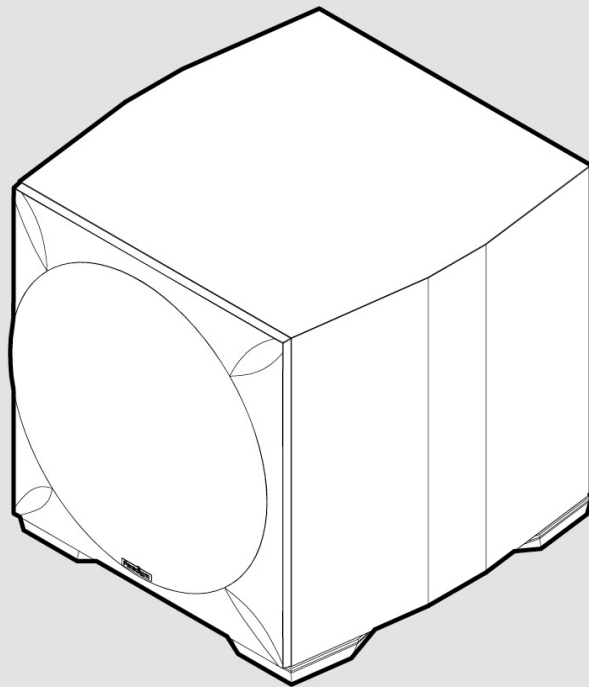


**Paradigm®**

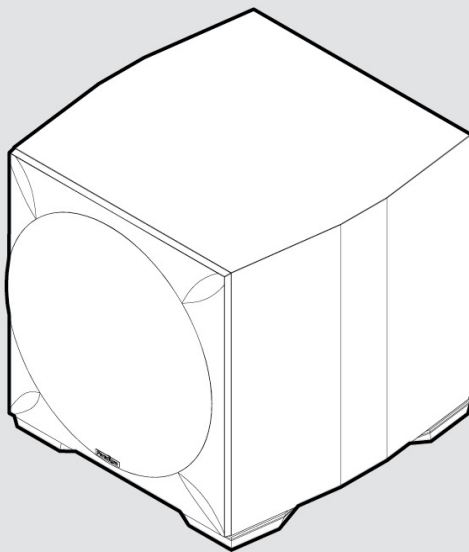
**DEFIANCE® S10**

**DEFIANCE® S12**

**Defiance S12**



**Defiance S10**



**Owner's  
Manual**

Applicable to firmware version 1.3 or later.

# INDUSTRY CANADA (IC) COMPLIANCE NOTICE

This device complies with Industry Canada licence exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment.



Contains FCC ID: NKR-SWA12 and IC: 4441A-SWA12

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.

Per FCC regulation 47 CFR 15.21: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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 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 an experienced radio/TV technician for help.

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**4.0** YOUR NEW SUBWOOFER

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**8.0** 'PAIRING' THE DEFIANCE WT WIRELESS SYSTEM (SOLD SEPARATELY)

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# EU COMPLIANCE INFORMATION

Hereby, PML Sound International declares that this Defiance Suwoofer is in compliance with the essential requirements and other relevant provisions of the following EU Compliance Directive Information.

- Conforms to European Union Low Voltage Directive 2014/35/EU;
- European Union EMC Directive 2014/30/EU;
- European Union Radio Equipment Directive (RED) 2014/53/EU.
- European Union Eco-Design Directive 2009/125/EC;
- European Union WEEE Directive 2012/19/EU;
- European Union Restriction of Hazardous Substances Recast (RoHS2) Directive 2011/65/EU;
- European Union Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) Directive 2006/121/EC;
- You may obtain a free copy of the Declaration of Conformity by contacting your dealer, distributor, or PML Sound International worldwide headquarters. Contact information can be found here: [www.paradigm.com](http://www.paradigm.com).

# RECYCLING AND REUSE GUIDELINES (Europe)



In accordance with the European Union WEEE (Waste Electrical and Electronic Equipment) directive effective August 13, 2005, we would like to notify you that this product may contain regulated materials which, upon disposal, according to the WEEE directive, require special reuse and recycling processing. For this reason Paradigm Electronics Inc. (manufacturers of Paradigm® speakers and Anthem® Electronics) has arranged with its distributors in European Union member nations to collect and recycle this product at no cost to you. To find your local distributor please contact the dealer from whom you purchased this product or go to our website at **[www.paradigm.com](http://www.paradigm.com)**.

Please note that only the product falls under the WEEE directive. When disposing of packaging and other shipping material we encourage you to recycle through the normal channels.

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# 1.0 INTRODUCTION

Thank you for choosing a Paradigm® Defiance S Subwoofer. You are about to hear the difference that Paradigm subwoofers make in your home theater system! They are the product of countless hours of comprehensive research and development and will reward you with truly exceptional sound for many years.

To ensure proper installation, please read this manual and follow all instructions. If you have further questions contact your Authorized Paradigm Dealer or visit the Q&A page on our website at **[www.paradigm.com](http://www.paradigm.com)**.



## 2.0 IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Maintain a minimum of 20-30cm distance around the apparatus for sufficient ventilation.
16. The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, tablecloths, curtains, etc.
17. No naked flame sources, such as candles, should be placed on the apparatus.
18. The use of apparatus in moderate climates.



**The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.**



**The lightning bolt flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.**



**WARNING!** Do not use your subwoofer outside of the country of original sale — voltage requirements vary by country. Improper voltage can cause damage that will be potentially expensive to repair. The subwoofer is shipped to Paradigm authorized distributors with the correct power supply for use in the country of intended sale. A list of authorized distributors can be accessed at [www.paradigm.com](http://www.paradigm.com) or by emailing [support@paradigm.com](mailto:support@paradigm.com).

## 3.0 SAFETY WARNINGS AND QUICK INFORMATION



- **Hazardous voltages exist inside—do not remove cover.**
- **Refer servicing to a qualified technician.**
- **To prevent fire or shock hazard, do not expose this module to moisture.**
- **Turn amplifier off and unplug subwoofer should any abnormal conditions occur.**
- **The power cord should not be installed, removed, or left detached from the speaker while the other end is connected to an AC power source.**
- **The main power switch near the AC inlet shall remain readily operable.**
- **Use only with a grounded electrical outlet.**
- **No candles or other sources of open flame should be placed on the speaker.**
- **No liquids either in glasses or vases should be placed on speaker.**
- **Speaker should not be exposed to dripping or splashing liquids.**
- **The terminals marked with the lightning bolt symbol should be connected by an instructed person or by way of ready made terminals.**
- **The power cord should remain readily operable should any abnormal conditions occur.**

We know you are eager to hear your new Paradigm subwoofer, so this section is provided to allow fast and easy set up. Once you have your subwoofer operational, please take the time to read, in depth, the rest of the information in the enclosed manual. It will give you perspective on how to attain the greatest possible performance from this most exciting subwoofer system.

We know you are eager to hear your new Paradigm subwoofer, so this section is provided to allow fast and easy set up. Once you have your subwoofer operational, please take the time to read, in depth, the rest of the information in the enclosed manual. It will give you perspective on how to attain the greatest possible performance from this most exciting subwoofer system.

### Unpacking

Remove your new subwoofer from its packaging. Please retain the original packaging materials for future use — replacement packaging may be expensive.

### Placement

You may choose to begin by placing the subwoofer in a corner near the front of the room. If placed in a corner, align the subwoofer diagonally so both woofers are equidistant from the adjacent wall. Before deciding on a permanent corner placement, experiment with other positions. Locations away from corners often prove more effective in providing ideal low-frequency performance and blend with the main speakers. Please see the Placement section for details.

### Signal Connection

Use the best cables you can. High quality cables, available from your specialty dealer, are recommended and will give you superior performance.

Attach your receiver/preamplifier outputs to the signal input connectors located on the subwoofer's rear panel. Please see the Controls and Connections section for details. If you plan to connect your subwoofer using Speaker Level (high level) inputs, refer to the Speaker Level Inputs section for details.

### **Power Connection (AC) (see warning)**

Make sure the level knob is set at 0. Plug the subwoofer into a wall outlet. Review the AC Power Connection section of this manual for details.

### **Setting the Controls (Using LFE Input):**

- Power Mode: Set the switch to 'Auto', 'On' or 'Trigger', depending on your application.
- Download the Paradigm Subwoofer Control app (from the Google Play Store or the Apple App Store).
- Using the app, adjust the following settings:
  - Volume (level): Set at -14dB or twelve o'clock (straight up).
  - Phase: Start with 0°.
  - Low Pass Filter: Set to Bypass
- Use your processor/receiver's bass management system to adjust subwoofer integration.

### **Line Level Input (Left/Right):**

- Power Mode: Set the switch to 'Auto', 'On' or 'Trigger', depending on your application.
- Download the Paradigm Sub Control app (from the Google Play Store or the Apple App Store).
- Using the app, adjust the following settings:
  - Volume (level): Set at -14dB or twelve o'clock (straight up).
  - Phase: Start with 0°.
  - Low Pass Filter: Set lower than the low-end frequency response of your main speakers. If you are uncertain of your main speaker low-frequency response, start with 80Hz.

### **Speaker Level Inputs (Left/Right):**

- Power Mode: Set the switch to 'Auto', 'On' or 'Trigger' depending on your application.
- Download the Paradigm Sub Control app (from the Google Play Store or the Apple App Store).
- Use the Low Pass Filter and set to 80Hz.
  - Volume (level): Set at -14dB or twelve o'clock (straight up).
  - Phase: Start with 0°.
  - Use the Low Pass Filter and set to 80Hz.

## 4.0 YOUR NEW SUBWOOFER

### Break-In

Although Paradigm XR subwoofers sound great “out of the carton,” they will sound even better once they are “broken in.” Allow them to play for several hours before you begin any critical listening.

**NOTE:** If your subwoofer has been transported or stored in the cold, let it warm to room temperature before use.

### Cleaning

Paradigm XR subwoofers have a durable premium finish. To clean, use a damp soft cloth. Do not use a strong or abrasive cleaner. Avoid getting any part of the subwoofer system wet. Do not place wet objects (drinking glasses, potted plants, etc.) on top of the subwoofer—if allowed to soak in, even a small amount of water may permanently damage the subwoofer enclosure.

### Power Requirements

The ‘Watts’ (W) rating indicated on the rear panel is the maximum AC power your subwoofer will draw when producing its maximum power output. However, the actual wattage draw will vary with the bass content of the program material—more if there is a lot of deep bass, less when there is not as much bass.

Although generally not required for typical music and movie program material, if the bass content of your program material is very loud and more continuous in nature, we recommend connecting subwoofers with higher wattage ratings (i.e. 1500 W) to dedicated AC circuits.

### Room Acoustics

You are about to experience the astonishing bass performance of a state-of-the-art Paradigm® subwoofer. These subwoofers incorporate highly advanced patented technology and set all new standards for deep bass extension, ultra-low distortion and sound power output and provide unprecedented bass articulation and slam.

It is important to note that just as the amount of soft furnishings has a decided impact on mid and high frequencies, those below 150 Hz are dramatically affected by the room itself—its size, shape, as well as by physical boundaries throughout the room. Experimenting with subwoofer placement and control adjustments is the best way to achieve optimal bass performance in any room. Keep in mind the following guidelines when deciding on best subwoofer placement:

- Concrete floors and walls tend to aggravate low-frequency standing wave problems and are less preferred.
- Rooms where height, width and length are similar should be avoided as they can exhibit significant low-frequency standing wave problems. This may result in reduced clarity. If no other room is possible, experiment with subwoofer placement to minimize acoustic problems.

## 5.0 SUBWOOFER PLACEMENT



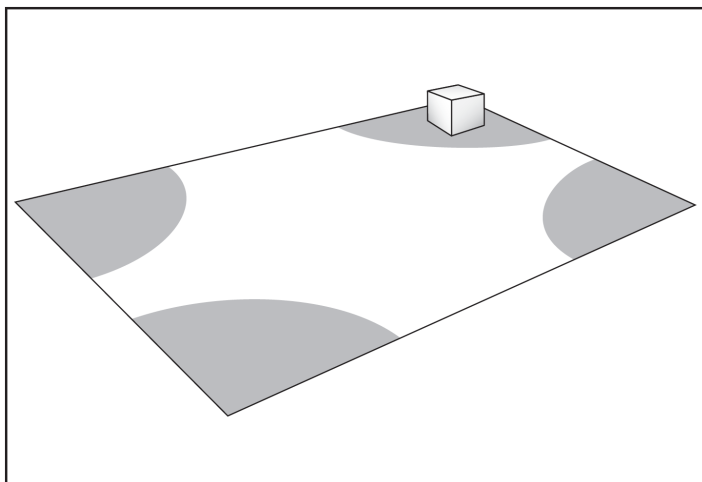
**SAFETY PRECAUTION:** Before proceeding with this section, be sure to read and follow all safety precaution notices at the beginning of this manual.

Bass is less and less directional as it goes down in frequency. For best sonic integration, locating your subwoofer between your front speakers or beside one of them and close to the back wall will usually provide the best bass performance. If this location is not possible your subwoofer may be placed anywhere in the room without affecting the stereo image of your front speakers or the soundstage of your multichannel speaker system.

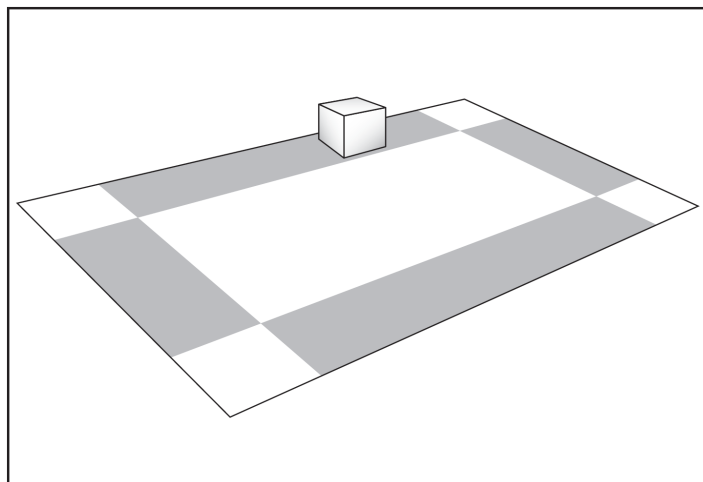
**Fig. 1a** and **Fig. 1b** (see page 8), highlight how bass output is generally affected by room placement. When seated in a typical listening area of your room, placing the subwoofer inside the “shaded” areas will typically result in bass performance as follows:

**Fig. 1a** Corner placement provides the most bass, but sometimes at the expense of accuracy.

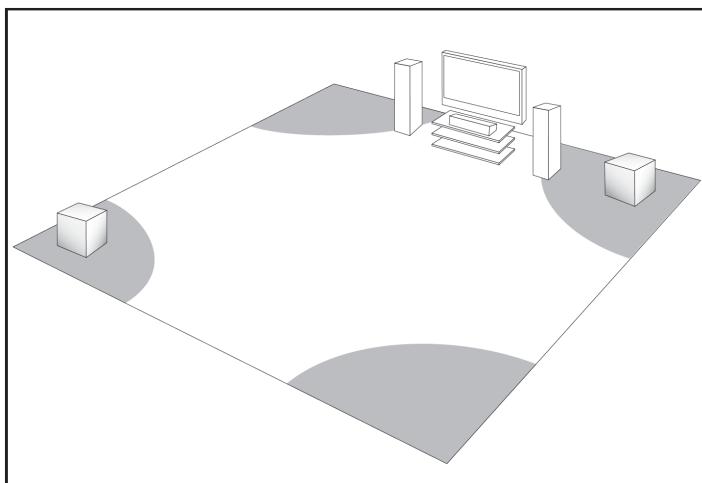
**Fig. 1b** A subwoofer placed near a wall usually provides a good balance of quantity and accuracy.



**Fig. 1a**



**Fig. 1b**



**Fig. 2**

## THE ADVANTAGES OF USING TWO SUBWOOFERS IN YOUR LISTENING ROOM:

**Fig. 2:** When using two subwoofers, placing one in the front of the room and the other in the rear of the room usually provides the best bass performance and sonic integration. Consult the “Fine Tuning” section of this Owners Manual for more information on adjusting phase settings. If those locations are not possible, or if you want to experiment with placement options using two subwoofers, the following procedure will be a helpful guide to achieving better bass performance. Refer to “Subwoofer Connection” (below) then proceed as follows:

- Temporarily turn all speakers off (either by turning your amplifier off or disconnecting them).
- Connect and place one subwoofer in the central area of your listening room. Follow directions for connection, as outlined in the following section.
- At a moderately loud level, play music or a video soundtrack with extended bass that is repetitive or continuous.
- Walk around your room and note where the bass sounds louder and where it sounds quieter.
- Place the first subwoofer within a louder bass area of your room; then place the second subwoofer within a quieter bass area of your room.
- Connect both subwoofers and switch all speakers back on; and switch the amplifier on, or reconnect it.
- Follow the “Fine Tuning” instructions (see page 15), to optimize your system’s overall bass performance.

*(See your Dealer for connection instructions using two subwoofers).*

**NOTE: The preceding is only a guideline.** You may want to use a bass test disc and SPL meter to more accurately determine the bass characteristics of your listening room (see your Dealer for more information).

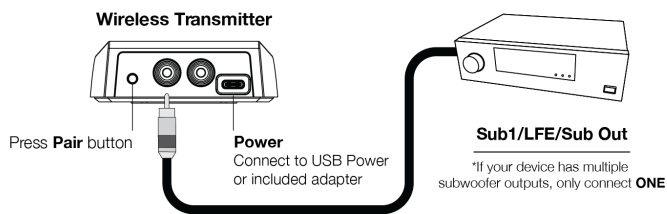
Remember that room acoustics vary, which means that it may take some experimenting with subwoofer placement to achieve the best subwoofer performance.

## 6.0 CONNECTING YOUR SUBWOOFER

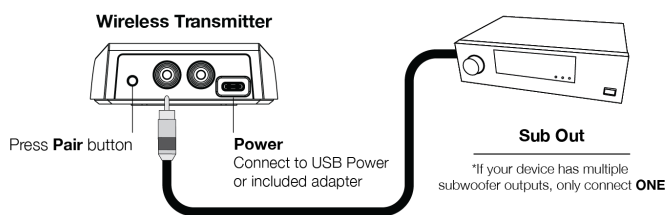
### WIRELESS CONNECTION

Your subwoofer includes a wireless transmitter that pairs with the wireless receiver built into the electronics of the subwoofer. This wireless transmitter is completely optional, but offers a convenient way to send a signal to your subwoofer when running a subwoofer cable is not a desirable option. The included transmitter can be powered via an available USB port or with the included power adapter. The transmitter should be paired to the subwoofer at the factory, but the built-in wireless receiver is powered off by default. See the controls section of the manual for instructions on how to enable the wireless feature.

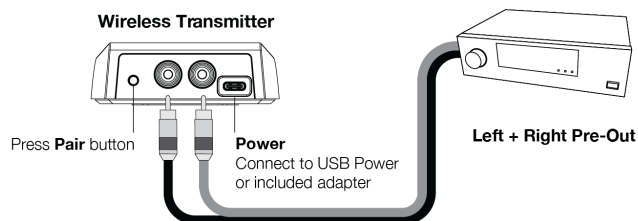
#### **LFE** (or for devices with built-in bass management)



#### **Single Wire Connection** (or for devices without built-in bass management)



#### **Stereo Connection**



### SIMULTANEOUS CONNECTIONS

MartinLogan subwoofers can utilize multiple input methods simultaneously. This can be helpful in certain installations, but the need to use simultaneous connections is rare, so this likely will not apply to your system. It is not recommended to use both wireless and wired connections simultaneously.

#### **WIRELESS AUDIO PAIRING (on backplate only)**

This subwoofer includes a wireless transmitter that pairs with the receiver built into the electronics of the subwoofer. This wireless transmitter is completely optional, but offers a convenient way to send a signal to your subwoofer when running a subwoofer cable is not a desirable option. The included transmitter can be powered via an available USB port or with the included power adapter. The transmitter should be paired to the subwoofer at the factory, but the built-in wireless receiver is powered off by default. Here is how to enable the wireless connection feature:



#### Enabling the Subwoofer's Wireless Signal Connection Feature:

1. Pressing the Wireless Audio "Pair" button for 2 seconds will power on the built-in wireless module. The LED will now be green.

#### Disabling the Subwoofer's Wireless Connection Feature:

1. Press and hold the Wireless Audio "Pair" button for 11 seconds – until the LED goes off completely. (The LED may show red or green or flash during the 11 seconds – continue to hold the button until the LED turns off)

#### Pairing the Transmitter:

1. The wireless transmitter must be powered on, and the wireless connection feature enabled on the subwoofer (see above instructions).
2. Press and hold the wireless audio "pair" button (on backplate) for 5 seconds until the LED quickly flashes green/red.
3. Press the "pair" button on the wireless transmitter while the LED on the subwoofer flashes green/red/green (if the LED does not turn green, repeat the process).

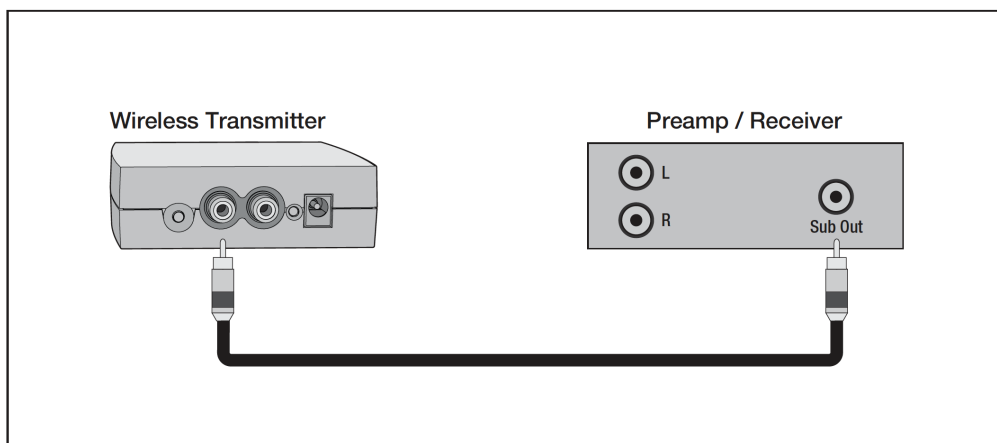
## 7.0 CONNECTING THE DEFIANCE WT WIRELESS TRANSMITTER (Sold Separately)



Before connecting a Defiance WT wireless transmitter to the receiver/preamplifier, ensure you have “paired” the subwoofer and transmitter.

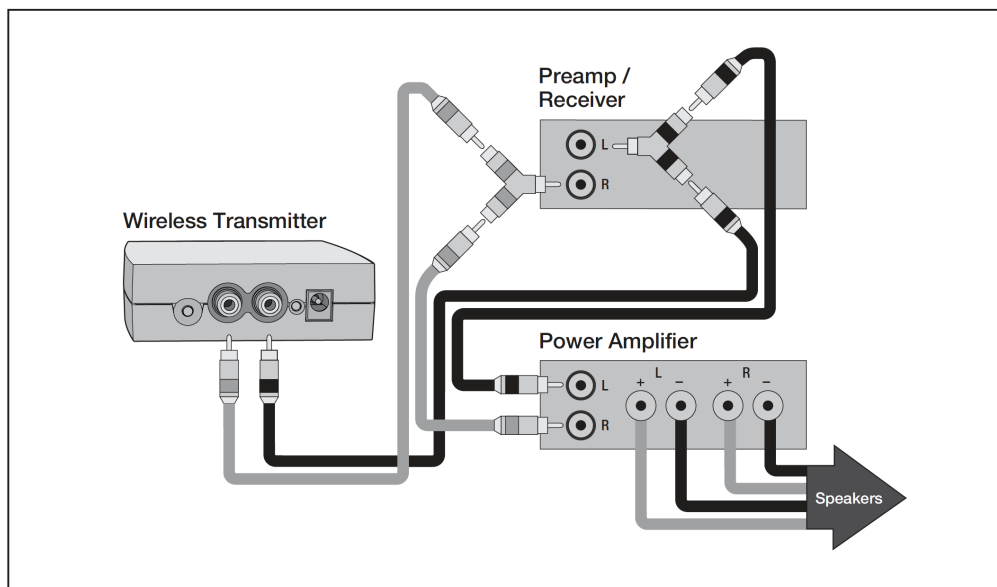
**Line-Level Input From Sub/LFE Output** — *for use with a receiver/preamplifier that has a Sub-Out/LFE-Out jack.*

Using a RCA to RCA interconnect cable (not included) connect the Wireless Transmitter as shown.



**Line-Level Input From Pre-Out/Front-Out Without High-Pass Output from Subwoofer** — *For use with a receiver/preamplifier*

Using RCA to RCA interconnect cables and 'Y' splitters (not included) connect the wireless transmitter as shown.



## 8.0 'PAIRING' THE DEFIANCE WT WIRELESS SYSTEM (Sold Separately)

### WIRELESS OPERATION



**If you are not using the wireless option on your subwoofer, skip this section.**

Subwoofer placement plays a major role in optimizing bass performance. However, placement can impose the inconvenience, not to mention the unsightliness, of running long lengths of cable through walls, along baseboards and under floors and carpets. Going wireless means you no longer have to worry about placement while cable clutter becomes a thing of the past. Actual system setup time is often drastically reduced with the wireless option.

### TRANSMITTER OPERATION

In a typical listening room your new wireless transmitter has a maximum range of 50' (15 m). Obstructions such as walls, large pieces of furniture, room dividers, etc., may reduce the wireless transmitter's range. Do not place the subwoofer and wireless transmitter farther apart than the recommended range. We do not recommend installing your wireless transmitter in another room. The wireless transmitter's compact dimensions allow it to fit neatly into a standard audio/video rack. Your wireless transmitter features a 2.4 GHz uncompressed digital self sensing design that will automatically adjust for the best wireless connection while monitoring the integrity of the data stream.

An RCA audio cable is required (not included) to connect the wireless transmitter to your receiver/preamplifier—see your dealer for cable recommendations. One wireless transmitter is required for each wireless subwoofer in operation.



**WARNING! To prevent signal dropouts or interference, keep the Wireless Transmitter well out of range of a microwave oven, mobile telephone or Bluetooth device operating on the same frequency.**



**IMPORTANT! The Wireless Transmitter and subwoofer must be no more than 50' (15 m) apart in the room.**

# 9.0 CONTROLS & CONNECTIONS: DEFIANCE S10/S12

**Paradigm®**

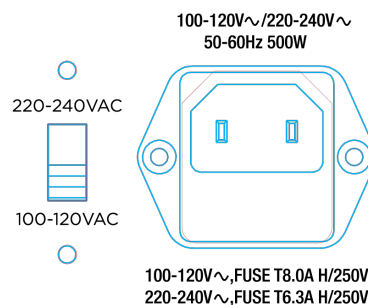
DESIGNED AND ENGINEERED BY / CONCEPTION ET DESIGN PAR :  
PARADIGM ELECTRONICS INC., TORONTO, ONTARIO

## DEFIANCE® S10

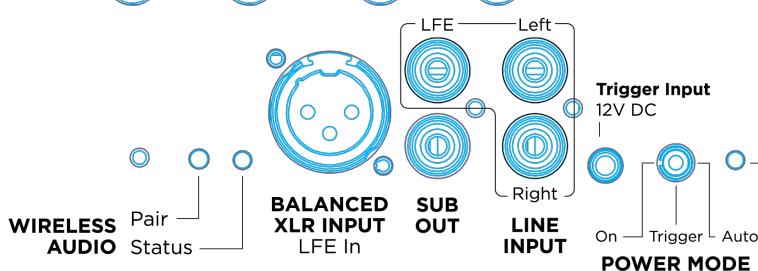


CAN ICES-3(B)/NMB-3(B)  
Contains FCC ID: Q00-GM220P | Contains FCC ID: NKR-SWA12  
Contains IC: 5123A-GM220P | Contains IC: 4441A-SWA12

This device complies with part 15 of the FCC Rules. Contains FCC ID: NKR-SWA12.  
Contains IC: 441A-SWA12. 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.



### SPEAKER LEVEL INPUT



Paradigm®

DESIGNED AND ENGINEERED BY / CONCEPTION ET DESIGN PAR :  
PARADIGM ELECTRONICS INC., TORONTO, ONTARIO

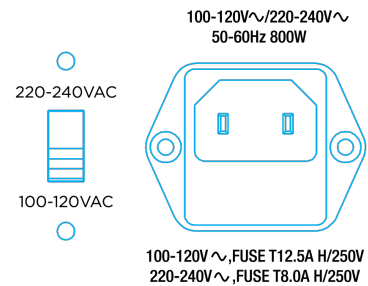
# DEFIANCE® S12



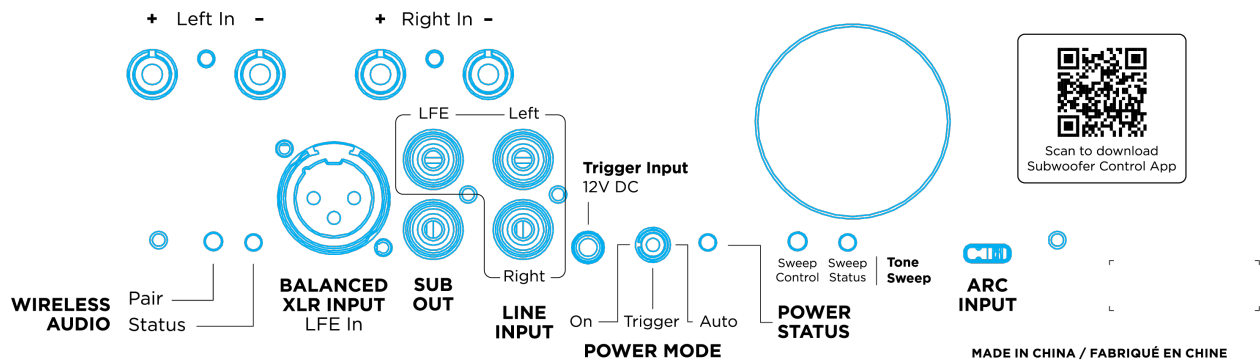
CAN ICES-3(B)/NMB-3(B)

Contains FCC ID: 00Q-GM220P | Contains FCC ID: NKR-SWA12  
Contains IC: 5123A-GM220P | Contains IC: 4441A-SWA12

This device complies with part 15 of the FCC Rules. Contains FCC ID: NKR-SWA12.  
Contains IC: 441A-SWA12. 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.



## SPEAKER LEVEL INPUT



## 1. Level

The Level adjusts the subwoofers output level to match that of your speakers.

**NOTE:** Two-way feedback.

## 2. ARC Input

The ARC USB connection is used to connect the subwoofer to PC/Laptop when running Anthem Room Correction (ARC).

**NOTE:** Not required when running ARC via Bluetooth.

### 3. Status Indicator

The subwoofers is equipped with a multi-colored LED, (located on the rear) which indicates the current status of the subwoofer

- No illumination — Subwoofer is not on.
- White — Subwoofer is on
- Red — Subwoofer is in 'Standby mode'
- Flashing — Subwoofer has detected an error code.

### 4. Power Mode

The Power Mode switch allows you to control how the subwoofer turns On & Off.

- Auto — When set to "Auto", the subwoofer will turn on when an audio signal is detected.
- **NOTE:** After several minutes of inactivity the subwoofer will enter Standby Mode.
- **NOTE:** If the subwoofer enters Standby Mode during quiet or low level audio playback, this is likely due to a low audio output signal from the audio system. Increasing the system volume should resume normal subwoofer playback. Increasing the subwoofer output level on the receiver/preamplifier and decreasing the level on the subwoofer will solve this issue in the future for similar listening levels.
- On — When set to "On", the subwoofer will always be on.
- Trigger — When set to Trigger, the subwoofer will power on once a 12V signal is received from the 3.5mm trigger connection.

### 5. Trigger In

The 3.5mm trigger input (stereo or mono) allows for a dedicated power on signal from the receiver/preamplifier.

### 6. Line Level Input (Left/Right)

The Line Level Input can be used as a subwoofer connection to the Main-Out or Pre-Out on a receiver/preamplifier.

**NOTE:** The setting of the Low Pass Filter control is applied to the signal received through these inputs.

### 7. Line Level Input (LFE)

The Line Level LFE Input can be used as a subwoofer connection to the LFE Out/Sub-Out on a receiver/preamplifier.

**NOTE:** The Low Pass Filter should be set to Bypass. LFE signals are controlled from your receiver/preamplifier. By default, the Low Pass Filter is set to Bypass.

### 8. Balanced XLR (LFE)

The Balanced XLR LFE Input can be used as a subwoofer connection to the LFE Out/Sub- Out on a receiver/preamplifier.

### 9. Speaker Level Inputs (Left/Right)

The Speaker Level Inputs allows standard speaker cable be used for the subwoofer connection. To use these connections the speaker cable should be terminated using banana style plugs.

**NOTE:** The Low Pass Filter should be set to Bypass. LFE signals are controlled from your receiver/preamplifier. By default, the Low Pass Filter is set to Bypass.

## 10. Defiance WT Wireless Module Input (Sold Separately)

The Defiance WT Wireless Module allows for wireless subwoofer integration.

**NOTE:** The Wireless Module must be paired with its matching transmitter – See the Paradigm Defiance WT Manual.

## 11. AC Power Connection

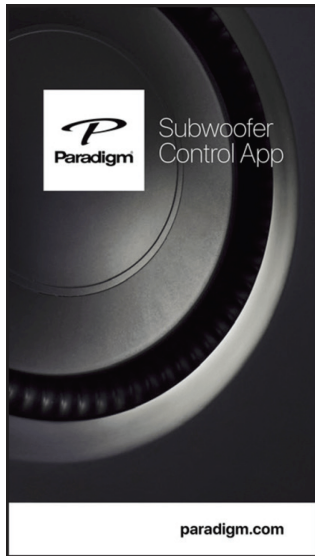


**WARNING!** The power cord should not be installed, removed, or left detached from the subwoofer while the other end is connected to an AC power source.

The IEC power cord should be firmly inserted into the AC power receptacle on the rear panel of the subwoofer. Then to any convenient AC wall outlet.

**NOTE:** The sub also integrates a signal sensing power supply that automatically switches off after sensing no music signal for several minutes (this will only occur when the power switch is set to 'Auto').

# 10.0 CONTROLLING YOUR SUBWOOFER USING THE APP/FINE TUNING



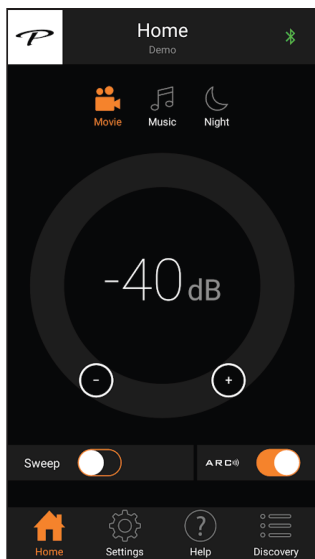
Your Defiance subwoofer uses an advanced app based system to control its many features. This app is available for both iOS and Android. Visit Paradigm's web site for details on downloading this free subwoofer app or download from iOS or Android app stores.

Please note that this subwoofer app is subject to updates, and may differ slightly from what is described in the following pages.

**Note:** If the app has trouble discovering your subwoofer, ensure the Anthem Room Correction (ARC®) app is not open in the background.

## OPERATION

Press on the logo button to see basic subwoofer information.



### Menu Bar

**Home:** Lets you adjust your subs volume, select a listening mode and run a tone sweep.

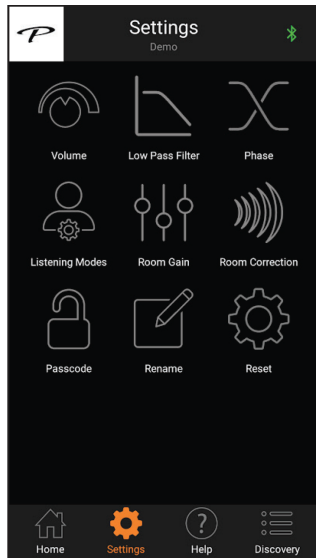
**Help:** Displays a pop-up window with a description of the control currently displayed on the screen.

**Discovery:** Choose the sub model, from the list, that you want to control. If you can't see your subwoofer, make sure the Setting Control is set to "app" on the back of the subwoofer and that ARC mobile isn't running on your device. Also, check that it isn't being controlled by another mobile device running ARC or the subwoofer control app.

## SETTINGS

Lets you select the subs control functions: volume, low pass filter, phase, room correction and more.



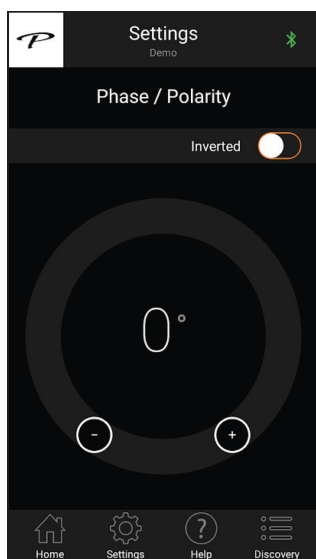
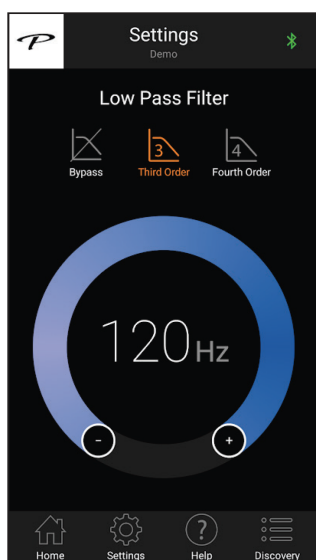


**Volume:** Adjusts loudness of your subwoofer. For most applications, a setting between -14dB and 0dB is adequate.

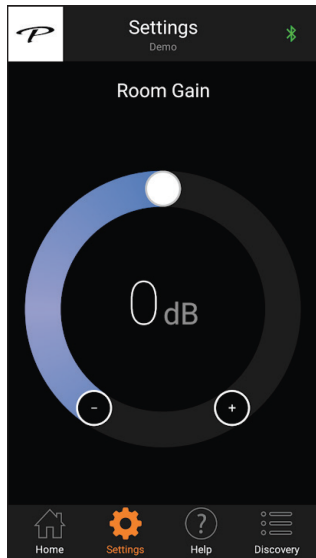
**Sweep:** The Sweep feature is useful for locating areas in your listening room where troublesome rattles or resonances may occur. Pressing the pause button pauses the subwoofer at a specific tone frequency and also allows you to set a specific tone frequency.

**Low Pass Filter:** Applied to Left/Right inputs (Not LFE). This setting allows you to select the frequency (point at which the filter starts) and order of the Low Pass filter. (The order of the filter refers to how steep the roll off it is, each additional order noted is another 6dB of roll off per octave, 1st order is 6dB, 2nd order is 12dB, etc.) These settings depend on how low your main speakers play. It is often best to set to bypass and use your receiver/preamp's bass management settings so there is no overlap or missing information between the main speakers and the subwoofer.

**Bypass:** Engage if you intend to use your receiver/preamp's bass management to set a low pass filter.



**Phase:** This setting allows you to adjust the timing relationship between your main speakers and your subwoofer. Allows you to adjust the phase of the subwoofer from 0 – 180 degrees in increments of 1 degree and allows you to invert the polarity of the phase. Phase control is entirely dependent on numerous factors including the size and configuration of your listening environment, the placement of the unit, and seating arrangement. A good rule of thumb is to set phase at 0 if your sub is at the front of the room and 180 if it is in the rear.



## Room Gain

The Room Gain screen allows you to adjust subwoofer output from -10dB to +10dB in the 20-30Hz range. This control and Anthem Room Correction (ARC) serve similar purposes. Where this control is limited to the 20-30Hz frequency range, ARC adjusts your subwoofer's output across its entire frequency range. If not using ARC, this control can be used to modify your subwoofer's response to compensate for the room anomalies or to modify the subwoofers sound to your personal taste. The frequencies adjusted are between 20-30Hz – a range where peaks (room gain) and dips of different amplitudes often develop in listening rooms. The ideal setting is dependent on room size and construction, system configuration, and personal preference. As a rule of thumb, if your low-bass sounds weak, increase this control. If your low-bass sounds bloated, decrease this control.

If you are using ARC, this control can be used to match your personal taste by further changing the way the subwoofer sounds.

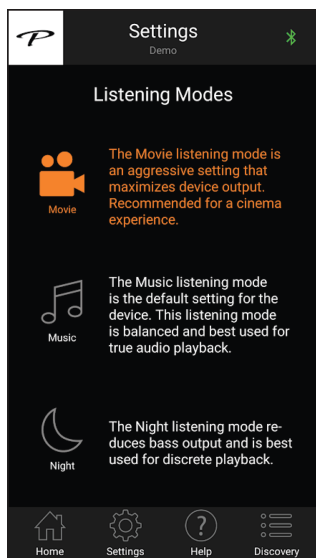
**NOTE:** The Room Gain setting will not affect the ARC measurements or compensation filters. If you have an ARC correction uploaded to your subwoofer, we recommend first listening with this control set to 0. Remember, the setting will adjust the subwoofer output in addition to ARC's adjustments.

**Room Correction:** Confirms information on Anthem Room correction (ARC®). The ARC toggle allows you to turn ARC correction on and off (only available if ARC software has been used to upload a correction curve to your sub). This is an effective tool for hearing the difference that Anthem Room Correction makes!

**Passcode:** The passcode lets you protect your subwoofer's settings with a custom 4-digit passcode. Once a passcode is set it can also be cleared on this screen.

**Rename:** The rename screen lets you assign a name to your subwoofer. This is useful if you have multiple subwoofers in your system. This name must be between 3-13 characters long.

**Reset:** The Reset screen lets you perform a factory reset.



## Listening Modes

The Listening Modes screen lets you apply preset listening modes to the subwoofer's output. Listening modes are also accessible from the app's Home screen:

**Movie:** The Movie listening mode is an aggressive setting that maximizes device output for an especially explosive experience.

**Music:** The Music listening mode is the default setting for the Defiance subwoofers. This mode is balanced and best used for an accurate musical presentation.

**Night:** The Night listening mode reduces bass output and is best used for discrete playback.

# 11.0 SETTING SUBWOOFER CONTROLS

## Using The App — With LFE Connection

1. Turn the **Level** control completely counter clockwise to its minimum.
2. Turn the **Low Pass Filter** control to Bypass.
3. Turn the **Phase** control to **0°** (completely counter clockwise).
4. Listen to a bass music or video selection while seated in your primary listening area and turn up the **Level** control until the subwoofer can be clearly heard.
5. Rotate the **Phase** control until you hear the most bass. Your subwoofer and front speakers are now in phase. Do not change phase alignment again unless you move the subwoofer or front speakers to a different location in your room, or move or remove any large items of furniture or room furnishings (i.e. carpet, draperies, etc.)
6. Turn the **Level** control completely counter clockwise to its minimum.
7. Slowly rotate the **Level** control until you match the subwoofer's volume with the Volume of your front speakers. Bass should be clearly audible, but not intrusive.

**NOTE:** If you happen to have an SPL meter, set the meter to 80, SLOW and C weighted. Then enable the subwoofer test tones on your receiver, preamplifier or preamp/processor. With this set repeat **Step 8** until the meter reads **75dB**.

# 12.0 ANTHEM ROOM CORRECTION (ARC)

## A True Scientific Solution to the Problems of the Room

Even when the finest speakers are perfectly positioned, the room itself still has a dramatic impact on any system's sound, an impact more profound than that of any individual component. Various solutions have fallen in and out of favor over the years, but none has solved the problem of "the room," until ARC (Anthem Room Correction) technology.

ARC technology is a proprietary digital signal processing system that allows you to quickly and accurately optimize the performance of your audio equipment to better suit the unique parameters of your room.

By listening to your room's acoustic signature, ARC can tune your equipment to correct for the performance-robbing effects (reflections, resonances, standing waves, etc.) of the various surfaces and other obstacles in your room.

ARC is easy to use, and just a few simple steps can optimize your subwoofer for your unique listening space. ARC is sophisticated, one of the most accurate and detailed digital room correction technologies available today. ARC will work tomorrow, too; with constant advances and updates available for download on the Anthem website.

Now there are THREE ways to calibrate your system using ARC or ARC Mobile — each takes only a few minutes to complete.



**IMPORTANT!** The listening space must be silent while performing ARC. A noisy computer fan, a dishwasher or microwave running, etc. can negatively affect ARC's measurements.

## EASY

### Requirements:

- iOS Device
- ARC Mobile App

Download Anthem's ARC Mobile app to your iOS device. This method uses your iOS device's built-in microphone for measurements.

This method walks you through step by step via the app.

## INTERMEDIATE

### Method for Apple iOS Device Users

### Requirements:

- iOS Device
- ARC Mobile App
- ARC Universal Microphone  
(sold separately — see your Paradigm dealer for details)

Download Anthem's ARC Mobile app to an iOS device. Run the ARC app and select "ARC Universal Microphone," connect the supplied 3.5 mm cord from your iOS device to the ARC Universal Microphone for measurements.

This method walks you through step by step via the app.

## **Method for Apple iOS Device Users**

### **Requirements:**

- Android Device
- ARC Mobile App
- ARC Universal Microphone  
*(sold separately — see your Paradigm dealer for details)*
- OTG USB Adapter  
*(sold separately — see your Paradigm dealer for details)*

Download Anthem's ARC Mobile app to an Android device. Run the ARC app and connect the USB OTG adapter from your Android device to the ARC Universal Microphone for measurements.

This method walks you through step by step via the app.

## **PROFESSIONAL**

### **Requirements:**

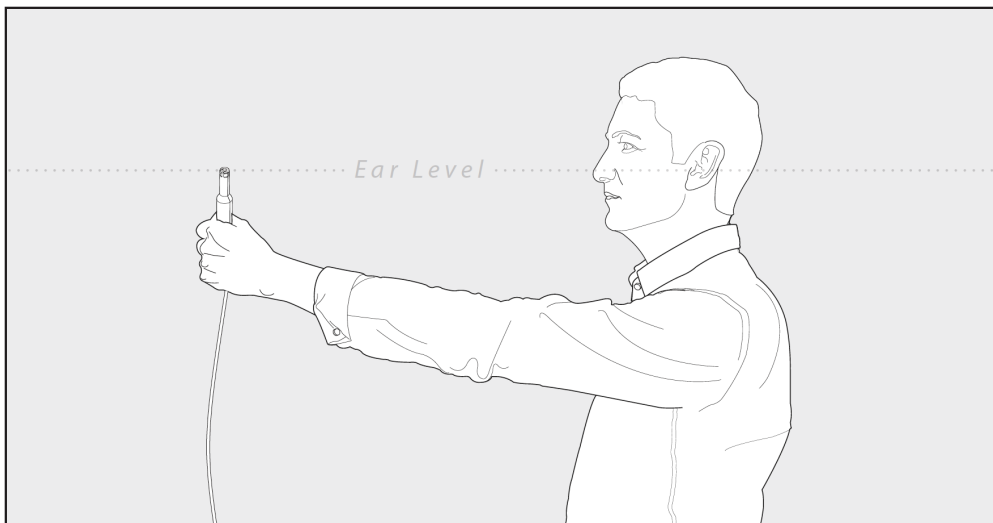
- Windows PC
- ARC PC Software
- ARC Universal Microphone  
*(sold separately — see your Paradigm dealer for details)*

Download and install Anthem's ARC PC software to your Windows PC. Connect either the calibrated ARC PC Microphone or ARC Universal Microphone to your Windows PC, and connect your ARC-capable speaker or electronics with either the second USB cord or through a network connection. After running your measurements, you can customize the results, set up multiple configurations, and print correction curve graphs.

## **HOW TO USE ARC TECHNOLOGY**

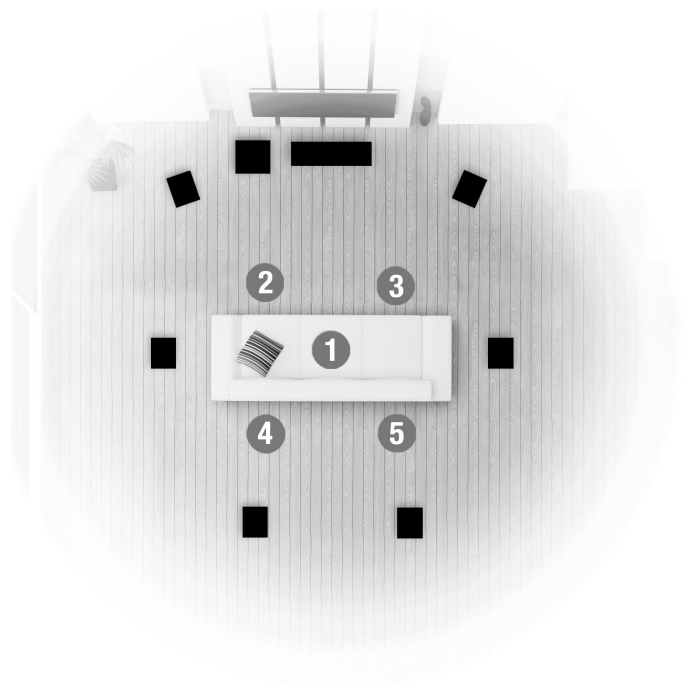
### **Professional Version**

1. Download the latest version of ARC-2 software from [www.anthemav.com](http://www.anthemav.com) and install it. Follow the on-screen instructions.
2. Using the USB cables provided, connect one from the ARC microphone to the PC and the other from the PC to the back of the subwoofer.
3. Look for the icon on your desktop and launch the ARC program. Follow the prompts on your computer screen to successfully run the ARC software; the entire process should take approximately 15 minutes.
4. Hold the ARC microphone with your arm fully extended, the ARC microphone tip must point towards the ceiling and it must be positioned at ear level.
5. For best results, hold the microphone in 5 different positions around the room.

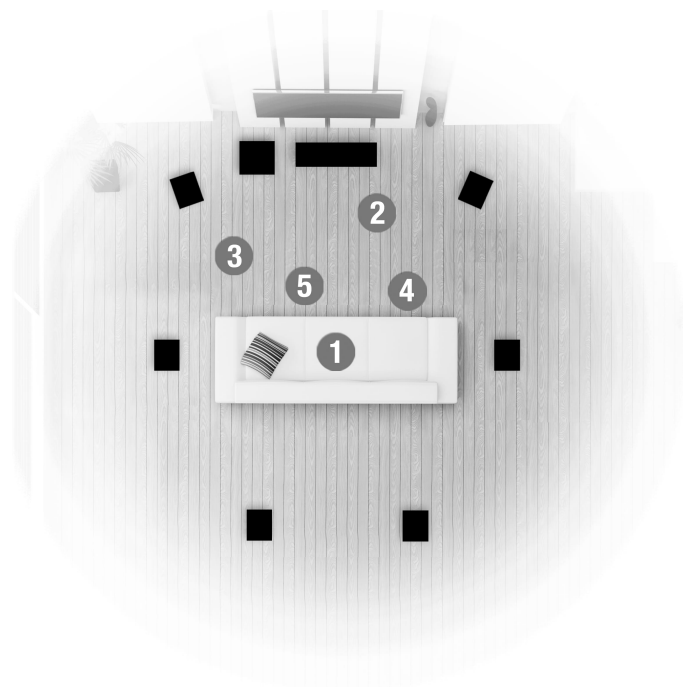


**NOTE:** The recommended measuring positions should be located at or just in front of the central seating position (**see Diagram A**). If your “main measurement position” is against a wall, additional measurement positions should be in front of the seating area. Vary the distance of these positions relative to the wall by 1 foot or more from each other so they are not all the same distance from the wall (**see Diagram B**).

**TIP!** Once the ARC process is complete, the audio will be played back reflecting these corrections. To turn ARC correction on and off, use the Paradigm Subwoofer App and navigate to ‘Anthem Room Correction’.



**Diagram A**



**Diagram B**

## 13.0 LIMITED WARRANTY

**PARADIGM® SUBWOOFERS:** The Paradigm Subwoofers covered in this manual are warranted to be and remain free of manufacturing and/or material defects for a period of three (3) years from the date of the original retail purchase. Within the time period specified, repair, replacement or adjustment of parts for manufacturing and/or material defects will be free of charge to the original owner.

**DEFIANCE WT WIRELESS SYSTEM (SOLD SEPARATELY):** Details on the warranty for the **Defiance WT Wireless System** can be found in the **Defiance WT Wireless System** Owners Manual.

**Thermal or mechanical abuse/misuse is not covered under warranty.**

### **Limitations:**

- Warranty begins on date of original retail purchase from an Authorized Paradigm® Dealer only. It is not transferable;
- Warranty applies to product in normal home use only. If the product is subjected to any of the conditions outlined in the next section, warranty is void;
- Warranty does not apply if the product is used in professional or commercial applications. Warranty is Void if:
- The product has been abused (intentionally or accidentally);
- The product has been used in conjunction with unsuitable or faulty equipment;
- The product has been subjected to damaging signals, derangement in transport, mechanical damage or any abnormal conditions;
- The product (including cabinet) has been tampered with or damaged by an unauthorized service facility;
- The serial number has been removed or defaced. Owner Responsibilities:
- Provide normal/reasonable operating care and maintenance;
- Provide or pay for transportation charges for product to service facility;
- Provide proof of purchase (your sales receipt given at time of purchase from your Authorized Paradigm® Dealer). Should servicing be required, contact your nearest Authorized Paradigm® Dealer, Paradigm Electronics Inc., or Import Distributor (outside the U.S. and Canada) to arrange, bring in or ship prepaid any defective unit. Visit our website at [www.paradigm.com](http://www.paradigm.com) for more information. Paradigm Electronics Inc. reserves the right to improve the design of any product without assuming any obligation to modify any product previously manufactured. This warranty is in lieu of all other warranties expressed or implied, of merchantability, fitness for any particular purpose and may not be extended or enlarged by anyone. In no event shall Paradigm Electronics Inc., their agents, or representatives be responsible for any incidental or consequential damages. Some jurisdictions do not allow limitation of incidental or consequential damages, so this exclusion may not apply to you. Retain this manual and your sales receipt for proof of warranty term and proof of purchase.

