



**IN-WALL AND IN-CEILING SPEAKERS
OWNER'S MANUAL**

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Thank you for purchasing XTZ ELIASSON In-wall and In-ceiling Loudspeakers. We think you have made an excellent choice! We are proud of our speakers and everything that goes into them, and grateful for this opportunity to show you what they can do. And — once you listen to them in your home — we trust you will be equally grateful that you chose XTZ ELIASSON.

Please Read This Manual before you start installing your speakers

The following pages contain some sound advice, bound to help you get the most out of your speakers. You will need to decide if you are really equipped to take this on yourself. Many do-it-yourselfers have told us, "I couldn't believe how easy the install was, but running the wire to the speaker, that took some doing!"

Consider hiring an experienced installer if running the wires seems too difficult or if (like many of us) you are uncomfortable cutting holes in your walls or ceilings without knowing what is behind them. Still unsure? You might want to pre read "Step 2. Plan Your Wire Run" and "Step 3. Cut Holes".

Tools and Materials you will need to Do-it-Yourself

- Manual drywall saw or keyhole saw
- Drill bits
- Phillips screwdriver (manual is best)
- Speaker wire (we will help you choose in "Step 2, Plan Your Wire Run")
- Wire strippers
- Level
- Tape measure
- Stud finder
- Pencil

Also helpful

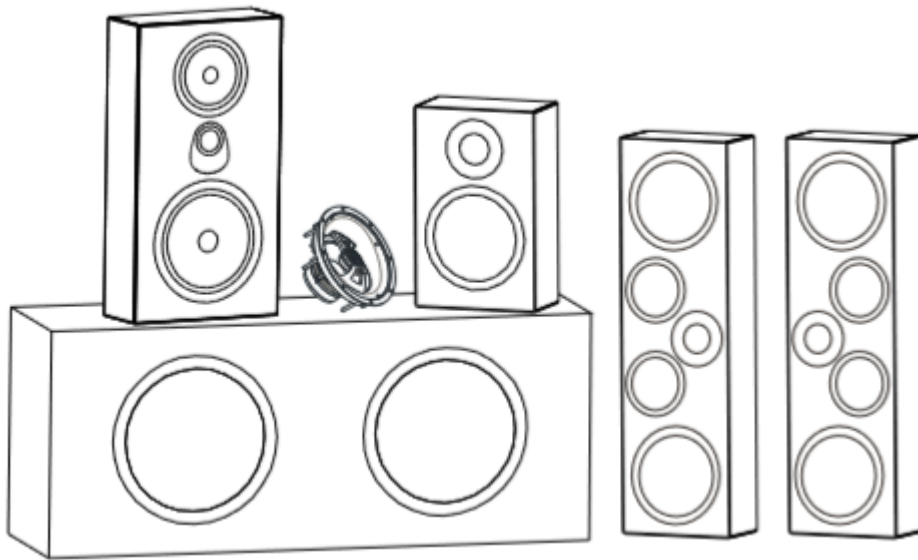
- Stiff wire (like coat hanger wire)
- Fish tape reel
- A few square feet of fiberglass insulation without paper backing
- Insulated staples

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Speaker Installation

The installation process will follow these steps.

- Determine speaker placement
- Plan your wire run
- Cut holes
- Run speaker wires
- Install the speaker
- Aim the tweeters and set the speaker switches
- Install the grills



Step 1. Determine Speaker Placement

We will help you determine the optimal speaker locations sonically speaking, but you will need to look for the clues that indicate problematic behind-the-wall obstructions. For example, in-wall wiring often runs straight up or straight out from lights, outlets, switches etc. The same is true of ducting running to vents.

Once you have zeroed in on specific placements for your speakers, mark the spots with tape so, as you move from location to location, you can make adjustments if needed when you get to the next step.

Front Three Speakers Placement: The ideal in-wall set-up would be three identical speakers, all mounted vertically, serving as left, right and center channel speakers.

The left and right speakers would be at the same height as the listeners' ears and TV / behind projection screen, about 100 cm (~40 inches) off the floor, and separated by 45° to 60° (when viewed from the seating position).

The in-wall center channel speaker would be mounted vertically directly above or below the TV. For behind the projection screen installation, it is recommended to place the speaker at the same height as left and right speakers. Sometimes, real-world circumstances will not allow for this ideal in-wall placement. Speakers mounted horizontally also work fine in most cases.

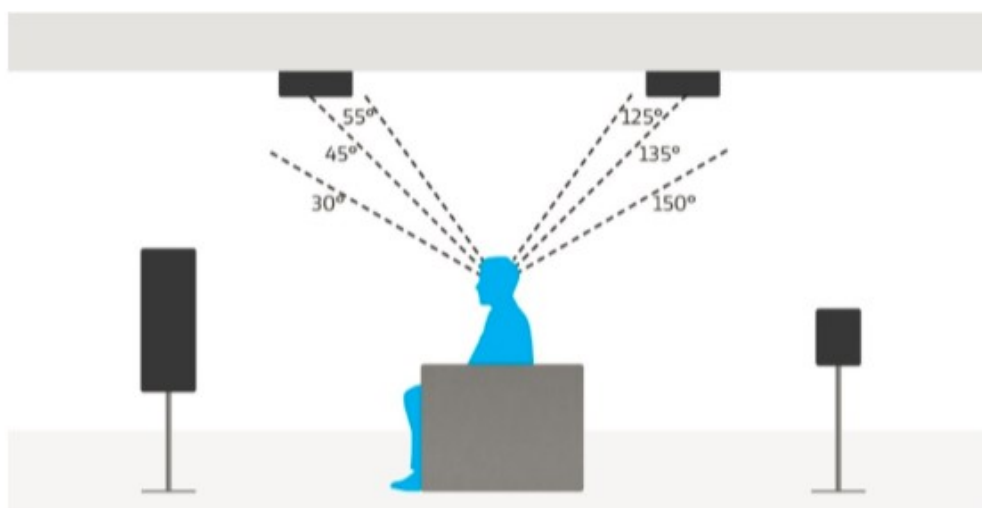
In-ceiling speakers, with tweeters that can be aimed, will work fine in nearly all ceiling locations. If your TV / Projection screen backs up to a wall, the E-IC6, for example, will sound best about 60 cm (~24 inches) in front of that wall. If there is no wall behind your TV / Projection screen, place these three speakers in the same vertical plane as the TV.

Surround speaker placement

One pair of surround speakers should preferably be located directly to the sides of the listening area. One or two additional rear speakers will be required for 6.1 or 7.1 Surround Sound. If you prefer an ambient and subtle surround sound, such as a dipole speaker provides, locate either the speakers well above ear-level. You can attain a more direct sound, like what monopole or bi-pole speakers produce, when placing the speakers at, or slightly above, ear-level. If some speakers need to be further from you than the others, don't worry, you can compensate for this later.

Installation position of ceiling mounted loudspeaker

Ideal ceiling heights range from 2.1 meters to 3.6 meters (~7 to 12 feet), and a maximum height of 4.2 meters (~14 feet) is recommended. The ceiling should be flat, and preferably made of materials that do not reflect sound waves.



Subwoofer speaker placement

The location of your subwoofer will greatly affect how evenly the bass is distributed throughout the listening area. A subwoofer that is placed correctly will give you even, accurate sound throughout its frequency range.

Here are a few guidelines for getting the most out of your subwoofer:

1. The best way to place your subwoofer is to use the rule of 3 rds or 5 ths. To execute this, measure the width of the front or side wall of your theater. Then split that length into either 3 or 5 equal parts. Your subwoofer can be placed centered between any two parts
2. If your room does not allow for 3 rds or 5 ths placement, place your subwoofer near a corner to help eliminate uneven bass in the room. If you do place it in a corner, be sure it has at least 8 cm (~3 inches), up to about 50 cm (~20 inches), of clearance on all sides.
3. If a corner is impractical, the next best place is anywhere the room will allow. Your new subwoofer has a wide range of adjustments you can make to fine tune its performance
4. If you use more than one subwoofer, put them in different places relative to walls and open areas. Asymmetric placement is good for bass in that it can help create a grid of sound in your room. Again, 3 rds or 5 ths placement is best, then corners, then wherever it fits.

Step 2. Plan Your Wire Run

Running the wires from your electronics to the speaker locations may be the most difficult step of all — some thoughtful planning now could save some headaches later.

1. Start by visualizing where the wire will need to run and consider various wiring strategies:

Attic: With in-ceiling speakers, this approach is the most popular and usually the easiest to install. It will probably involve drilling through the header, a stud that caps the top of the wall. If you choose in-wall placement rather than in-ceiling, a similar hole will probably be needed above the speaker locations as well.

Under the floor: Same as the attic method except that the holes are drilled through the studs that cap the bottom of the wall. This can work well if you have a crawl space or open basement.

Under the carpet: "Tape wire" is available — placing it under the rug is easy, and invisible.

Behind the baseboard: Special baseboards are designed to house and hide wires.

Drywall channeling: This involves routing out a shallow groove directly in the wallboard, laying the speaker wire in the channel and refilling it with drywall compound.

Or, use a combination of the above techniques.

2. Select your speaker wire and purchase the proper lengths. Now that you know the speaker locations and have a wire routing plan, the wire lengths you will need can be estimated.

A good guide is to use 1.5 mm (16 gauge) wire for runs up to about 15 meters (~50 feet) and 2.5 mm (14 gauge) wire for runs longer than that.

3. Route speaker wires away from household wiring because electrical lines will interfere with your speaker signal. Avoid the temptation to "piggyback" and use existing holes in the studs where electrical wiring runs. And, when possible, keep speaker wires more than 45 cm (~18 inches) away from electrical wiring. If you need to cross electrical wiring, go directly across at a 90° angle.

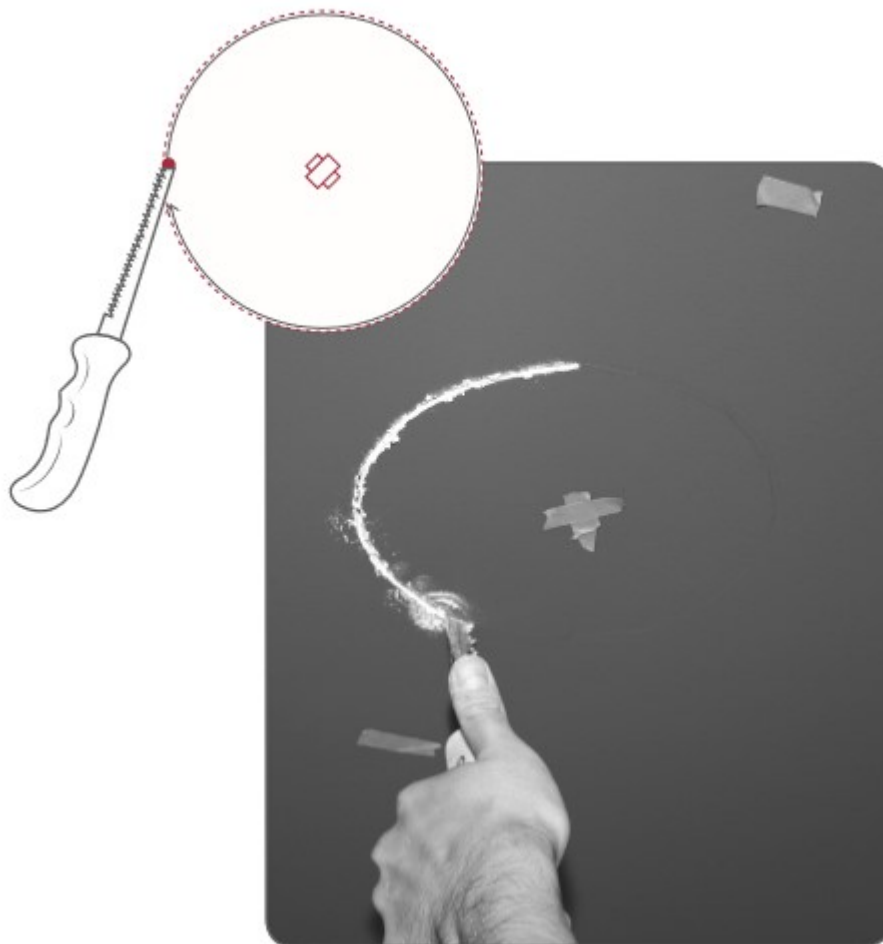
Step 3. Cut the Holes

1. First, locate your wall-studs, for example with the help of with a stud finder tool. They can be found at hardware stores. Once you have found the wall-studs, check for obstructions behind your chosen speaker locations. Drill a small hole in the center of the area you plan to cut out. Take a piece of coat hanger wire and bend it at a 90-degree angle — insert it into the small hole and fish around to make sure no pipes, studs, wires or other objects are hiding there. If you do find an obstruction, you can easily patch the small hole you have drilled. Otherwise, continue with the following steps.

2. Position the cut-out template at your chosen speaker location and trace along the inside edge. Make sure you keep this line at least an inch from any stud or firebreak so that the speaker's mounting system has the room it needs.

3. After all the speaker locations have their outlines drawn, you may want to measure once more — and make some small adjustments (as needed) to align them relative to one another.

4. Carefully cut along these lines. A keyhole saw or dry-wall saw is easy to control and will do less damage than an electric jig saw. The speakers' frames will overlap and hide the rough edges, so don't obsess about making absolutely perfect cuts.

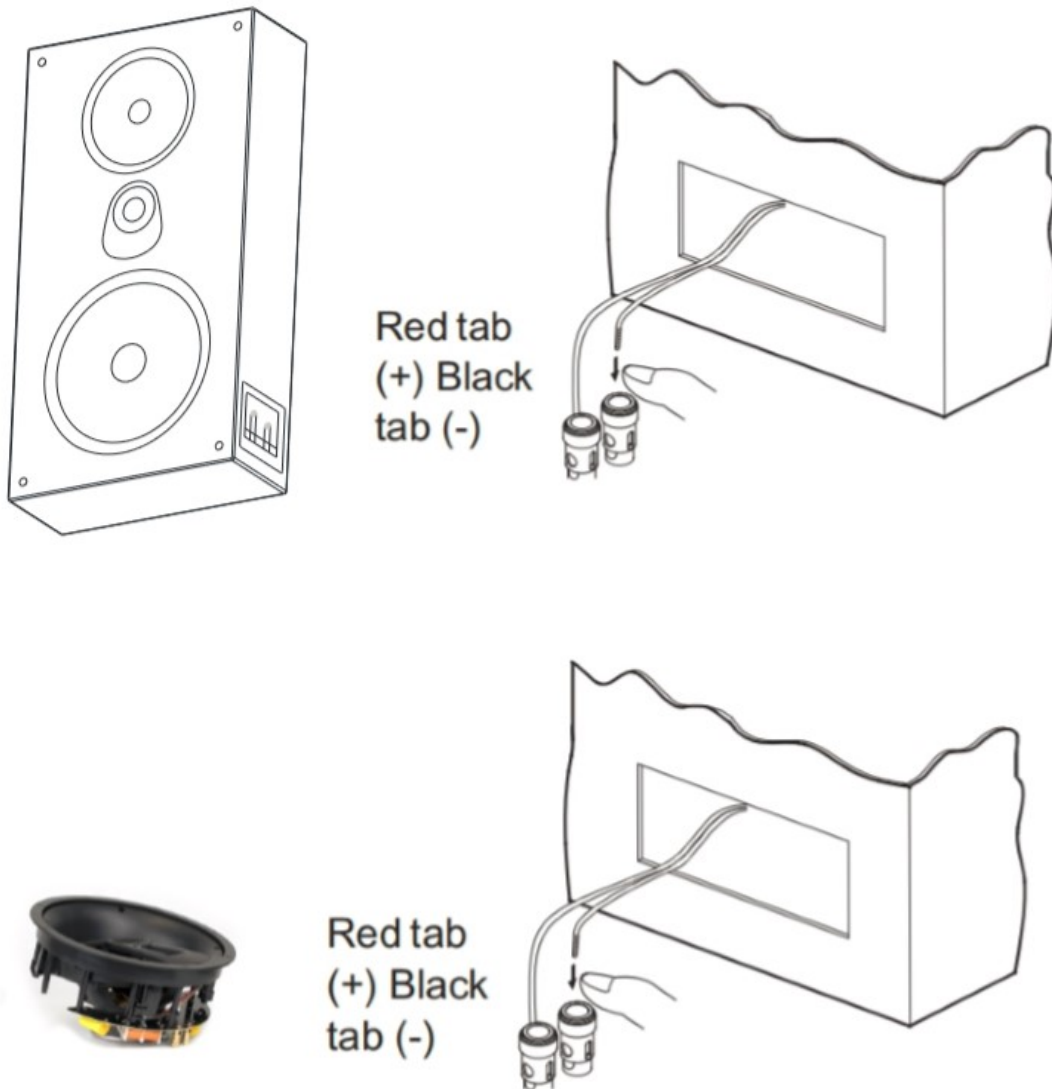


Step 4. Run speaker wires

Before installation, connect the speaker cable with the wiring terminal of the speaker. After the connection, make sure that the speaker cable is connected correctly and firmly without falling off.

Note: the red speaker wire is connected to the positive pole (+) of the speaker terminal, and the black speaker wire is connected to the negative pole (-) of the speaker terminal. After the connection is completed, check whether the speaker cable is unblocked to avoid unnecessary rework.

These pictures are for illustration purposes only.



Step 5. Install the speaker

Before installation, check whether the connection between the speaker cable and the terminal on the speaker is firm.

Check whether the expansion screw installed is tight.

Align the four hanger holes on the back of the speaker with the expansion screws on the wall, and then hang the screw into the hanger holes.

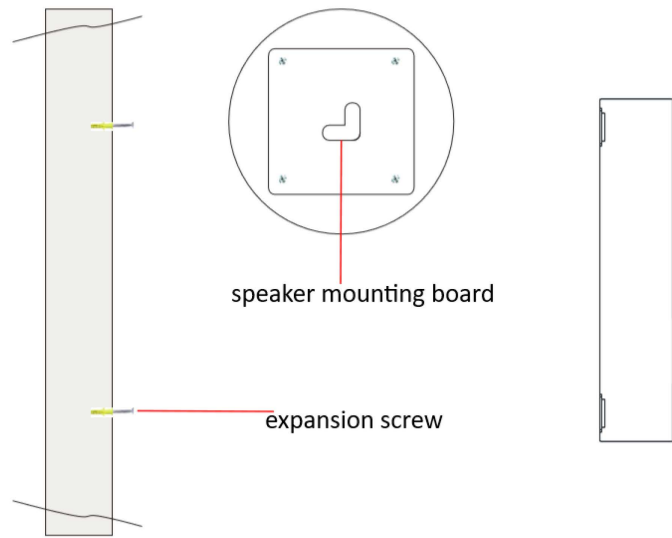


Fig. B: Attach wires to push terminals

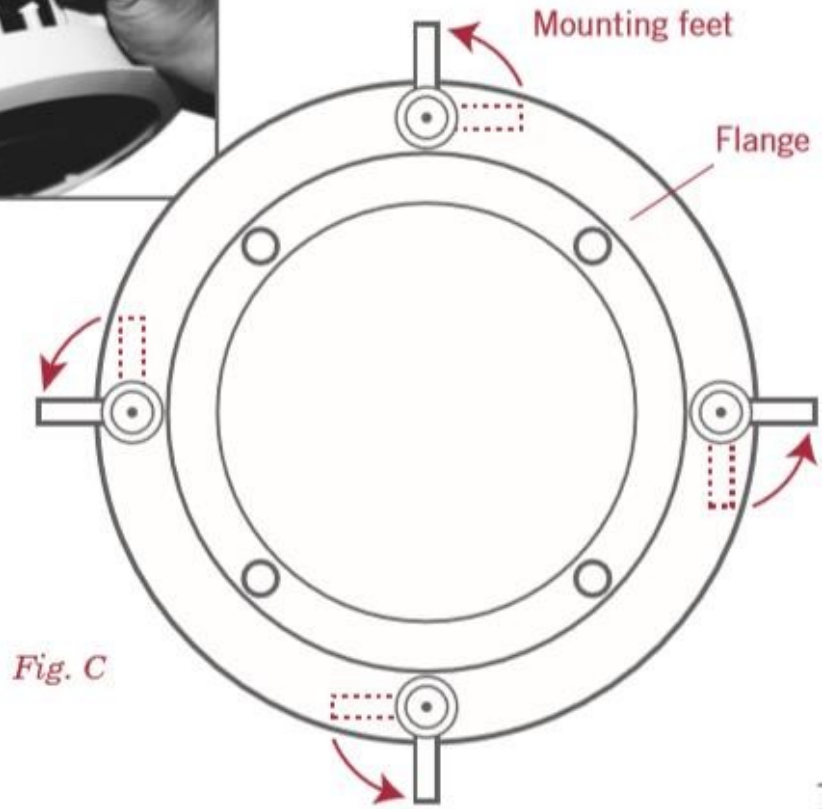


Fig. C

Step 6. Aim the Tweeter and Set the Speaker Switch

Your in-ceiling speakers may have tweeters that can be aimed, and adjustable treble levels so that they can perform well in a wide variety of circumstances. We offer some guidelines but, ultimately, trust your own ears. With that said, the best question to ask yourself when trying various settings is not "what sounds best?" but "what sounds most true to life?"

1. Aim the tweeter before adjusting the "Treble" switch. You will probably want to aim the tweeters towards the main listening area. For a diffused surround sound, try aiming the tweeter away from the listening area.

2. Start with the "Treble" switch in the "0" or "Neutral" position. If you are considerably off to the side of where the speaker is aimed, try the "+3dB" position. If the speaker is aimed directly at you, you're very close to the speakers or the room is very "lively" with a lot of reverberation, you may prefer the "-3dB" position.



Step 7. Install the Grills

The grills are designed for a very tight press fit, to minimize any chance of their vibrating or coming loose. To install, align the notches with the slots on the baffle and slide slowly into place, working your way around the edges. If you have painted the flanges, take care not to scratch the paint. If you find the grills very difficult to install it is probably because the mounting screws are over-tightened.



Removing the grill: If you need to remove grills after installation, the best method is to insert the supplied tool through a grill-hole near the edge and simply pull the grill out.

SETTING UP YOUR RECEIVER FOR HOME THEATER USE

1. Enter the speaker set-up menu on your receiver and — assuming that your home theater system includes a subwoofer — set all of the in-wall and in ceiling speakers to the "small" setting.
2. One of the most important steps to optimizing your system is speaker level calibration. Some speakers will play too loud or too quiet due to their placement or efficiencies. The speaker level calibration menu lets your receiver compensate for this by transmitting a test signal that moves from channel to channel, allowing you to adjust the levels until each speaker is balanced. You can attempt this balancing act by ear, but it is best to use a SPL (sound pressure level) meter, or if available, use the automatic sound calibration system in your AV receiver.

SPECIFICATIONS IN-CEILING:

	E-IC6	E-IC8
Construction Type	2-way in-ceiling Speaker	2-way in-ceiling Speaker
Tweeter driver	1 x 25 mm (1") Titanium dome	1 x 25 mm (1") Titanium dome
Midrange / Woofer driver	1 x 165 mm (6.5") Woven fiber glass composite cone	1 x 203 mm (8") Woven fiber glass composite cone
Frequency Response (+/- 3 dB)	65 Hz - 25 kHz	52 Hz - 25 kHz
Nominal Impedance	8 Ohm	8 Ohm
Sensitivity (2.83V / 1m)	88 dB	89 dB
Power Handling (IEC 268-5)	160 W Short term, 80 W Long term	200 W Short term, 100 W Long term
Cover	White Magnetic Grill	White Magnetic Grill
Settings	Tweeter level 3 steps, adjustable angle	Tweeter level 3 steps, adjustable angle
Dimensions	Diameter 230 mm (9"), depth 130 mm (5")	Diameter 287 mm (11.3"), depth 178 mm (7")
Cut-out	Cut-out Diameter 205 mm (8.1")	Cut-out Diameter 253 mm (10")
Weight / pc	1.9 kg / 4.2 lbs	2.9 kg / 6.4 lbs
Color	Black	Black
Quantity	1 pc	1 pc

SPECIFICATIONS IN-WALL:

	E-IW61	E-IW62	E-IW8
Construction Type	2-way In-Wall Speaker	3-way In-Wall Speaker	3-way In-Wall Speaker
Tweeter driver	1 x 25 mm (1") Aluminium-magnesium alloy dome	1 x 25 mm (1") Aluminium-magnesium alloy dome	1 x 25 mm (1") Aluminium-magnesium alloy dome
Midrange / Woofer driver	1 x 165 mm (6.5") Kevlar composite cone	2 x 100 mm (4") Kevlar composite cone 2 x 165 mm (6.5") Kevlar composite cone	1 x 130 mm (5") Kevlar composite cone 1 x 203 mm (8") Kevlar composite cone
Frequency Response (+/- 3 dB)	90 Hz - 30 kHz	80 Hz - 30 kHz	80 Hz - 30 kHz
Nominal Impedance	4 Ohm	4 Ohm	4 Ohm
Sensitivity (2.83V / 1m)	90 dB	92 dB	93 dB
Power Handling (IEC 268-5)	160 W Short term, 80 W Long term	300 W Short term, 150 W Long term	240 W Short term, 120 W Long term
Cover	Black fabric, plug-in / detachable	Black fabric, plug-in / detachable	Black fabric, plug-in / detachable
Dimensions W x H x D	220 x 350 x 117 mm / 8.7 x 13.8 x 4.6"	220 x 740 x 117mm / 8.7 x 29.1 x 4.6"	300 x 550 x 117 mm / 11.8 x 21.7 x 4.6"
Weight / pc	5.8 kg / 12.8 lbs	13 kg / 28.7 lbs	10 kg / 22 lbs
Color	Matte black	Matte black	Matte black
Quantity	1 pc	1 pc	1 pc