

Heritage Solaire In-Home Telephone Service

Plain Old Telephone Service (POTS)

1. **Hardwired (copper) 100+ year old technology.**
2. **POTS is being phased out by all major phone carriers except in remote rural areas.**
3. **The “POTS” connection in Solaire homes use the internet to make a connection.**
4. **That connection uses Voice over Internet Protocol (VoIP). A technology that allows you to make voice calls using a broadband Internet connection instead of a regular (or analog) phone line. Therefore, a reliable broadband internet connection is a must.**

Cellular Telephone Service

- 1. Cell phone access in our community is problematic and, in most cases, nonexistent inside our homes.**
- 2. Due to the metalized backing on our roof sheathing, cell phone access will remain problematic in our homes.**
- 3. Frequent dropped calls, failed calls, missed calls, and failed text messaging necessitate a solution for better and more reliable cell phone service.**
- 4. Solutions to this problem include:**
 - Wi-fi assist**
 - Network extenders**
 - Cell phone booster amplifiers**

Wi-fi Assist

1. Wi-Fi assist calling and texting requires individual password protected access in any given residence.
2. In case of an emergency related to health, safety, or security Wi-fi assist is problematic for First Responders or law enforcement who may need to communicate via cell phone.
3. Our metalized roofing material may impede any radio transmissions from any emergency personnel.

Network Extenders

1. The three major cell phone carriers in the U.S. are Verizon, AT&T and T-Mobile.
2. Verizon offers a qualified network extender for wi-fi assisted calling on a “loaned” contract or can be purchased for \$249.99.
 - Supports up to 16 Verizon only users
 - Limited to 4G LTE
3. AT&T only offers a network extender for \$230.
 - Supports up to 8 AT&T only users
 - Limited to 4G LTE
4. T-Mobile offers a wi-fi extender for a \$25 “Deposit”.
 - Supports up to 8 T-Mobile only users
 - Limited to 4G LTE

Cell Phone Booster Amplifier

1. A very good all-round solution is a multi-channel cell phone booster amplifier.
2. Booster amplifier types.
 - Carrier specific, Verizon only, AT&T only, and T-Mobile only
 - Multi-channel covers all three major U.S. providers
3. A booster amplifier **does not require wi-fi access**.
4. Requires one of two outside antenna options.
 - Directional - direct line-of-site to cell tower
 - Omnidirectional – a nondirectional antenna that radiates and receives power uniformly in all directions
5. Most, but not all, support 5G operation.

Booster Amplifiers

- 1. A cell phone signal booster (also known as amplifier or repeater) is made up of three main elements - exterior antenna, amplifier, and interior antenna. They form a wireless system to boost cellular reception.**
- 2. A cell phone reception booster is generally a repeater system that involves the amplifier adding gain or power to the reception in various directions. Even for a cheap cell phone signal booster, maximum gain differs by application. The work of an outside antenna is to both receive and transmit signal to a cellular tower with enhanced power and sensitivity.**
- 3. A cell phone booster amplifier:**
 - Boosts the 4G LTE and 5G (most but not all boosters) voice signal in your car or home.**
 - Enhances the internet speed, text and talk quality.**
 - Maintains a reliable connection throughout.**
 - Widens the reception area.**
 - Diminishes coverage problems.**

Exterior Antenna

1. Two types:

Directional

Omnidirectional

2. Directional antennas receive and send signals requiring line-of-sight orientation.

- **Best option for low over-the-air signals**
- **Best signal gain**

3. Omnidirectional antennas receive and send signals.

- **Smaller profile than directional antennas**
- **Mostly employed in mobile applications (motor homes, RVs, etc.)**
- **Lower signal gain than directional antennas**
- **Can be used in fixed applications**

Directional Antenna Profiles

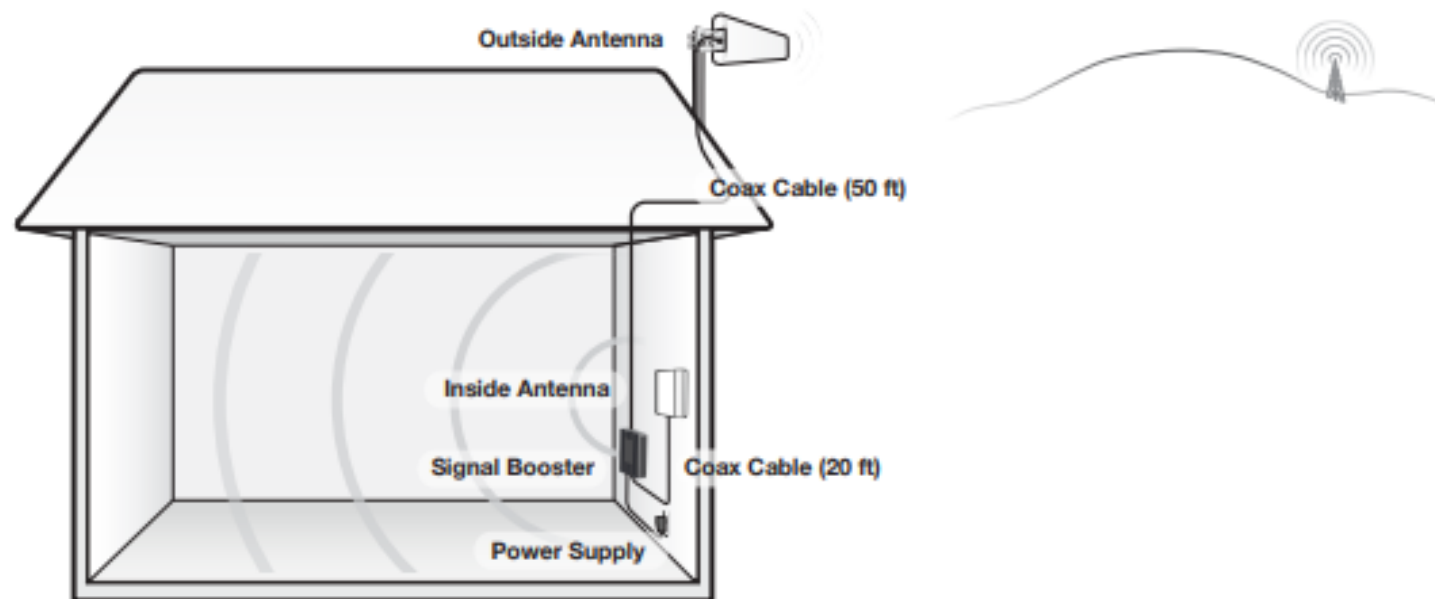


Omnidirectional Antenna Profiles



Available Signal Strength is Critical

1. A cell booster amplifier may not work in all the homes in Heritage Solaire.
2. A reasonably unobstructed line-of-site to a cell tower or vendor antenna is required for cell booster directional antenna systems.
3. Cell booster manufacturers recommend checking the signal strength on the highest structure points as possible.



Typical Cell Booster Amplifier and Indoor Antennas



Indoor Omni Whip Antenna



Indoor Directional Panel Antenna



Signal Strength Meter

1. Before considering a cell phone booster amplifier it is imperative to check if signal strength is sufficient to warrant this solution.
2. Doing so will require a test on a structure point which has an acceptable signal strength.



Green area is best

Note: This graphic is a display from an app on an Android based cell phone. There is no comparable app for an iPhone

5th Generation (5G) Small Cell Antennas

1. Should improve reception outside our homes.
2. Verizon specific to our area?
3. Not yet active due to possible interference with aircraft electronics.
4. West end of Pleasant Grove is adjacent to McClellan Airfield flight path.
5. Activation may occur in July 2024.

