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# **Sprint Magic Box Voice Amp + Magic Box Gold Installation Guide**

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## Acknowledgements



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## Document Information

### Abstract

This document details a description of the two (2) possible connection scenarios of the Sprint Magic Box Voice Amp (AVC) to the Sprint Magic Box Gold (AU-587) unit.

### Revision History

Revision Details	Date	Summary of Changes
0.1	December 2017	<ul style="list-style-type: none"><li>Initial draft document &amp; comments</li></ul>
0.2	December 2017	<ul style="list-style-type: none"><li>Initial updates</li></ul>
0.3	August 2018	<ul style="list-style-type: none"><li>updates</li></ul>
0.4	October 2018	<ul style="list-style-type: none"><li>Document name change</li><li>Picture updates</li><li>Added trouble shooting</li><li>FCC &amp; UL Statements</li></ul>
A	January 2019	<ul style="list-style-type: none"><li>Comments</li><li>Publish</li></ul>

## About This Document

### Purpose

This Installation Guide is intended as an instructional manual to provide step-by-step instructions for installation of the Sprint Magic Box Voice Amp (AVC) to the Sprint Magic Box Gold (AU-587).

### Intended Audience

This guide is intended for persons who are installing the Sprint Magic Box Voice Amp unit to the Sprint Magic Box Gold unit.

## Customer Care Help Desk

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**Note:** To avail Airspan's *Customer Care Help Desk* support, you must be a registered user and must have a valid support contract. To register, click [here](#) and fill the **Registration** form.

To create and update issue logs, send e-mails to [Customer Care Help Desk](#). Once you submit your issue, the system generates a new issue and sends an issue number for your reference. The system uses this issue number to categorize and store e-mails under the appropriate issue.

To help *Customer Care Help Desk* identify your issue, include the issue number and your *Customer Care Helpdesk* account details in all further communications.

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## Airspan Encourages Comments

Airspan welcomes any feedback and suggestions that help to improve the quality of the documentation. Send your feedback to [documentfeedback@airspan.com](mailto:documentfeedback@airspan.com).

# 1 Overview

The Magic Box Gold with its companion Magic Box Voice Amp extension enables voice via CDMA.

This installation guide is intended to explain how to connect the Magic Box Voice Amp unit to the Magic Box Gold under either of the two (2) following scenarios:

- Connecting the Magic Box Voice Amp to your Magic Box Gold (already owned)
- Connecting the Magic Box Voice Amp to the Magic Box Gold (first time owner)



## 2 Connecting the Magic Box Voice Amp to Your Magic Box Gold

This section provides a description of how to connect the Sprint Magic Box Voice Amp to your already owned Sprint Magic Box Gold, including:

- Turn off your Sprint Magic Box Gold
- Unplug the Power Supply Unit (PSU) from the wall outlet
- Carefully remove the Sprint Magic Box Voice Amp from the packaging
- Position the Sprint Magic Box Voice Amp next to your Sprint Magic Box Gold
- Connect the Cables
- Connect PSU to the Sprint Magic Box Voice Amp
- Plug the PSU into the wall outlet

Follow these step-by-step instructions to connect the Sprint Magic Box Voice Amp to your (already owned) Sprint Magic Box Gold.

1. Ensure that the Sprint Magic Box Gold is turned off, and then disconnect the Power Supply Unit (PSU).

---

**Figure 1: Sprint Magic Box Gold (unplugged) - front**



- 
2. Carefully remove the Sprint Magic Box Voice Amp from its packaging.

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**Figure 2: Sprint Magic Box Voice Amp**



3. Place the Sprint Magic Box Voice Amp alongside the Sprint Magic Box Gold as shown.

**Figure 3: Side by Side (Front View)**



4. Connect one end of the Ethernet cable to the Sprint Magic Box Gold Ethernet port (found under the device (on the bottom)).

**Figure 4: Sprint Magic Box Gold ETH port**



5. Connect the other end of the Ethernet cable to the Sprint Magic Box Voice Amp Ethernet port (found on the back).

**Figure 5: Sprint Magic Box Voice Amp ETH port**



**Figure 6: Ethernet Cable Connected**



6. Connect the DC to DC cable to the DC Out on back of the Sprint Magic Box Voice Amp (this will be the white connector of the DC to DC cable).

**Figure 7: Sprint Magic Box Voice Amp Back**



7. Connect the Gold end of the DC to DC cable to the Sprint Magic Box Gold DC power connection port under the Magic Gold Box device.

**Figure 8: Power Cable Connected to Sprint Magic Box Gold**



**Figure 9: DC to DC Power Cable Connected**



8. Connect the External GPS antenna to the GPS connection port on the side of the Sprint Magic Box Voice Amp, under the cap.

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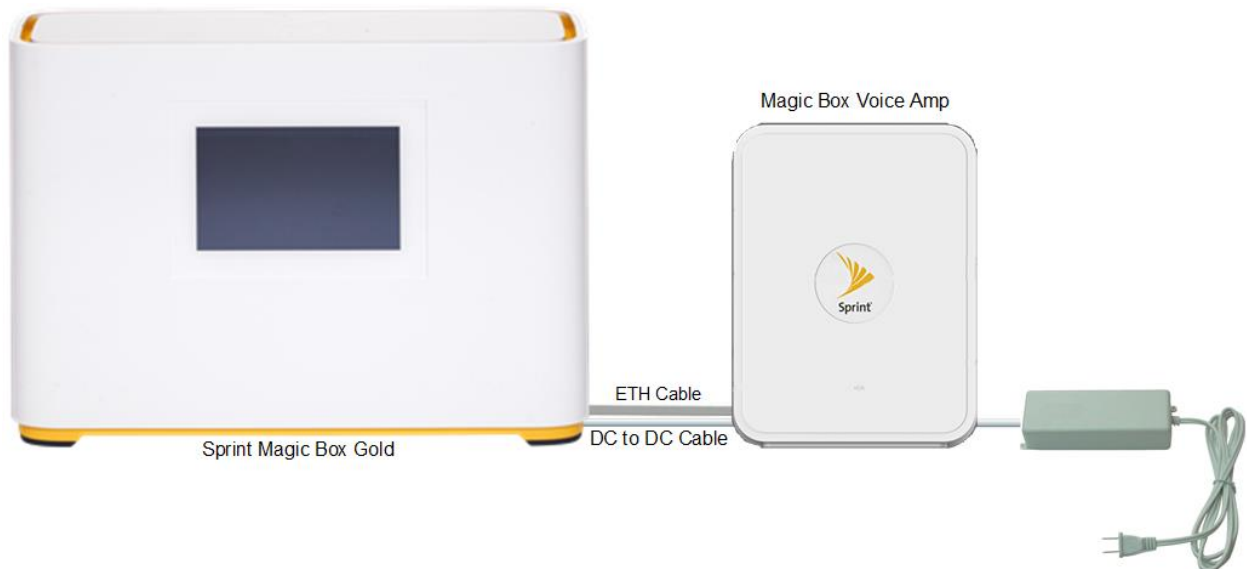
**Figure 10: External GPS Connection**



9. Place the GPS antenna base on a flat surface next to a closed window.
10. Plug the Sprint Magic Gold Box power supply cable (provided with the Magic Box Gold) into the DC IN port of the Sprint Magic Box Voice Amp.

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**Figure 11: Ready to Connect to Power Outlet**



11. Plug the other end of the Sprint Magic Box Gold power supply cable into an available electrical outlet. (Sprint recommends a surge protected outlet)

**Note:** The Sprint Magic Box Gold must be connected to the Sprint network in order for the Sprint Magic Box Voice Amp to work.

## 3 Connecting Magic Box Voice Amp to the Magic Box Gold

This section provides a description of how to connect your new Magic Box Gold with your Magic Box Voice Amp, including:

- Carefully remove the Sprint Magic Box Gold from the packaging
- Carefully remove the Power Supply Unit (PSU) from the packaging
- Carefully remove the Sprint Magic Box Voice Amp from the packaging
- Position the Sprint Magic Box Voice Amp next to Sprint Magic Box Gold
- Connect the Cables
- Connect PSU into the Sprint Magic Box Voice Amp
- Plug the PSU into the wall outlet

**Note:** Do not open your delivery until **both** packages arrive. The Sprint Magic Box Gold and the Sprint Magic Box Voice Amp may ship from different warehouses and be delivered separately.

Follow these step-by-step instructions to connect the Sprint Magic Box Gold to the Sprint Magic Box Voice Amp.

1. Carefully remove the Magic Box Gold from its packaging.

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**Figure 12: Sprint Magic Box Gold - front**



2. Carefully remove the Power Supply Unit (PSU) from its packaging and place aside to be used later.
3. Carefully remove the Sprint Magic Box Voice Amp from its packaging.

Figure 13: Sprint Magic Box Voice Amp - front



4. Place the Sprint Magic Box Voice Amp alongside the Sprint Magic Box Gold as shown.
- 

Figure 14: Sprint Magic Box Gold alongside Sprint Magic Box Voice Amp



5. Connect one end of the Ethernet cable to the Sprint Magic Box Gold Ethernet port (found under the device (on the bottom)).
- 

Figure 15: Sprint Magic Box Gold ETH port



6. Connect the other end of the Ethernet cable to the Sprint Magic Box Voice Amp Ethernet port (found on the back).

**Figure 16: Sprint Magic Box Voice Amp ETH port (back)**



**Figure 17: Ethernet Cable Connected**





7. Connect the DC to DC cable to the DC Out on back of the Sprint Magic Box Voice Amp (this will be the white connector of the DC to DC cable).

**Figure 18: Sprint Magic Box Voice Amp Back**



8. Connect the Gold end of the DC to DC cable to the Sprint Magic Box Gold DC power connection port under the Magic Gold Box device.

**Figure 19: Power Cable Connected to Sprint Magic Box Gold**



**Figure 20: DC to DC Power Cable Connected**



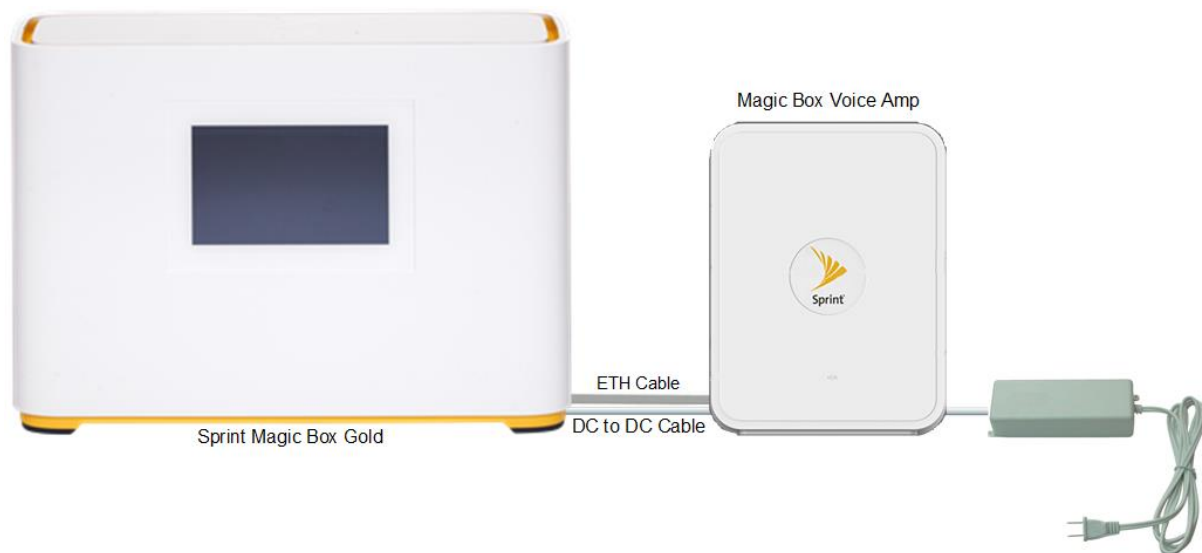
9. Connect the External GPS antenna to the GPS connection port on the side of the Sprint Magic Box Voice Amp, under the cap.

**Figure 21: External GPS Connection**



10. Place the GPS antenna base on a flat surface next to a closed window.
11. Plug the Sprint Magic Gold Box power supply cable (provided with the Magic Box Gold) into the DC IN port of the Sprint Magic Box Voice Amp.

**Figure 22: Ready to Connect to Power Outlet**



12. Plug the other end of the Sprint Magic Box Gold power supply cable into an available electrical outlet. (Sprint recommends a surge protected outlet)

**Note:** The Sprint Magic Box Gold must be connected to the Sprint network in order for the Sprint Magic Box Voice Amp to work.

## 4 Troubleshooting - Sprint Magic Box Voice Amp

Table 1: LED Display

LED	Color & Pattern	Description	User Action
<b>WAN</b>	Solid Green	WAN port is connected to peer and has obtained an IP addresses over the local network.	None
	Blinking Green	Acquiring IP Address. (DHCP process)	Wait
	Solid Red	HW problem or connection problem.	Connect Ethernet Cable. If continues – Contact Sprint
	Blinking Red	The device is initializing	Wait
	Off	SW Loading	
<b>C-NET</b>	Solid Green	CDMA IPsec Tunnel established	None
	Solid Red	CDMA IPsec tunnels is down or has not established a connection. (More than 15 minutes)	Contact Sprint
	Blinking Red	CDMA IPsec tunnel is establishing a connection. Blinks as long as tunnel still establishing. Tunnel have gone down for less than 15 minutes.	Wait
	Off	SW Loading	
<b>GPS</b>	Solid Green	GPS device has acquired a lock and is ready.	None
	Solid Red	GPS error. GPS has not achieve fix since Boot up (30 minutes or more)	Verify external antenna is connected and located close to a window. If continues – Contact Sprint
	Blinking Red	GPS is acquiring a lock	Wait
	Off	SW is loading	
<b>CDMA</b>	Solid Green	Voice service is up.	None
	Solid Red	Voice service error. Voice service has been down for 30 minutes.	Contact Sprint
	Blinking Red	Voice service is coming up, or voice service is down for 15 minutes.	
	Off	Voice service disabled by the operator.	Contact Sprint
<b>CDMA All LEDs</b>	Solid Red	CDMA Femto HW Error	Contact Sprint

## 5 FCC Statement

### **Federal Communications Commission (FCC) Interference Statement (Part 15.105(b))**

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 a 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 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 an experienced radio/TV technician for help.

### **FCC Compliance Statement (Part 15.19)**

This device complies with Part 15 of the FCC Rules. 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.

### **FCC Caution (Part 15.21)**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### **FCC Radiation Exposure Statement (OET Bulletin 65)**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated at a minimum distance of **20cm** between itself and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## 6 UL Authorization Statement

NOTICE OF COMPLETION AND  
AUTHORIZATION TO APPLY THE UL MARK



2018-09-11

MS. SHARON LIN  
Hon Lin Technology Co Ltd  
11th Fl 32 Jihu Rd Neihu District Taipei, 114, TW

Our Reference: File E199598, Vol. X2    Project Number:            4788649274  
Your Reference:                    1808T083  
Project Scope: UL/CUL 60950-1 for 1) Femto Cell (Sprint Magic Box Voice Amp); 2) Femto Cell  
(AIRAVE 4 LTE), Models 1) AVC; 2) AV100C (Report Reference Number: E199598-A172)

Dear MS. SHARON LIN:

Congratulations! UL's investigation of your product(s) has been completed under the above Reference Number and the product was determined to comply with the applicable requirements. This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark at authorized factories under UL's Follow-Up Service Program. To provide your manufacturer(s) with the intended authorization to use the UL Mark, you must send a copy of this notice to each manufacturing location currently authorized under File E199598, Vol. X2.

Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent in the near future. Until then, this letter authorizes application of the UL Mark for 90 days from the date indicated above.

Additional requirements related to your responsibilities as the Applicant can be found in the document "Applicant responsibilities related to Early Authorizations" that can be found at the following web-site: <http://www.ul.com/EAResponsibilities>

Any information and documentation provided to you involving UL Mark services are provided on behalf of

UL LLC (UL) or any authorized licensee of UL.

We are excited you are now able to apply the UL Mark to your products and appreciate your business. Feel free to contact me or any of our Customer Service representatives if you have any questions.

Very truly yours,                    Reviewed by:

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