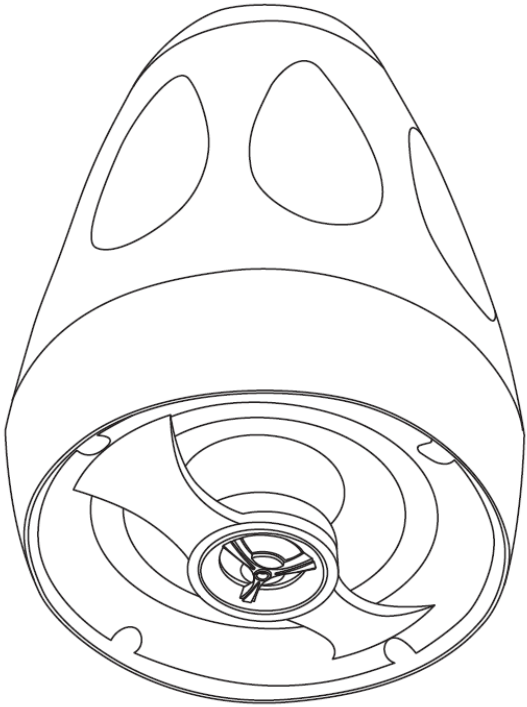
MONOPRICE

Indoor/Outdoor Weather Resistant 70V/100V/8-Ohm Pendant Speaker



P/N 41841, 41842, 41843

User's Manual

SAFETY WARNINGS AND GUIDELINES

Please read this entire manual before using this device, paying extra attention to these safety warnings and guidelines. Please keep this manual in a safe place for future reference.

- Turn off and unplug all equipment prior to making electrical connections, including speaker wire connections.
- Reduce the volume level prior to making any change to the audio input source, e.g., changing radio stations or changing CDs.
- When using this speaker as part of a constant voltage speaker system, ensure that the total power settings of the connected speakers is no more than 80% of the RMS output power of the amplifier.
- If using this speaker as part of a constant voltage speaker system, do not set the tap dial to the 8Ω position. Doing so can cause damage to the speaker and/or the amplifier.
- Most speaker damage is caused by clipping, which is heard as distortion. If you hear distortion, reduce the volume level until the audio is no longer distorted.
- Take care to ensure that the speaker wire connections are properly polarized. Inverted polarization can result in unnatural or attenuated sound, especially in the bass frequencies.
- If installing this speaker outdoors, outdoor rated speaker wire must be used.
- Do not use chemical cleaners or solvents to clean this speaker. Use only a soft cloth moistened with warm water.

INTRODUCTION

Thank you for purchasing this Indoor/Outdoor Weather Resistant Pendant Speaker. This speaker features a built-in step-down transformer, allowing it to be used as part of a 70V or 100V constant voltage speaker array. It also features a standard 8-ohm tap, allowing it to be used with a standard power amplifier. It has an IP66 weather resistant rating, allowing it to be used outdoors in all weather conditions and near pool areas. Hardware for suspending the speaker is included.

FEATURES

- 4" (41841), 5.25" (41842), or 6.5" (41843) polypropylene woofer
- 0.75" (41841) or 1" (41842 and 41843) silk dome tweeter
- Four 70V and four 100V transformer taps, as well as NC and 8Ω taps
- 20 watts (41841), 30 watts (41842), or 40 watts (41843) maximum RMS power capacity in an 8Ω speaker system
- IP66 weather resistant rating

CUSTOMER SERVICE

The Monoprice Customer Service department is dedicated to ensuring that your ordering, purchasing, and delivery experience is second to none. If you have any problem with your order, please give us an opportunity to make it right. You can contact a Monoprice Customer Service representative through the Live Chat link on our website **www.monoprice.com** or via email at **support@monoprice.com**. Check the website for support times and links.

PACKAGE CONTENTS

Please take an inventory of the package contents to ensure you have all the items listed below. If anything is missing or damaged, please contact Monoprice Customer Service for a replacement.

- 1x Pendant Speaker
- 1x Top Cover
- 1x Eye Bolt and Nut
- 1x Hanging Cable
- 2x Carabiners
- 2x Screws
- 1x Wire Bracket
- 1x User's Manual

CONSTANT VOLTAGE VS 8-OHM SPEAKER SYSTEMS

A constant voltage speaker system differs from a traditional 8-ohm speaker system in that it uses a step-up transformer at the audio source to raise the voltage and lower the current on the transmission line. At the speaker end, a step-down transformer converts the signal back to a normal speaker level voltage. This reduces power loss during transmission, which allows for the use of longer speaker wire runs using smaller gauge wire.

Additionally, a constant voltage speaker system allows for the use of multiple speakers on each channel, without the need for complicated impedance calculations and configurations. In a constant voltage system, all speakers on a given channel are connected in parallel and the complicated impedance calculations are replaced by simple wattage calculations.

For example, if you want to connect two speakers per channel in a traditional 8-ohm speaker system, you must either connect them in series, which results in an overall 16-

ohm impedance, or in parallel, which results in an overall 4-ohm impedance. In the first case, the 16-ohms impedance effectively halves the output power of your amplifier, resulting in lower overall volume levels. In the latter case, the 4-ohms impedance means that your amplifier will have to work harder and must be rated as stable at 4 ohms. Adding a third speaker to the mix would complicate it further, producing either a 24-ohm or 2.67-ohm overall impedance. Note that very few amplifiers are stable under 2-ohm loads, so that is usually not an option.

On the other hand, with a constant voltage system, you consider first the RMS output wattage of the amplifier. This should be reduced by 20% to compensate for insertion loss. For example, if using a 100-watt amplifier, the total load from speakers should not exceed 80 watts.

Each individual speaker on a given channel is set to a value such that the total does not exceed the rated power, less 20%. You do not need to worry about making the total as close as possible to the limit; just ensure that the total does not exceed the limit.

If all speakers are set to the same wattage value, they will all have the same volume level. If one speaker is set to a higher wattage value, it will be louder than the others, while a speaker set to a smaller value will be quieter than the others. This allows you to compensate for the environment in which the speaker is placed. For example, a speaker placed outside would need to be louder than a speaker placed in a small room.

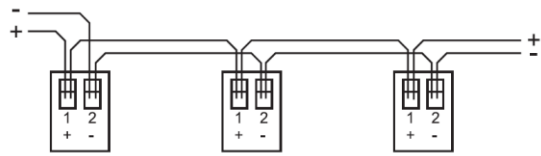
SPEAKER WIRING

Most constant voltage speaker installations will consist of multiple speakers per channel, with all speakers connected in parallel, as shown in the diagrams below.

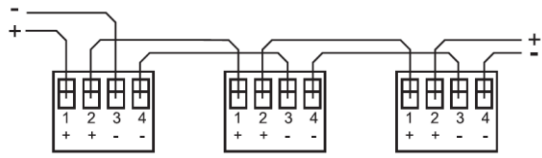
To wire speakers in parallel, connect the first speaker to the amplifier as normal. Connect the positive terminal on the first speaker to the positive terminal of the second speaker, and the negative terminal on the first speaker to the

negative terminal on the second. Repeat for each additional speaker in the array.

For the 4" (41841) model, connect the output speaker wires to the same terminal as the input wires, as shown in the diagram below.



For the 5.25" (41842) and 6.5" (41843) models, an additional terminal is provided for connecting the output wires to the next speaker in the array, as shown in the diagram below.



INSTALLATION

These installation instructions assume the use of a 70V or 100V constant voltage amplifier. The term "input wire" refers to the speaker wire from the amplifier or the previous speaker in the array (aka upstream speaker) to the next speaker in the array (aka downstream speaker). The term "output wire" refers to the speaker wire from the upstream speaker to the next downstream speaker.

For standard 8Ω speaker installations, the physical connections and installation are the same, but the complications of impedance calculations mean that arrays are realistically limited to 2 speakers for simple installations or require complex speaker interconnections using both parallel and serial connections to achieve a usable impedance for most amplifiers.

Use outdoor rated speaker wire if installing this speaker outdoors. Speaker wire is available separately.

Before making each speaker wire connection, strip about 1/4" insulation from each end of each conductor, then twist the strands to prevent stray strands from causing a short.

1. Power off and unplug all equipment to be connected.
2. Determine how many speakers will be in the left and right channel speaker arrays. If the number of speakers is different for each channel, the volume level of each channel may be different. For best results, use the same number of speakers on each channel.
3. Determine the RMS (not peak) output power of your amplifier, then multiply that value by 0.8. This is the Maximum Wattage Value (MWV) for each speaker array.

For example, if the RMS output power of your amplifier is 100 watts, the MWV of each array is 80 watts. (100 x 0.8 = 80).

4. Divide the MWV of each speaker array by the number of speakers in the array to determine the maximum wattage setting (MWS) for each speaker in the array.

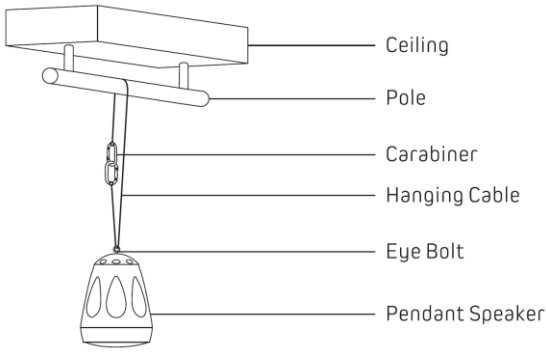
For example, if the MWV of each speaker array is 80 watts and each array has 5 speakers, the MWS for each speaker is 16 (80 / 5 = 16).

5. Using speaker wire of the appropriate lengths, feed the input and output wires through the hole in the **Speaker Cover**.
6. Connect the negative conductor of the input and output wires to the negative terminal on the **Speaker**, then connect the positive conductor of the input and output wires to the positive terminal on the **Speaker**.
7. Place the included **Buckle Bracket** over the wires, then secure it in place using the two included **Screws**. Gently tug on each wire to ensure that pressure is not applied to the speaker terminals.
8. Using a small, flat-blade screwdriver, turn the tap dial to a wattage value that is less than the MWS calculated in step 4 above. Use either the 70V or 100V

value, depending on the output voltage by your amplifier.

*For example, using the values in the previous examples and using the 41843 6.5" model, set the tap dial to the **10W** position, which is the 3rd position for 70V systems or 2nd position for 100V systems.*

9. Attach the **Speaker Cover** to the speaker, then fasten the included **Eye Bolt** to the **Speaker Cover** and **Speaker**.
10. Feed the **Hanging Cable** through the **Eye Bolt** on the **Speaker**, then wrap it around the pole or through the eye bolt where the **Speaker** will be suspended. Use one or both of the included **Carabiners** to secure each end of the **Hanging Cable** together.
11. Gently release the speaker to verify that it is securely suspended. Gently pull down to ensure the suspension is secure, while grasping each side of the speaker to prevent it from dropping or falling.



12. Repeat steps 5-11 for each speaker in the right and left channel arrays.
13. Connect the positive and negative conductors on the speaker wire from the first speaker in the left channel array to the left channel speaker terminals on the amplifier, then repeat for the right channel speaker wire.
14. Set the volume level on your amplifier to the minimum setting.

15. Plug in and power on your amplifier, then start audio playback from an audio source. Slowly increase the volume level until the volume is at a comfortable listening level.
16. Check each speaker in the left and right channel speaker arrays to verify that audio can be heard and that the relative volume levels are about the same.

Congratulations, your constant voltage speaker system is installed and ready for use!

SPECIFICATIONS

Model	41841
Woofer	4" polypropylene cone
Tweeter	0.75" silk dome
Maximum RMS Power	20 watts
Frequency Response	120Hz ~ 20kHz
Nominal Impedance	8Ω
Sensitivity (1m/1W)	83dB
70V Taps	1.25W, 2.5W, 5W, 10W, NC, 8Ω
100V Taps	2.5W, 5W, 10W, 20W, NC, 8Ω
IP Level	IP66
Dimensions	ø5.4" x 7.5" (ø138 x 190 mm)

Model	41842
Woofer	5.25" polypropylene cone
Tweeter	1" silk dome
Maximum RMS Power	30 watts
Frequency Response	110Hz ~ 20kHz
Nominal Impedance	8Ω
Sensitivity (1m/1W)	84dB
70V Taps	1.87W, 3.75W, 7.5W, 15W, NC, 8Ω
100V Taps	3.75W, 7.5W, 15W, 30W, NC, 8Ω
IP Level	IP66
Dimensions	ø6.7" x 9.4" (ø170 x 240 mm)

Model	41843
Woofer	6.5" polypropylene cone
Tweeter	0.75" silk dome
Maximum RMS Power	40 watts
Frequency Response	100Hz ~ 20kHz
Nominal Impedance	8Ω
Sensitivity (1m/1W)	85dB
70V Taps	2.5W, 5W, 10W, 20W NC, 8Ω
100V Taps	5W, 10W, 20W, 40W, NC, 8Ω
IP Level	IP66
Dimensions	ø8.2" x 11.0" (ø208 x 280 mm)

TECHNICAL SUPPORT

Monoprice is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website **www.monoprice.com** or through email by sending a message to **tech@monoprice.com**. Check the website for support times and links.

REGULATORY COMPLIANCE

Notice for FCC

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.

Modifying the equipment without Monoprice's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

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.

Notice for Industry Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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