GAGBK SF50--cell phone signal boosters

GAGBK Cell Signal Booster User Manual

Model: SF50

1. Introduction

This user manual provides comprehensive instructions for the installation, operation, and maintenance of your GAGBK Cell Signal Booster (Model SF50). This device is designed to amplify 2G, 3G, 4G LTE, and 5G cellular signals across various bands (Band 2/4/5/12/13/17/25/66) for all major U.S. carriers, improving call quality and data speeds in areas with weak signal coverage, up to 5500 sq ft.

Figure 1: GAGBK Cell Signal Booster unit with included outdoor and indoor antennas.

2. Safety Information

- Ensure proper grounding for all electrical connections.
- Do not operate the booster in wet or damp conditions.
- Keep the booster unit and antennas away from heat sources and direct sunlight.
- Only use the provided power supply. Using an unapproved power supply may damage the device and void the warranty.
- Maintain adequate separation between the outdoor antenna and the indoor antenna to prevent self-oscillation.
- Installation should be performed by individuals familiar with electrical and antenna systems.
- The signal booster can only amplify existing signals; it cannot create a signal where none exists. Ensure at least 1 bar of signal is present outside for optimal performance.

3. Package Contents

Verify that all items listed below are included in your package:

- 1x 8 Band Cell Phone Signal Booster (Main Unit)

- 1x Outdoor Directional Antenna
- 1x Indoor Panel Antenna
- 1x 12V/5A AC Power Supply
- 1x 12" Short/Tiny Window Cable
- 1x 40ft Coaxial Cable
- 1x 20ft Coaxial Cable
- 1x 16.5ft Coaxial Cable
- 2x U-bolts
- 1x L-bracket
- 1x Metal sheet
- 1x Screws set

Figure 2: All components included in the GAGBK Cell Signal Booster package.

4. Product Features

- **Wide Carrier Compatibility:** Works with all major U.S. carriers including Verizon, AT&T, T-Mobile, Sprint, Straight Talk, Cricket, and U.S. Cellular.
- **Multi-Band Support:** Amplifies GSM, 2G, 3G, 4G LTE, and 5G signals on Band 2, 4, 5, 12, 13, 17, 25, and 66.

- **Extensive Coverage:** Boosts signal up to 5500 sq ft, suitable for homes, offices, rural areas, and metal buildings.
- **Automatic Gain Control (AGC):** Automatically detects existing signal strength and adjusts for optimal performance, preventing self-oscillation.
- **LCD Visual Display:** Provides real-time working conditions, including input/output signal strength and upstream/downstream gain.
- **ALC Intelligent Power Control:** Ensures high-power output while minimizing radiation.
- **Self-Oscillation Function:** Automatically reduces gain or shuts down if indoor and outdoor antennas are too close, protecting the system.
- **Sleep Mode:** Reduces power consumption when no mobile device is in use.
- **Durable Construction:** Made from aluminum alloy for compact size, better heat dissipation, and extended lifespan.

Figure 3: Key features of the GAGBK Cell Signal Booster, including LCD, AGC, ALC, self-oscillation, sleep mode, and aluminum alloy construction.

5. Installation Guide

Follow these steps carefully for optimal performance. It is recommended to perform a "soft install" first to test placement before permanent mounting.

5.1. Site Selection and Signal Check

Before installation, identify the location with the strongest outdoor signal. Use your mobile phone to check signal bars in various outdoor locations, especially on the roof or near windows. The outdoor antenna should be placed where it receives at least 1-2 bars of stable signal.

Figure 4: The booster supports all major U.S. carriers and multiple users.

5.2. Outdoor Antenna Installation

1. Mount the Outdoor Directional Antenna on a pole or mast at the highest point of your building (e.g., roof, chimney, or exterior wall) where the strongest signal is received.
2. Ensure the antenna is pointed towards the nearest cell tower for your carrier. You may need to adjust its direction slightly to maximize signal strength on the booster's LCD display later.

3. Secure the antenna firmly using the provided U-bolts and L-bracket.

Figure 5: Proper installation of the outdoor directional antenna.

5.3. Booster Unit Placement

1. Choose a central location indoors for the main booster unit, preferably near a power outlet.
2. Ensure there is sufficient separation (at least 20-30 feet vertically and horizontally) between the booster unit (and its connected indoor antenna) and the outdoor antenna to prevent signal feedback and self-oscillation.
3. Mount the booster unit to a wall using the provided screws or place it on a flat surface.

5.4. Indoor Antenna Installation

1. Install the Indoor Panel Antenna in the area where you need improved signal coverage. This is typically a central location within your home or office.
2. The indoor antenna should be mounted on a wall, facing the area where signal is needed most.
3. Maintain maximum possible separation from the outdoor antenna.

Figure 6: Placement of the indoor panel antenna for optimal signal distribution.

5.5. Connecting Components

1. Connect the Outdoor Directional Antenna to the "OUTDOOR" port on the booster unit using one of the provided coaxial cables (e.g., 40ft, 20ft, or 16.5ft depending on distance). Ensure connections are finger-tight.
2. Connect the Indoor Panel Antenna to the "INDOOR" port on the booster unit using another coaxial cable.
3. If routing cables through a window, use the 12" Short/Tiny Window Cable to avoid damaging the main coaxial cables.

Figure 7: Connecting the coaxial cables to the booster unit's outdoor and indoor ports.

5.6. Powering On

1. Once all antennas are securely connected and positioned, plug the 12V/5A AC Power Supply into the booster unit's power input.
2. Plug the power supply into a standard electrical outlet.
3. The booster will power on, and the LCD display will illuminate, showing real-time signal information.

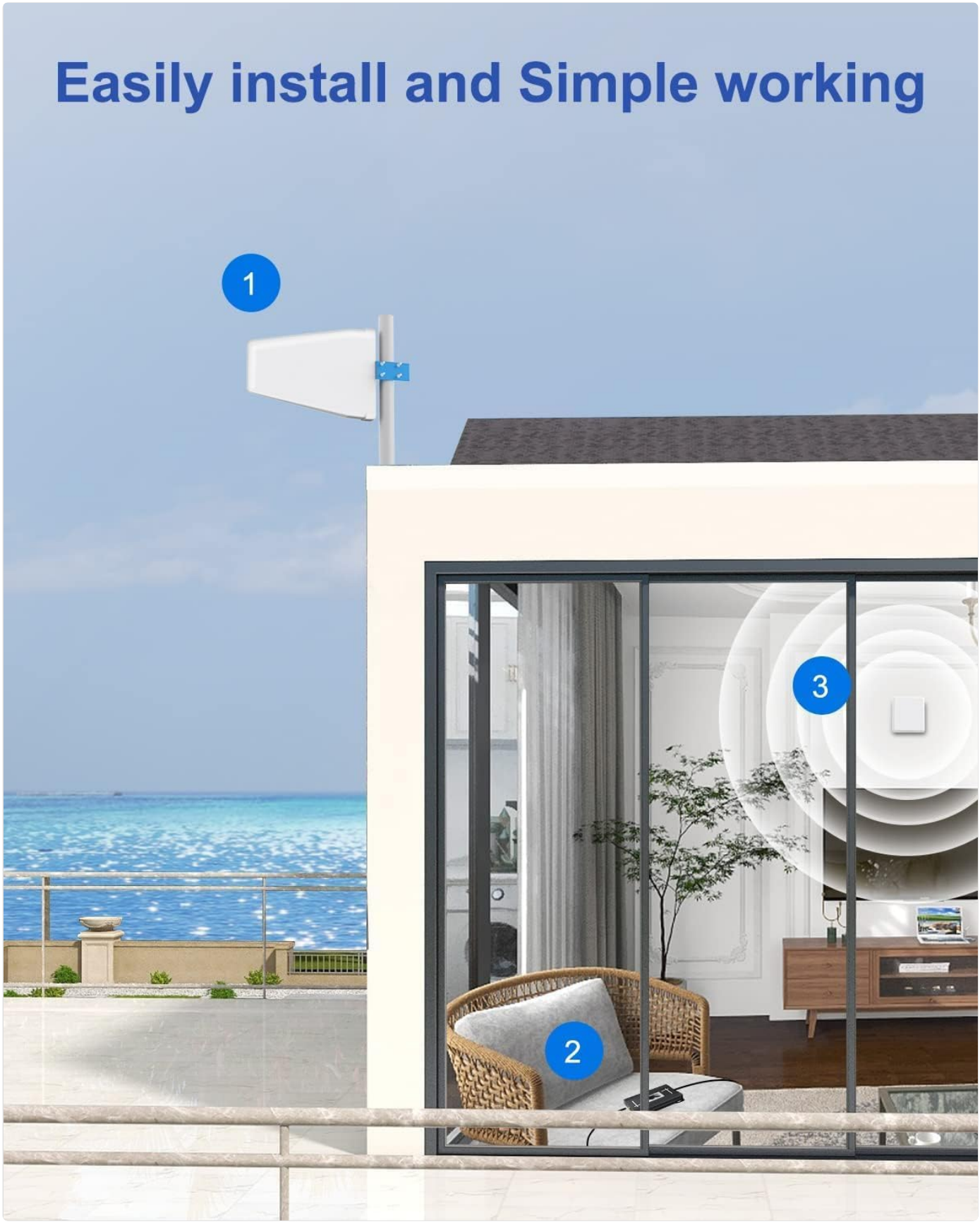

Figure 8: Overview of the signal booster system installation process.

6. Operation

After successful installation, the GAGBK Cell Signal Booster operates automatically. The LCD display provides critical information about its performance.

- **LCD Display:** The screen shows the working frequency, real-time input and output signal strength, and gain levels. Monitor this display to ensure optimal operation.
- **Automatic Gain Control (AGC):** The booster continuously monitors the incoming signal and adjusts its gain to prevent overload and maintain stable performance.
- **LED Indicators:** The booster may have LED indicators that reflect its working status (e.g., power, signal, alarm). Refer to the LCD for detailed information.
- **Sleep Mode:** The booster will enter a low-power sleep mode when no active mobile devices are detected within its coverage area, conserving energy.

Figure 9: The booster's LCD display provides real-time operational data.

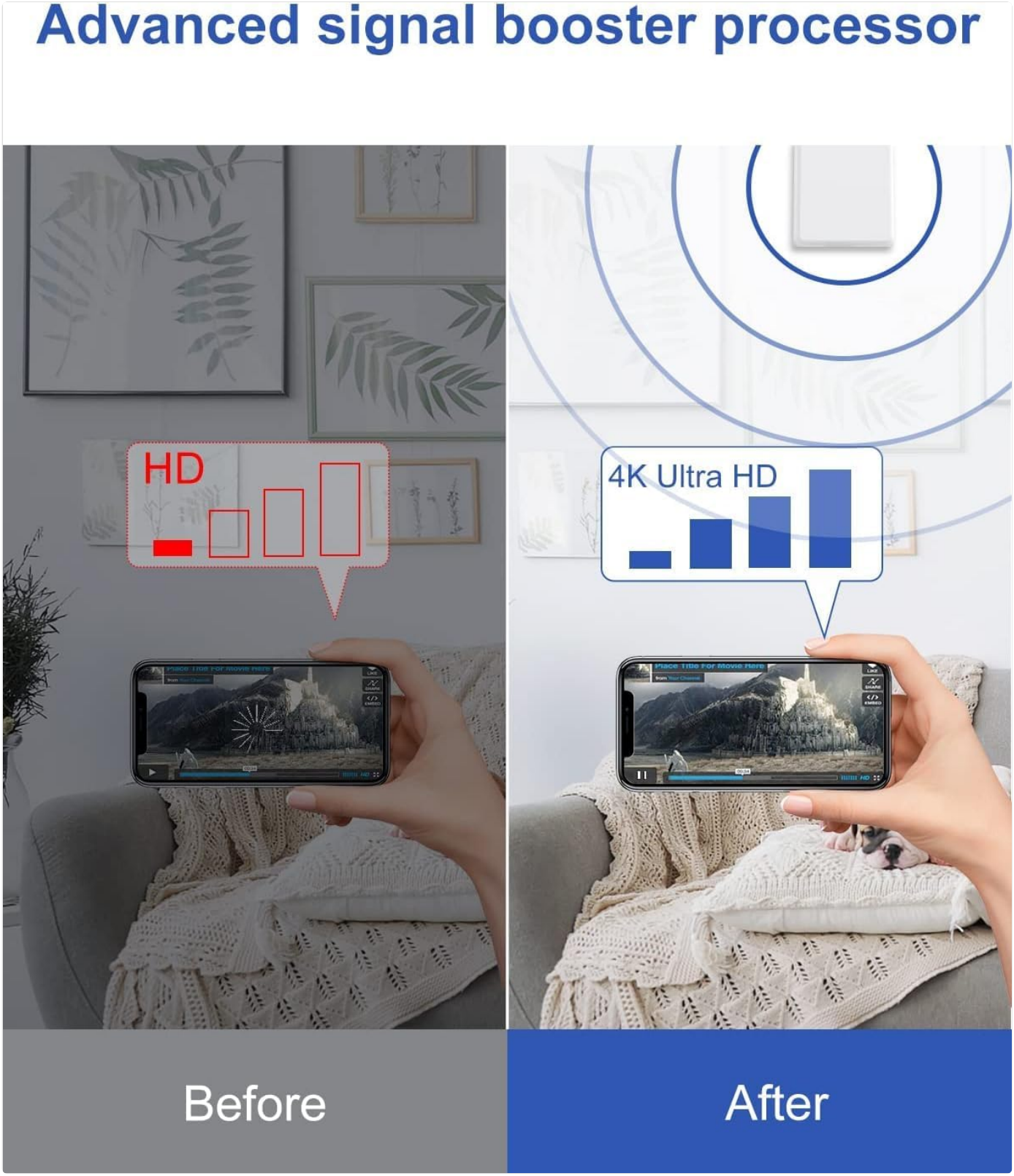

Figure 10: Visual representation of signal improvement after booster activation.

7. Maintenance

- **Cleaning:** Periodically wipe the booster unit and antennas with a soft, dry cloth. Do not use liquid cleaners or solvents.
- **Cable Inspection:** Regularly check all coaxial cable connections for tightness and inspect cables for any signs of damage or wear.
- **Antenna Check:** Ensure outdoor antenna remains securely mounted and free from obstructions (e.g., tree branches, debris).

- **Ventilation:** Ensure the booster unit has adequate ventilation and is not covered, to prevent overheating.

8. Troubleshooting

Problem	Possible Cause	Solution
No signal improvement / Booster not working.	◦ No existing outdoor signal. ◦ Loose cable connections. ◦ Insufficient separation between antennas (self-oscillation). ◦ Outdoor antenna not pointed correctly. ◦ Power supply issue.	◦ Verify at least 1 bar of signal exists outside the building. The booster cannot create signal. ◦ Check all coaxial cable connections to ensure they are tight. ◦ Increase the physical separation between the outdoor and indoor antennas. Ensure they are not facing each other directly. ◦ Adjust the direction of the outdoor antenna to find the strongest signal from the cell tower. Monitor the booster's LCD display. ◦ Ensure the power supply is securely plugged into the booster and a working outlet.
Weak indoor signal despite booster being on.	◦ Indoor antenna placement. ◦ Outdoor signal too weak. ◦ Cable loss.	◦ Relocate the indoor antenna to a more central position or closer to the area needing coverage. ◦ Re-adjust the outdoor antenna for maximum signal input. Consider a higher mounting point. ◦ Ensure coaxial cables are not excessively long or damaged.
Booster LCD shows "Self-Oscillation" or similar error.	◦ Insufficient isolation between antennas.	◦ Increase the distance between the outdoor and indoor antennas. ◦ Ensure there are physical barriers (walls, roof) between the antennas. ◦ Re-orient antennas so they are not pointing directly at each other.

9. Specifications

Attribute	Detail
Model Number	SF50--cell phone signal boosters
Supported Bands	Band 2/4/5/12/13/17/25/66
Supported Networks	2G, 3G, 4G LTE, 5G
Max Gain	65dB

Attribute	Detail
Coverage Area	Up to 5500 sq ft
Power Supply	12V/5A AC Power Supply
Item Weight	7.13 pounds
Package Dimensions	16.93 x 8.74 x 5.31 inches
Manufacturer	Shenzhen Fuzhixing Electronic Co.Ltd
FCC Approved	Yes

10. Warranty and Technical Support

The GAGBK Cell Signal Booster is FCC approved and designed with high-quality components for longevity and safe use.

- **Money Back Guarantee:** 30-day money back policy.
- **Manufacturer Warranty:** 3-year manufacturer warranty.
- **Lifetime Technical Support:** GAGBK provides lifetime professional technical support.
- **Customer Service:** 24-hour friendly customer service is available. If you encounter any problems or if any components are damaged, please contact GAGBK for assistance and unconditional replacement of items.

For support, please refer to the contact information provided with your product or visit the official GAGBK store on Amazon: GAGBK Amazon Store.