

No More Hunting for Signal.  
with CELLRANGER

# The Cell Ranger Media Kit

Thanks for your interest in Cell Ranger.

This media kit contains important information about our product, *please take time to review it before testing or writing about Cell Ranger.*

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## **Unfortunately, cellular coverage isn't perfect.**

*Millions of wireless customers are caught in dead cell zones at home, in the office, or while commuting. For some people, occasional dropped calls are a minor annoyance. But for users who regularly experience signal problems, it can be a major frustration.*

## **Our solution:**

Cell Ranger is a portable solution to signal problems. Whether at home or on the go, anyone can plug in Cell Ranger and enjoy fewer dropped calls and 2 to 3 bars stronger signal.

## **Cell Ranger's applications:**

### **ON THE ROAD**

Road warriors and business travelers need to be constantly connected, but coverage on the road can be unpredictable. Cell Ranger STIX, the 12V in-vehicle version of our product, solves these problems.

### **3G DATA SERVICES**

Newly built EVDO and UMTS networks mean that you can now get broadband data access without fixed line services. However, the real-world download speeds of these networks depend strongly on signal strength. Cell Ranger PORT's USB interface makes it a perfect complement to 3G data cards, allowing broadband data users to achieve up to 200% faster download speeds.

### **HOME/OFFICE USE**

Our upcoming Cell Ranger Home unit will provide a coverage area of up to 2,500 square feet for in-building applications. This product will be available in Q1 2009.

## **Causes of poor reception:**

### **FRINGE COVERAGE AREAS**

The US and Canada both have low population densities; people are spread over a very large physical area. This makes building cellular infrastructure considerably more expensive for American cellular carriers than for their European counterparts.

Cell phone towers are expensive to build and maintain – an average-sized cell tower costs hundreds of thousands of dollars to install. In order to minimize infrastructure costs, carriers position cell towers very carefully to cover the maximum number of people with the minimum number of towers. Because of the spacing between towers, millions of customers live in fringe coverage areas where coverage is spotty. Carriers know that such fringe areas exist, but in many cases adding new towers is not financially viable.

### **SIGNAL PROPAGATION PROBLEMS**

Cellular signals are transmitted on very high frequencies that are easily absorbed by building materials, particularly metal and concrete. This means that signal conditions are often considerably weaker inside buildings than outdoors.

These problems are further complicated by an electromagnetic effect called "multipath interference." Cellular signals being reflected by buildings and landscape features often arrive out of phase and destructively interfere, creating dead spots where cellular coverage should otherwise be strong.



## The technology behind Cell Ranger

*To overcome pricing and design obstacles, our engineers were forced to think outside the mould of existing booster products. Their research resulted in the development of the Cell Ranger PORT and STIX products.*

*Both these products contain the Cell Ranger microprocessor, which actively analyzes cellular signals and controls amplification in order to provide optimal call quality without affecting the carrier's network.*

## How Cell Ranger products work:

PORT and STIX, the first two products in the Cell Ranger line, improve cell phone signal by amplifying the signals that cell phones use to communicate with carrier towers.

Our experiments in low signal situations revealed that a majority of dropped calls are caused by problems in downlink signal - i.e. the signal being sent from the cellular tower to the user's cellular device. The cellular antennas and components used in towers are considerably more sensitive than the equivalent parts in cell phones and data cards. This means that the downlink connection is generally less stable than the uplink connection.

Cell Ranger PORT and STIX rectify this situation by amplifying the downlink signal being sent from cellular towers. The stronger received signal means that cell phones have less difficulty maintaining a stable connection to the network.



## CELL RANGER PRODUCTS ARE...

### ...simple to use

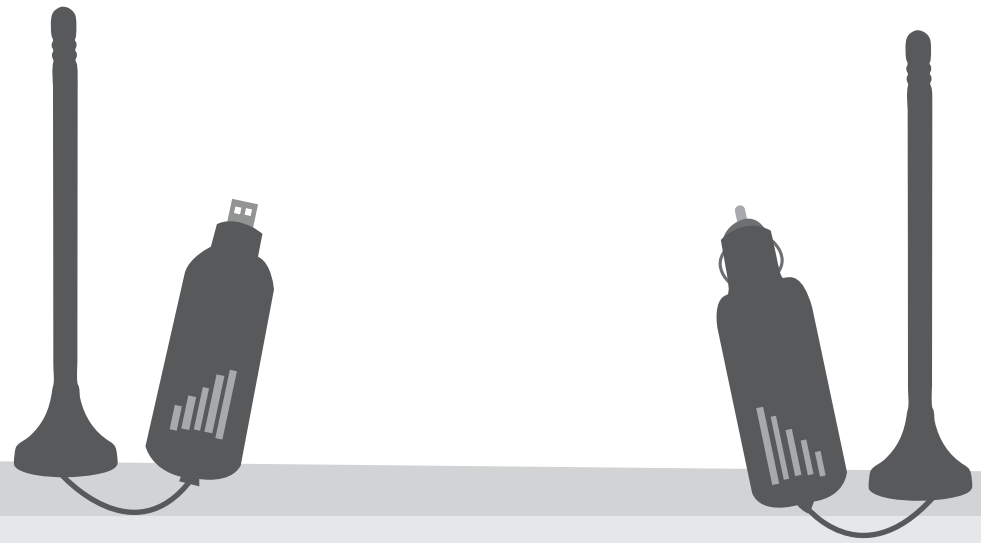
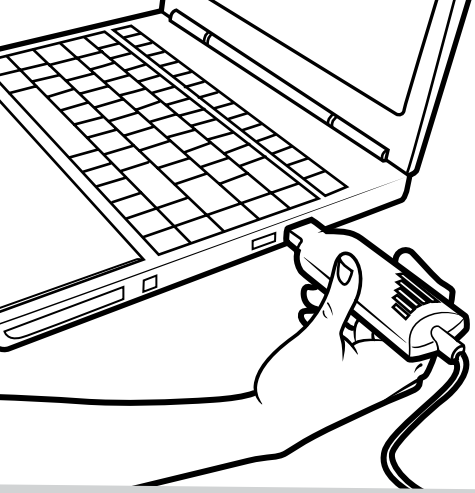
No manual adjustment or alignment is necessary - simply plug in and enjoy better signal.

### ...carrier friendly

Since they only amplify downlink signal, Cell Ranger products do not transmit affect the carrier network's operation or signal noise levels.

### ...intelligent

The Cell Ranger microprocessor carefully monitors signal levels to provide the necessary amplification for improved signal coverage. By updating this information every 2 seconds, the Cell Ranger microprocessor ensures that signal levels are maintained at optimal levels for best call quality.



## Our products

Our first two products, PORT and STIX, are designed as compact, portable solutions for users with reception problems.

### COMMON FEATURES:

- 2 – 3 bars more signal in a 6 foot coverage radius.
- Compatible with every US and Canadian carrier and cell phone.  
*(except iDEN networks such as legacy Nextel, Southern LINC, and MiKE)*
- Prevent dropped calls and improve audio quality.
- Compatible with broadband 3G data services – up to 200% faster download speeds.
- Intelligent amplification controlled by the Cell Ranger microprocessor.

### CELL RANGER PORT

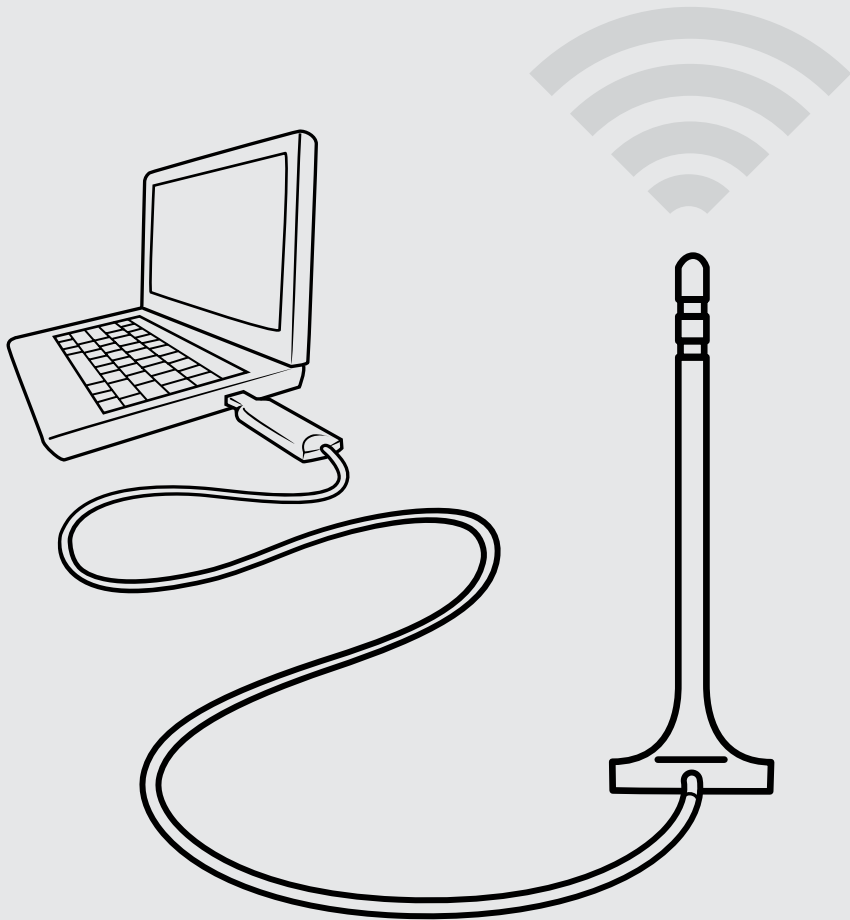
- USB Powered  
No drivers needed – PORT only uses USB for power
- Easy installation
- Compatible with both cell phones and data cards

### CELL RANGER STIX

- 12V cigarette lighter powered
- Perfect for cars, trucks, RVs, and marine applications
- Easy installation
- Compatible with both cell phones and data cards

## THE INSTALLATION STEPS

- 1 Ensure proper placement of signal antenna
- 2 Run the 15' cable from the antenna to a power source
- 3 Enjoy better cell phone reception and faster 3G access



## ACCESSORIES

### AC Adapter

Our AC adapter includes adapters for both PORT and STIX units, and includes a 10 ft cord.

### Cell Ranger Juice - Universal Rechargeable battery

Juice is a rechargeable battery back for Cell Ranger PORT that allows you to boost your signal no matter where you are.

A full range of phone adapters are included, allowing Juice to also be used as a backup battery supply for most phones.

## UPCOMING PRODUCTS

### Cell Ranger Home

Expected in Q1 2009, Cell Ranger's Home unit will offer up to 3,000 square feet coverage for fixed installations in homes and offices. More details soon to come...

# How to test Cell Ranger

In order to test and evaluate Cell Ranger's performance, it's important that you choose the right location to perform testing, and that the product is installed correctly. Unfortunately the gradation of signal bars is not standardized, so depending on the phone manufacturer the number of bars of signal improvement may vary.

For testing, we recommend using the Apple iPhone's in-built "Field Test" mode, which will show the exact received signal strength for different nearby towers. Instructions for accessing and using the iPhone's Field Test mode are included below.

## Testing Cell Ranger PORT:

1. Find a location with weak cell phone signal (your phone should show low bars, or calls should be regularly dropping).
2. Run the Cell Ranger's magnetic mount antenna to the roof of the car, or an open area (balcony, window, etc) that has clearer signal than indoors.

### **Please consider the following:**

#### Separation

The separation between Cell Ranger and the signal antenna is very important. Cell Ranger will reduce it's amplification considerably if there is not enough separation between the antenna and the main unit. This is to prevent feedback effects.

#### Line of Sight

Ideally Cell Ranger should be installed with a wall or some sort of barrier blocking line of sight between the signal antenna and the Cell Ranger unit. This increases isolation and can dramatically affect performance. Once the outdoor antenna has been correctly located, plug PORT into an available USB port.



## Using the iPhone Field Test mode:

In the iPhone's dial prompt, type in \*3001#12345# and press "call". This will open the "Field Test" menu.

iPhone 2 software:

The signal strength is displayed in the top left hand corner, in place of the usual signal meter.

Original iPhone software:

Select the "Cell Information" option. Each row corresponds to on nearby tower. The number after the "RX" value indicates the signal strength of each tower (in dBm), and the "FQ" value shows which frequency channel it is using.

Signal strength values are all negative. A less negative number means stronger signal. For example, weak signals are in the -107dBm to -90dBm range, whereas stronger signal is in the 80dBm to -70dBm range.

Plug in Cell Ranger, and use the "refresh" button to update the signal levels. Depending on how close to Cell Ranger you are, and how well the unit is set up, the signal strength should increase by between 10 to 20 dBm.

### Phone update delay

It takes up to 1 minute for other cell phones to update their signal bars to reflect the improved signal strength. Keep your cell phone within 1 to 6 feet of Cell Ranger for optimal performance.



### Not seeing an improvement?

If you are not seeing an improvement in signal strength of at least 10dBm, this indicates that there might be a problem with the installation. Check the setup instructions above and make sure there is plenty of separation and no line of sight between the antenna and the PORT unit.

*If you are still not seeing the results, please take a moment and call us at (800) 753-5121.*