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**PROJECT # 3**

## Audio Al Fresco

### How to hook up a pair of outdoor speakers

By Jon Boroshok

**09/04** - Do you still fire up the grill, and enjoy an adult beverage on your porch or deck well into October? Outdoor speakers can bring back the Beach Boys, Jimmy Buffet, or any other music that reminds you that summer runs from Memorial Day through Columbus Day.

**Bonus info**

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Outdoor speakers are not the same as "regular" speakers. According to Bob Hazelwood, product manager for Cambridge SoundWorks, outdoor speakers are designed to withstand sun, wind and moisture. The box/enclosure is often built of watertight plastic, and the speakers themselves use a metal or plastic cone with a rubber surround. Many home/indoor speakers use paper cones that will deteriorate in a wet environment. Manufacturers such as Cambridge SoundWorks, Boston Acoustics, Bose, RadioShack, and many more all offer outdoor speakers in many sizes and price ranges.

- This project makes four basic assumptions:
1. You have already purchased a pair of outdoor speakers.
  2. You have a stereo receiver capable of powering a second pair of speakers—preferably with a selector switch for a "B" pair.
  3. You will be installing your speakers on a deck or porch that is attached to your house.
  4. Your house has an accessible (and ideally unfinished) basement.

**THE MATERIALS**

Make sure you have enough speaker wire, which should be rated for outdoors or all-weather use, and be at least 14-gauge. The 12-gauge wire is heavier and a bit more difficult to thread through walls, but it will deliver higher audio performance. The lower the gauge number, the thicker (and more expensive) the wire. Anything heavier than 12-gauge is overkill and may be difficult to work with.

Measure the approximate distance of your route from the stereo to the speaker location. Allow for horizontal and vertical distances, and add another 15 feet to your estimate, just in case. Now double that because you'll need two pairs of wires—one for each speaker. Cut the two wires to the estimated size.



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Other materials needed are listed in the Parts List to the left.

### GET TO WORK

Put on your safety goggles, and start drilling an inconspicuous hole in your deck/porch floor, as close as possible to the wall where the speakers will be mounted. If the speakers will be a good distance apart, consider drilling two holes—one near each speaker location.

Now it's time to head to the basement. If there is fiberglass insulation (the pink stuff) in your basement, put on a long-sleeve shirt, gloves, a hat, and a dust mask too. Insulation can be very irritating. Once you've located electrical outlets and wiring, pipes, and beams, it's time to drill a hole through the sill of your basement, as close as possible to the holes you just drilled through the deck/porch. Pass the speaker wires through the basement hole(s), so they're outside the house under the deck. Ideally, the deck sits high enough off the ground for you to be able to crawl underneath.

Crawl underneath the deck, taking your flashlight (and keep your goggles on). Find the wires and feed them into the deck/porch. Go back up to the deck and pull through enough wire to run it to where the speaker will be located, including enough to hide the wire along the framework of the door, or try to tack it up in an unnoticeable way.

Now go back into the basement and run the wires along a support beam until you're underneath the stereo. You may need to drill a small hole through several beams to minimize the length of your wire runs. Use a staple gun with extra-long staples to tack the speaker wire to the beams without actually stapling through the wire. Find a spot under the stereo that is free of obstacles.

Now go up to the stereo, and find a concealed place to drill a hole through the floor down to the basement. Go back downstairs and pass the wire up through the hole. You should still have more wire than you need to reach the stereo.

Next, go back to the porch, and conceal the wire against the doorframe using your staple gun. Mount the speakers' brackets per the instructions, and gently strip the wires with a wire stripper. Connect the wires, carefully noting which wire you connect to the positive and negative (red and black) posts on your speakers. Now mount the speakers to the mounting bracket.

Go back to the stereo, and make sure it's off. Now trim the wires, leaving about two feet of slack. Strip these wires too, and connect them to the Speaker B terminals on the back of your receiver. Make sure you match the positive and negative wires with the outdoor speakers.

Turn the speaker selector switch to Speaker B, and turn on the stereo. Select your favorite summer music, beverage, and porch chair, and enjoy the rewards of a job well done. Just remember to be considerate of others—you don't want to disturb the entire neighborhood!

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### PROJECT SNAPSHOT

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#### THE PROBLEM

You love spending time on the porch or the deck during the cool end of summer/beginning of fall months, but your home entertainment system is indoors. Don't just turn up the volume, hook up a pair of outdoor

speakers.

#### PROJECT STEPS

1. Select speaker location.
2. Decide where to run wire.
3. Locate any studs, beams, electric wires and pipes.
4. Plan your wiring route.
5. Connect wire to speakers.
6. Mount/position speakers.
7. Connect wires to receiver.

#### DIFFICULTY RATING: 2

[1= Child's Play, 2= Use Both Hands, 3= Call for Backup!, 4= Obi-Wan Worthy]

**ESTIMATED TIME TO COMPLETE:** A few hours

**ESTIMATED COST:** \$75 (excluding speakers and tools)

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#### PARTS LIST

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One pair of outdoor speakers, a stereo receiver capable of handling two pairs of speakers, a cordless drill, drill bits (including one that's at least 3 inches long and a 1/2 inch in diameter), a speaker wire rated for outdoor use, a wire hanger, electrical tape, a large flashlight, a ladder, a stud finder, a hammer or small pry bar, a wire stripper, a utility knife, a staple gun with staples, silicon caulk, bug spray, safety goggles, cotton gloves, a dust mask, and a hat.

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#### IDEAL SPEAKER PLACEMENT

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First decide where you'll put the speakers. According to Daren Egan of RBH Sound, Inc, the first location you must find is one that can easily be accessed for drilling holes and snaking speaker wire. The fewer holes that need to be drilled, the sooner you'll be cranking out tunes.

Next, look for a place where wires can be easily concealed or neatly tacked down. Ideally, speakers get mounted at about ear level, centered on the wall of the house. Consider mounting the speakers against or near the doorframe of your deck, if you have one. This will position them well for listening pleasure, and may offer options for hiding wires along the doorframe. The speakers will be partially protected from the elements by any roof overhang, and being placed on a wall may help enhance bass.

If your deck or porch is partially enclosed, another option is to install the speakers in the corner where the wall of the house, a sidewall, and the ceiling/roof all meet. While this is not acoustically as desirable as the doorframe location, it's a viable option that keeps the speakers out of sight, and may make it easier to hide wires.

Now comes time to find the path of least resistance from your stereo to your speakers. Assuming that the stereo is on the main floor of the house, as is the deck or porch, the easiest and safest route is probably through the basement, especially an unfinished basement where any obstacles such as pipes and wires can be easily spotted and avoided.

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#### **WIRING TIP**

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Find the path of least resistance for speaker wires along with the easiest places to drill. Locate speakers in an easily accessed spot.

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#### **SAFETY TIP**

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Wear safety goggles. Consider wearing gloves, a baseball hat, and a dust mask when working near insulation.

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#### **CLEAN UP TIP**

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Before putting all your tools away, consider caulking the hole you've drilled down in the basement, so that no cold air or uninvited guests (mice and chipmunks) can get in. If possible, do the same to the hole on your porch floor.

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#### **MAINTENANCE TIP**

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When the weather gets too cold, bring the speakers inside so they're not exposed to foul weather. Remember, they're weather-resistant, not weatherproof. Wrap the mounting brackets and exposed speaker wire ends in a plastic bag, and tie a rubber band or waterproof tape around the bag to seal it, protecting these critical parts from the elements too.

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#### **ABOUT THE WRITER**

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**Name:** Jon Boroshok  
**City/ State:** Groton, Mass.

**Occupation:** Freelance writer, marketing communications consultant, college instructor

**One thing people would be surprised to know about me:** I actually did this project without damaging the house or getting into a fight with my wife!

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