 ft. outdoor coax extension cable, white, low-loss RG-6
YX031-10W	10 ft. Base Unit antenna extension cable, white, low-loss
YX040-N50	2-way indoor signal splitter. Connect 2 antennas to one Base Unit to cover 2 separated areas – does not increase total coverage. Use with any YX500 system

YX500-CEL Product Overview

Overview

Thank you for selecting the Wireless Extenders YX500-CEL. With the YX500-CEL, you will now be able to use your cell phone INSIDE your home or office. Gone are the days when you have to go to the window upstairs or walk outside to get enough signal. Like a skylight that brings sunlight into your home, the YX500-CEL transports and amplifies the outdoor cellular, 800MHz, signals into your home or office.

By following the easy instructions in this installation guide, you will soon be enjoying Wireless Where You Want It™.

Why Signals Can be Weak

There are several obstacles that can contribute to the poor reception you receive in your home or office:

Proximity of the Cell Phone Tower to your Home/Office

Unlike the sun, cell phone signals do not fill the sky from every direction. While cell phone providers have tried to strategically install cell phone towers to provide the best overall coverage, local ordinances and nature (e.g., lakes) can impose restrictions on where these towers can be placed.

Obstructions Caused by Buildings and Land Masses

Like the sun when it sits low in the sky during early morning and late afternoon, cell phone signals can be completely blocked or deflected by buildings, the walls of the building you are in, clusters of trees, hills, etc.

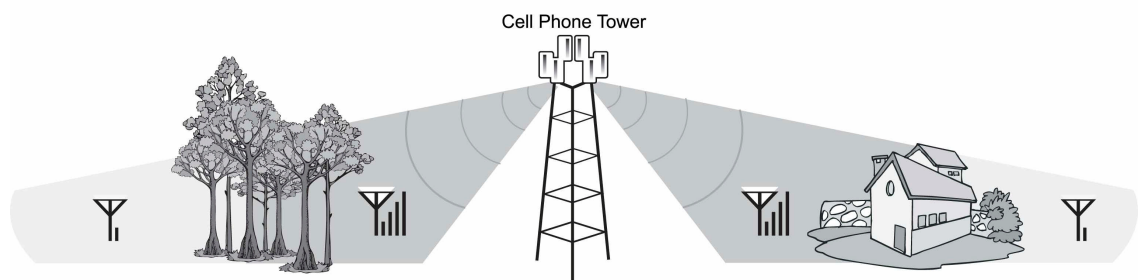


Figure 1

Preparing to Install the YX500-CEL

Check Signal Availability

Before installing the YX500-CEL in your home, make sure that you can place calls on the outside of your home or in the attic. The YX500-CEL can only bring cell phone signals into your home if cell phone signals are reaching the outside of your home or your attic.

Go outside or into your attic with your cell phone and do the following:

- 1) Make a call to confirm that a strong enough signal is reaching your home.
- 2) Check your cell phone to see how many signal bars are displayed.

If you can reliably make and receive calls outside your home or in the attic, then the YX500-CEL can bring the signal into your home.

If only 1 signal bar is displayed on your cell phone, indoor coverage will be limited to one small room. We highly recommend installing the Signal Antenna outside and/or purchasing a Wireless Extenders upgrade Signal Antenna (see Optional Accessories on page 2).



Important Note on Using Signal Bars to Determine Coverage Area

Cell phone signal bars are approximate and very coarse. The number of bars can fluctuate widely, depending on the exact location of the phone, hand positioning, angle of the phone, weather, etc. Most cell phone signal meters update every 6 to 10 seconds. An increase of only one bar typically indicates a 4x to 10x signal increase.

THE BEST INDICATOR OF COVERAGE AREA IS YOUR ABILITY TO RELIABLY PLACE AND RECEIVE CALLS.

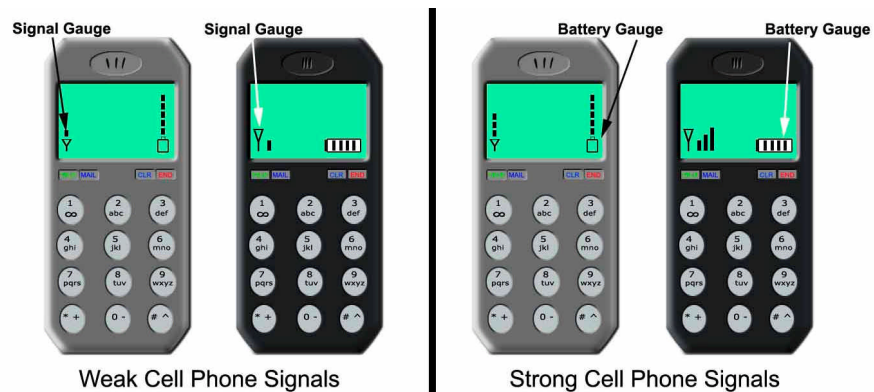


Figure 2 – Checking Your Cellular Cell Phone for Signal Strength

Determine the Needed Coverage Area

Identify the location in your home/office where you need signal coverage the most. The YX500-CEL can cover approximately 2500 square feet (coverage varies based on outdoor signal level, building construction, and general installation care). Walls, ceilings or floors will reduce the coverage area.

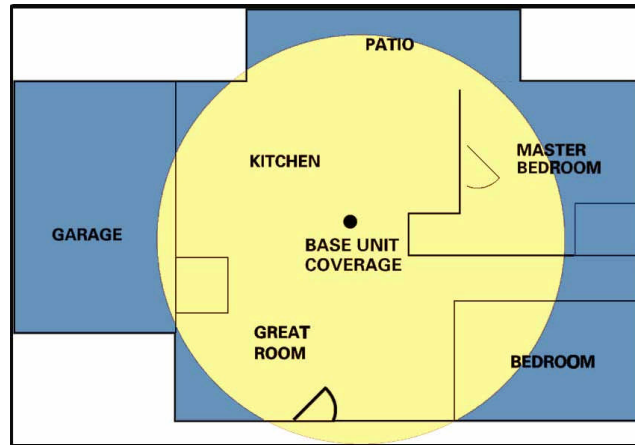


Figure 3 – YX500-CEL Base Unit Coverage

Location of Signal Antenna and Base Unit Antenna

It is recommended that the Signal Antenna and Base Unit Antenna have approximately 15 feet of vertical separation. If the antennas are too close together, the Install light on the Base Unit will shine or flash red indicating a problem (See Troubleshooting section).

Place the Signal Antenna as high as possible to capture the best signal.

Additional Cable Requirements

If the distance between the Signal Antenna and the Base Unit exceeds 35 feet, you will need to purchase additional coaxial cable. You must use RG-6 coaxial cable and connectors, which are rated for Outdoor Satellite TV use and can be found at many home improvement and electronic stores.

For the best performance, purchase Wireless Extenders RG-6 low-loss extension cables from our website or your retailer (see page 2). The total cable length should not exceed 70 feet unless you also purchase an upgraded signal antenna (page 2). A longer cable is helpful only if it allows you to place the signal antenna in a location where you measure stronger signal.

Power Requirements

The Base Unit can be plugged into a standard 2-prong 110 VAC receptacle using the included power supply. The power supply consumes less than 10W (less than 0.2A).



Warning: The YX500-CEL base unit **MUST** only be used with the provided power adaptor. Attempts to use other power adaptors will void the warranty and is not FCC approved.

Installation Tools

The following tools are needed to install the YX500-CEL:

- #2 Philips screwdriver
- Cordless drill
- Cellular phone operating in 800 MHz band

Installing the YX500-CEL

Installing the Signal Antenna

There are four options available for installing the Signal Antenna:

1. Install the Signal Antenna in the attic using the accessories included in the YX500-CEL kit (an attic installation is not recommended if the outside cell phone signal test yielded less than 2 signal bars).
2. Install the Signal Antenna outside using the optional Outdoor Installation and Grounding kit (Part# YX011)
3. Install the Signal Antenna outside using parts and accessories that can be purchased at a home improvement or electronics store.
4. Call 1-800-871-1612 to arrange for a professional installation.



Warning: Avoid placing antenna near metal such as wiring, A/C ducts, truss plates, etc.

When attaching the cable to the antenna, run the cable straight down from the antenna. Avoid draping the coax near the antenna.

Attic Installation of the Signal Antenna

Once you have confirmed that you have a cell phone signal either outside your home or inside your attic, you are ready to install the Signal Antenna using the supplied mounting brackets, Signal Antenna, and coaxial cable.

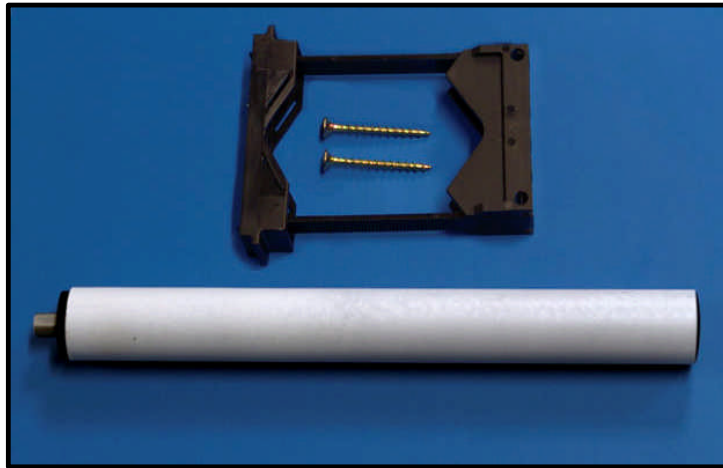


Figure 4 – Signal Antenna and Mounting Bracket

Signal Antenna Mounting to an Attic Cross Beam

- 1) Identify the wood beam where you will attach the mounting bracket and drill two holes. For the signal reception, install the Signal Antenna at the highest possible point in your attic. Avoid placing the antenna within 3 feet (1 meter) of metal objects (pipes, metal siding, A/C unit, etc.)



Figure 5 - Drill two holes for mounting bracket

- 2) Attach the mounting bracket so that when the Signal Antenna is attached, it will stand perpendicular to the floor.



Figure 6 - Attach Mounting Bracket

- 3) Mount the Signal Antenna to the mounting bracket, making sure that the antenna is perpendicular to the floor before securing it to the bracket.



Figure 7 - Secure Signal Antenna to bracket



Note: If you need to adjust the Signal Antenna after securing it to the bracket, insert a small flat-head screwdriver on each side of the bracket bridge. Pushing down on the bridge grips will allow you to slide the bridge off each tab.

- 4) Unroll the RG6 coaxial cable that came with the YX500-CEL kit, straighten it, and then attach it to the Signal Antenna.

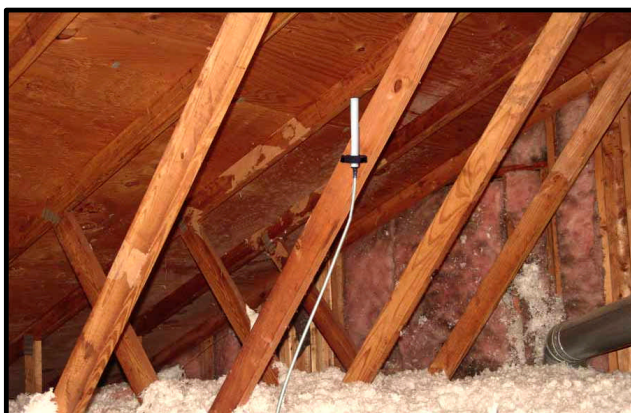


Figure 8 - Attach Coaxial Cable to Antenna

Signal Antenna Mounting to an Attic Top or Main Beam

If a cross-beam is not available, the antenna bracket can be mounted to a main beam. Secure the bracket near the top of the Signal Antenna instead of near the base.

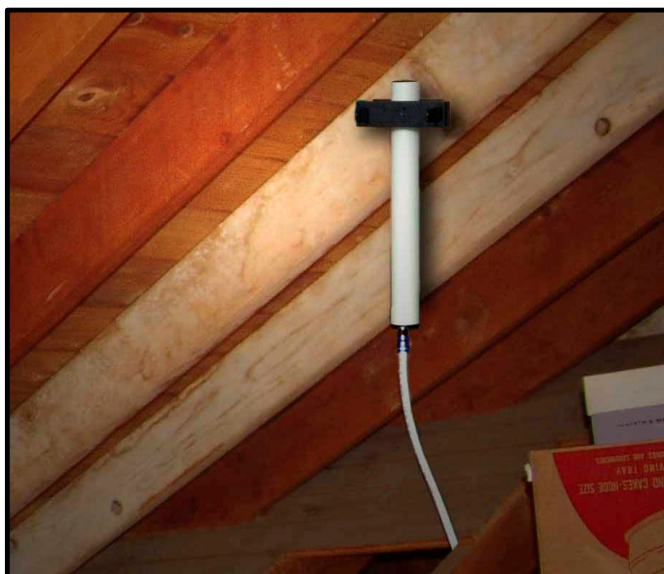


Figure 9 - Mounting Signal Antenna to a Main Beam

Running the Coaxial Cable to the Base Unit

After installing the Signal Antenna and connecting the coaxial cable, run it to the location in your home where you plan to install the Base Unit. It is highly recommended that you refrain from securing your cable, drilling any holes, etc. until you complete and test the installation of the Base Unit.

For example, if you plan to use put the Base Unit in the living room of a two-story home, first run the cable from the attic down the stairs to the living room. After the Base Unit is installed and successfully working, find a more direct and permanent route for the cable (e.g., dropping it through the ceiling of a nearby closet).

Additional Cable Requirements

If the distance between the Signal Antenna and the Base Unit exceeds 35 feet, you will need to purchase additional coaxial cable. You must use RG-6 coaxial cable and connectors, which are rated for Outdoor Satellite TV use and can be found at many home improvement and electronic stores.

For the best performance, purchase Wireless Extenders RG-6 extension cables from our website or your retailer (see page 2). The total cable length should not exceed 70 feet unless you also purchase an upgraded signal antenna (page 2). A longer cable is helpful if it allows you to place the signal antenna in a location where you measure stronger signal.



Caution: Before drilling any holes into a wall to run your cable, make sure you know where existing electrical wiring is located. If you are not careful, hitting wiring while drilling could cause an electrical shock and sever the wire.

Routing the Coaxial Cable Alongside an Attic Pipe

To simplify the effort needed to route the coaxial cable from the Signal Antenna to the Base Unit, Wireless Extenders recommends the following procedure:

- 1) Locate a pipe which descends from the attic down to a location in or near the room where signal coverage is desired.
- 2) Tie a weight to a pull string and lower the weight down alongside the pipe.
- 3) In the lower room, tie the pull-string onto one end of the cable.
- 4) Go back to the attic and gently pull up the string until the coaxial cable can be grasped.
- 5) Connect the coaxial cable to the Signal Antenna.

Installing the Base Unit

For the widest possible signal reception, it is recommended that you install the YX500-CEL Base Unit near the middle of a room or on an interior wall. This is because the Base Unit uses an omni-directional antenna, which like a lantern delivers the signal in a circular pattern around the antenna. If you decide to install the Base Unit on or near an outside wall, we recommend purchasing a Directional Base Unit Antenna (see page 2). This antenna will focus the signal in towards the rooms.

The Base Unit can either be directly mounted on a wall or set on a furniture piece (e.g., a bookshelf, desk, filing cabinet, end table etc.). The Base Unit performs best when located at least 4 feet above the floor or at about the

height of the cell phone when it is typically in use (avoid placing the Base Unit on the floor).

For the best results, avoid placing the Base Unit antenna within 2 feet of other wires or metal objects.

Placing the Base Unit on a Furniture Piece

The Base Unit is designed so that it easily sits on top of a furniture piece using the following steps.

- 1) Attach the coaxial cable, which should already be attached to the Signal Antenna, to the Base Unit.



Figure 10 - Base Unit with Power Cord and Cable Connectors

- 2) Attach the antenna to the Base Unit and position it so that it is at a 90 degrees angle to the Base Unit.
- 3) Set the Base Unit on a furniture piece.
- 4) Attach the power supply to the Base Unit and plug the power supply into an outlet. See the Troubleshooting section if a Red light lights up.



Note: If you are unable to position the Base Unit so that the Power light shines a steady green, you may have to move the Base Unit to another location in the room, or mount it on a wall. See the Troubleshooting section for more information.

Wall Mounting the Base Unit

The Base Unit can also be easily mounted on a wall using the included mounting bracket hardware. The Base Unit should be a minimum distance of 12" from the ceiling so there is clearance for the Base Unit antenna extension.

Perform the following steps to mount the Base Unit on a wall:

- 1) Remove the mounting bracket from the Base Unit
- 2) Attach the coaxial cable, which should already be attached to the Signal Antenna, to the Base Unit.
- 3) Attach the antenna to the Base Unit.
- 4) Attach the power supply to the Base Unit and plug the power supply into an outlet. See the Troubleshooting section if a Red light lights up.
- 5) Holding the Base Unit, adjust its position on the wall until the LEDs shine a steady green. The Base Unit can be mounted on the wall with the antenna pointing to the ceiling or towards the floor.
- 6) Fasten the mounting bracket to the wall using the self-tapping wall/ceiling anchors
- 7) Snap the Base Unit into the mounting bracket.



Note: If you are unable to position the Base Unit so that the Power light shines a steady green, you may have to move the Base Unit to another wall in the room.

Confirm that the YX500-CEL is Working Properly

Perform the following steps to confirm that the YX500-CEL is now working properly:

- 1) Unplug the YX500-CEL Base Unit power cord.
- 2) Turn on your Cellular cell phone and check the signal meter.
- 3) Turn off your Cellular cell phone.
- 4) Plug-in the YX500-CEL Base Unit power cord.
- 5) Hold your Cellular cell phone about 2 to 3 feet from the Base Unit and then turn it on. Wait up to 1 minute for the cell phone to register the signal coming from the Base Unit.
- 6) If the signal meter shows an improvement, the YX500-CEL is working properly. You now have Wireless Where You Want It™.



Note: The Signal light may flash green indicating that a call is in progress and the YX500-CEL is boosting your signal. In some cases, it may only flash at the beginning of the call.

If the Signal light displays either a solid or flashing red move your phone away from the Base Unit and see the troubleshooting section.

Improving Your Coverage Area

Now that everything is connected and the Base Unit is plugged in, you should walk throughout the room and see that you are able to reliably place calls.

Remember, coverage varies based on outdoor signal level, building construction, and general installation care). Coverage in adjoining rooms (next to, above, or below) will be reduced due to the walls or the ceiling/floor.

Should you desire to improve coverage, you may:

- 1) Move the Base Unit and/or bend the antenna 90 degrees
- 2) Move the Signal Antenna to a higher location in your attic or outside
- 3) Purchase a Signal Antenna Upgrade (see Page 2)
- 4) Purchase a Base Unit Antenna Upgrade (see Page 2).



Important Note on Using Signal Bars to Determine Coverage Area

Cell phone signal bars are approximate and very coarse. The number of bars can fluctuate widely, depending on the exact location of the phone, hand positioning, angle of the phone, weather, etc. Most cell phone signal meters update every 6 to 10 seconds. An increase of only one bar typically indicates a 4x to 10x signal increase.

THE BEST INDICATOR OF COVERAGE AREA IS YOUR ABILITY TO RELIABLY PLACE AND RECEIVE CALLS.

Troubleshooting the YX500-CEL

Base Unit Indicator Operation

In most cases, problems with the YX500-CEL can be diagnosed using the Base Unit's LED indicators.

Mode	Light Settings	Action
Normal / Idle	Power light = Solid Green Signal light = Off Install light = Off	None
Call Detected	Power light = Solid Green Signal light = Green Install light = Off	None May only Flash at the beginning of a call.
Base Unit Setup	Power light = Flashing Green Signal light = Flashing Orange Install light = Flashing Red	Occurs when the Base Unit is first powered on to initialize the unit and detect proper installation. May occur if the installation is compromised. If this state is observed multiple times, please call for technical support.
Oscillation – Reduced Range	Power light = Solid Green Signal light = Off Install light = Flashing Red (20 seconds)	An oscillation was detected. The Base Unit has corrected it, but is operating with reduced range. You must move the antenna(s) to increase separation. You may cycle power to re-check for this condition.
Oscillation – Base Unit Shutdown (Temporary)	Power light = Off Signal light = Off Install light = Solid Red	None. Base Unit will attempt to correct itself within 1 minute.
Oscillation – Base Unit Shutdown (Permanent until power is cycled)	Power light = Off Signal light = Flashing Red Install light = Flashing Red	You must cycle power to the Base Unit and review the light indicators. An oscillation was detected but the Base Unit is unable to correct it. You must move the antenna(s) to increase separation and then cycle power.
User Caution	Power light = Solid Green Signal light = Flashing Red Install light = Off	User's phone/device is very close to the Base Unit. Move the phone/device away from the Base Unit to avoid User Shutdown.
User Shutdown	Power light = Off Signal light = Solid Red Install light = Off	User's phone/device is too close to the Base Unit. The Base Unit has temporarily shut down to prevent network interference and protect itself.

Mode	Light Settings	Action
Network Caution – Reduced Range	Power light = Solid Green Signal light = Flashing Red (20 seconds) Install light = Flashing Red (20 seconds)	The Signal Antenna is receiving too much signal from a nearby cell tower (probably another service provider) and the Base Unit is operating with reduced gain (range). Try making one or more of the following adjustments: 1. Slightly adjust the position angle of the Signal Antenna (about 20-45 degrees from vertical) so that it is pointing toward the closest tower. 2. Move the Signal Antenna to another part of the attic. 3. Purchase and install a directional Signal antenna (see page 2) to pull in your providers' signal and not the closest tower's signal. 4. Contact a professional installer for assistance.
Network Overdrive – Base Unit Shutdown	Power light = Off Signal light = Solid Red Install light = Solid Red	The Signal Antenna received an excessive signal from a nearby cell tower (probably another service provider) and the Base Unit shut down to protect the network. Try one more of the following to correct the problem: See above: Network Caution – Reduced Range

YX500-CEL Technical Specifications

Frequency	824 - 894 MHz (Cellular only)
Networks:	CDMA, GSM, TDMA, AMPS
Total Signal Gain:	56dB (adaptive)
RF Output Power:	½ Watt EIRP (with included antenna)
Base Unit Weight:	12 oz.
Base Unit Size:	5" x 7" x 2"
AC Power Input:	100 – 120 VAC 60Hz
DC Power Output:	5VDC, 1.5A
FCC ID:	SO4YX500-CEL
Industry Canada ID:	5544A-YX500CEL
Patents pending	