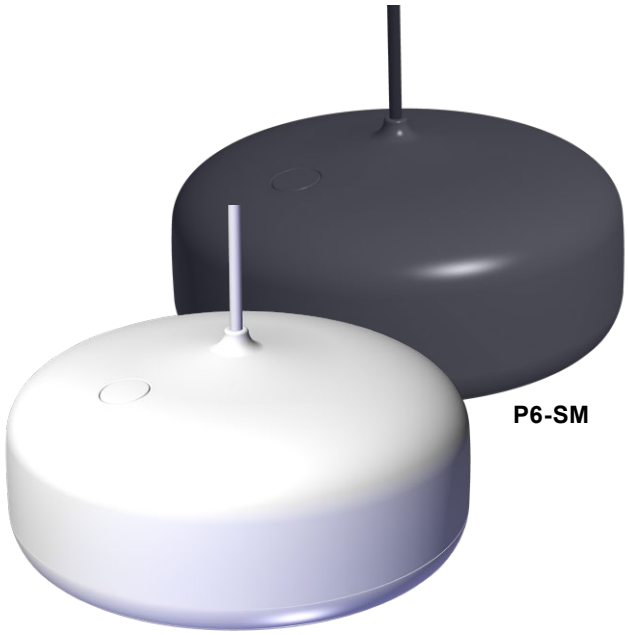
Desono P6 / P6-SM
Installation & Operation Guide

P6



P6-SM

PRODUCT DESCRIPTION

Desono™ P6 and P6-SM are two-way passive coaxial loudspeakers intended for full range music reproduction in distributed audio applications. They deliver high intelligibility coupled with a wide coverage area, allowing system designers to use fewer speakers while maintaining acceptable levels of speech intelligibility.

There are two different styles (models) of Desono pendants. They are designed to be used both indoors and outdoors in damp conditions. Designed with the installer in mind, the pendants come pre-terminated with Magic Cable, a composite cable comprised of two aircraft cables, two conductors jacketed separately, and integrated ripcords that allow the installer to easily slice through the cable jackets.

FEATURES

- Two stylish designs
- 90° conical coverage
- Magic Cable is pre-terminated inside the pendant to ensure no exposed connections
- 6-position tap for 70V/100V systems (60W, 30W, 15W, 7.5W, 3.75W, 1.875W) with low impedance bypass
- ETL listed to comply with UL 1480A, CE marked, and RoHS compliant

STANDARD INSTALLATION

The Desono pendants have integral 15' (4.6m) cables and can be suspended up to 14' (4.3m) if the safety supports and wiring junction boxes are within a short distance from the drop. Pre-installation of any cable drops will require use of bulk "Magic Cable" and a splice kit to install the loudspeaker (see Splice Case Kit instructions on pages 6-7).

There are several methods of installation. All involve attaching the support cables to, or around, structural elements. Some of the methods are shown below. Please use the appropriate method for your application.

VERY IMPORTANT: The Griplock® cable locking devices included with the pendants, and described in these instructions are *only rated for static indoor installations*. They should *not* be used to mount the loudspeakers outdoors or other locations subject to moisture, weather elements or dynamic loads.

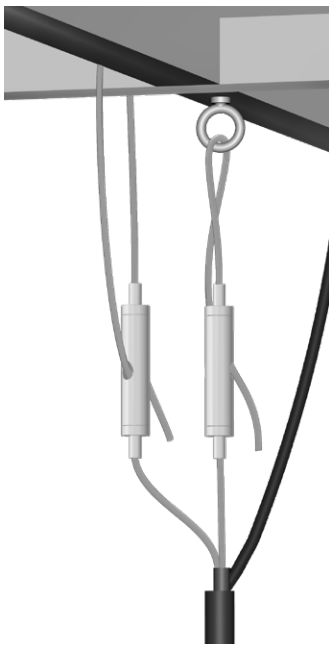


Figure 1a. Support cables can loop around structural members or through anchored hardware

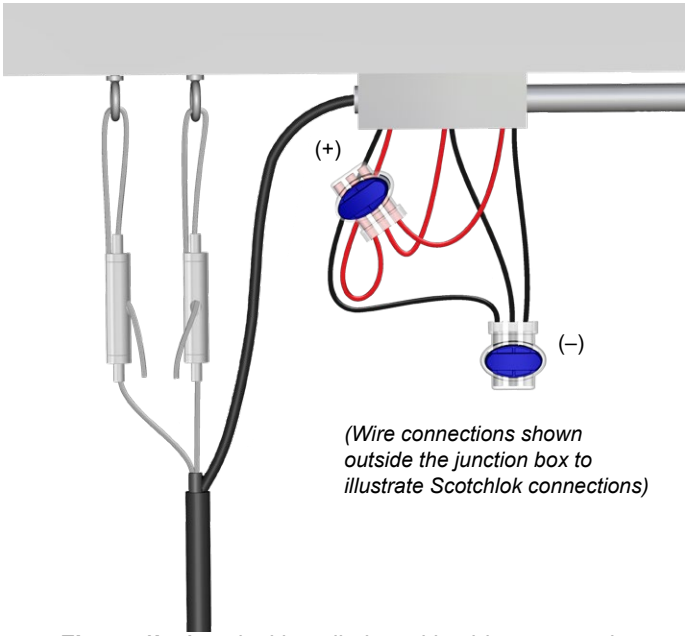


Figure 1b. A typical installation with wiring connections in a nearby junction box

RIGGING AND ELECTRICAL SAFETY

IMPORTANT: The loudspeakers described in this manual are designed and intended to be mounted to differing building surfaces using a variety of rigging hardware, means and methods. Installation of loudspeakers should only be performed by trained and qualified personnel. All electrical connections must conform to applicable city, county, state, and national (NEC) electrical codes.

DANGER: The Magic Cable is rated with a Working Load Limit (WLL) of 80 lbs (36.3 kg), and the Griplocks have a WLL of 50 lbs (22.7 kg); both with a 5:1 safety margin. No single rigging fitting using the Griplock locking device should ever be subjected to a load that is greater than 50 lbs (22.7 kg). Failure to heed this warning could result in injury or death!

DANGER: It is possible to experience severe electrical shock from a power amplifier. Always make sure that all power amplifiers are in the "OFF" position and unplugged from an AC Mains supply before performing electrical work.

IMPORTANT: The Magic Cable's connection to the pendant loudspeaker is UL listed for the purpose of suspending that loudspeaker only. No additional objects should be attached to, or suspended from, that cable.

IMPORTANT: Refer to the sections on installation and connections later in this manual for additional information on rigging and electrical safety.

IMPORTANT: Please review the safety guide accompanying this product and these installation instructions prior to to installing this loudspeaker.

CAUTION: Installation of Biamp loudspeakers should only be performed by trained and qualified personnel. It is strongly recommended that a licensed and certified professional structural engineer approve the mounting. Severe injury and/or loss of life may occur if this product is improperly installed.

DANGER: It is essential that the secondary cable be secured to a suitable load-bearing point separate from the primary loudspeaker mounting point, with as little slack as possible so as not to develop undue kinetic force if the primary mount were to fail.

IMPORTANT: When installing loudspeakers outdoors, use a support system with enough wind-load strength to comply with applicable codes and standards.

IMPORTANT: Magic Cable's strength members are hardened stainless steel. Cutting the cables with tools not rated for such use will damage those tools. You should use a tool rated for cutting ACSR (Aluminum Conductor Steel Reinforced) cables such as the Klein J2000-59.

CAUTION: The ends of the stainless steel support elements are sharp and may cause injury. Please handle with care.

Support Cable Installation

1. The outside insulation has been slit to provide access to the interior support and audio cable elements. Strip back that outer cover. There are rip cords in the main cable and each of the interior elements for easy removal of the insulation.
2. Pull the rip cords down as far as needed and cut off any extra cable insulation (Figures 2a , 2b).
3. Insert one support cable into the bottom end of a Griplock and push it up until the end of the wire protrudes from the side hole (Figure 3).
4. Pull the end of the cable through the Griplock enough to either form a loop over the structure or through structurally anchored hardware and insert back through the Griplock and out the remaining side hole. The wire must extend at least 1" (25 mm) through the side hole to ensure full gripping function.
5. Do the same to install the secondary support cable, giving it some slack to keep it from bearing weight. The secondary mount should be close to the primary one to avoid any kinetic force if the primary mount should fail. See Figure 1b for reference.

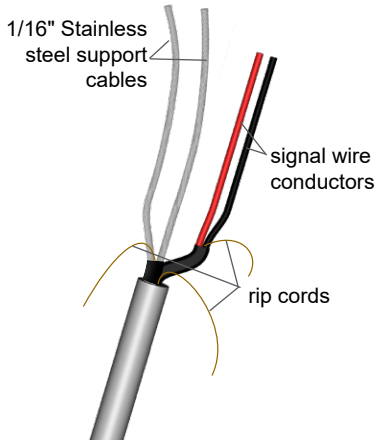


Figure 2a. Cable stripped with rip cords showing

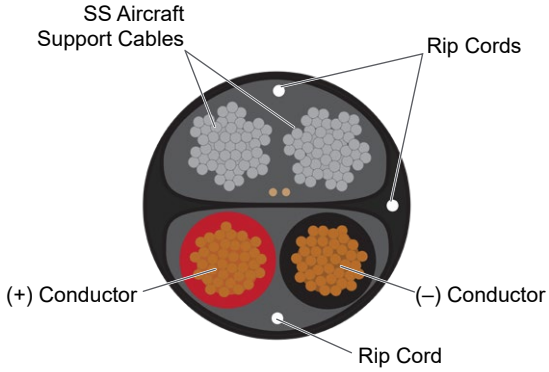


Figure 2b. Magic Cable cross-section
Stainless Steel cables must be cut with a tool rated for cutting ACSR cables.

The ends of the Griplock device are spring loaded and should be depressed to "unlock" the cable and allow it to be adjusted

IMPORTANT: A minimum of 1" (25mm) of cable must protrude from side holes of the Griplock to ensure full locking function

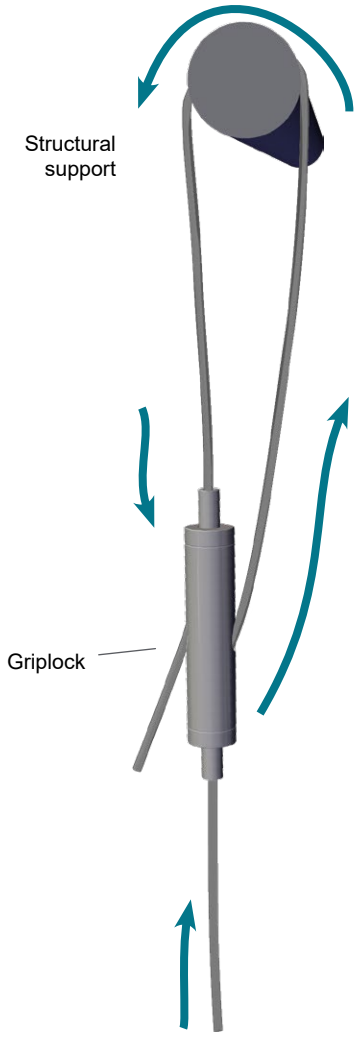


Figure 3. Path of the cable, looping back through the Griplock

Wiring

Scotchlok™ connectors are provided for easy wire connections (2 per pendant). Each connector can secure an input, output and "pass through" wire.

1. Strip the insulation from the outside jacket around the conductors using the rip cord.
2. Pull rip cord down and cut off extra insulation. There is no need to strip the insulation from the individual conductors to expose the wire if using the provided Scotchlok connectors.
3. Fully insert positive (red) conductors into one Scotchlok connector. See Figures 4a and 4b for correct and incorrect insertion. Using pliers, firmly press the oval "plunger" to secure the wires (Figures 5a, 5b). These are single use connectors; once the plunger has been depressed the connector must be replaced if the there is a problem with the connection.
4. Repeat for negative (black) conductors. (Figure 6)

Note: The connections should be housed in a junction box, but may not be subject to any force pulling on the wire or stressing the connectors.

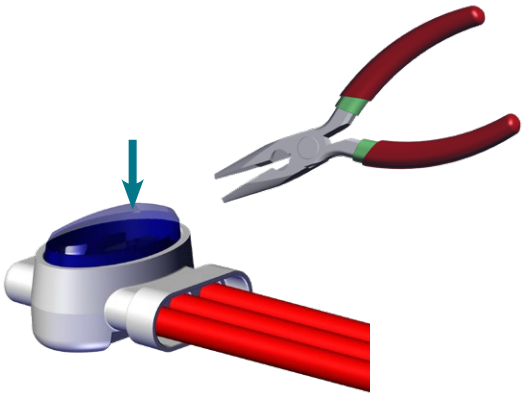


Figure 5a. Depress the scotchlok plunger to fully secure the conductors

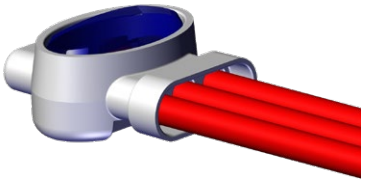


Figure 5b. Plunger depressed; conductors secured

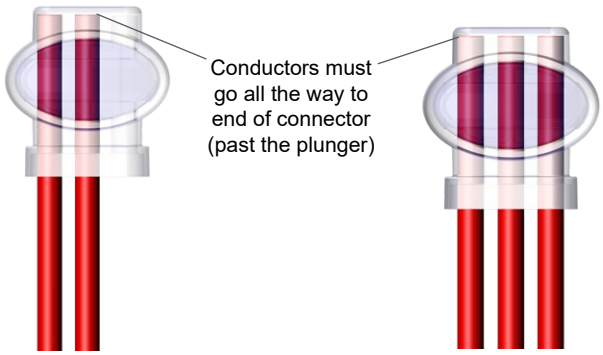


Figure 4a. *CORRECT* wire insertion in Scotchlok connector

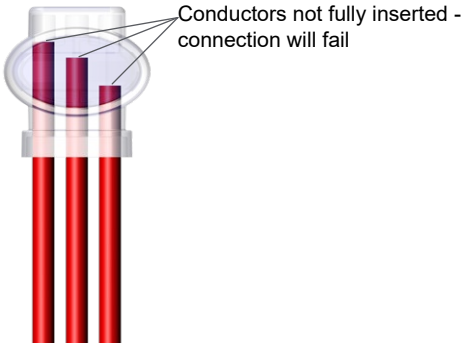


Figure 4b. *INCORRECT* wire insertion in Scotchlok connector

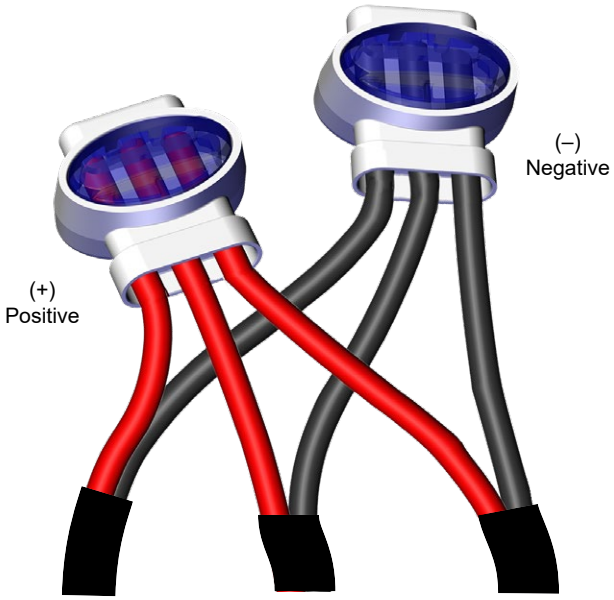


Figure 6. Typical connection including a pass through pair of conductors.

Setting the Tap Switch

The Desono pendants can be utilized in both low impedance and 70/100V systems. The default setting is low impedance, and will need to be changed for 70/100V systems. See setting values in the table below. Each pendant's tap switch locations and access is also described below. To keep installation simple, make any changes to the settings before the pendant is installed. The knob can be rotated with a Phillips head screwdriver or by hand.

P6

The tap switch is located under the dust cap. The pendant is shipped with the dust cap ajar - it will be much easier to access the switch before the cap is pressed into place. **Do Not** make any changes to the tap setting while the loudspeaker is connected to any equipment powered ON.

1. Carefully move the dust cap up the Magic Cable to expose the switch (Figure 7).
2. Rotate the knob to the appropriate setting and align with the arrows (Figure 8).
3. Pull the dust cap back down the cable and press into the pendent housing until flush with the top.

Tap Settings for both pendant models

6 Ω	low impedance (default setting)					
70V	60W	30W	15W	7.5W	3.75W	1.875W
100V	n/a	60W	30W	15W	7.5W	3.75W

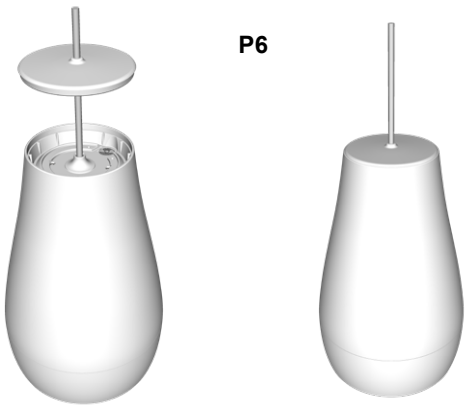


Figure 7. Move dust cap up the cable to access the tap switch, and back down and pressinto place when finished

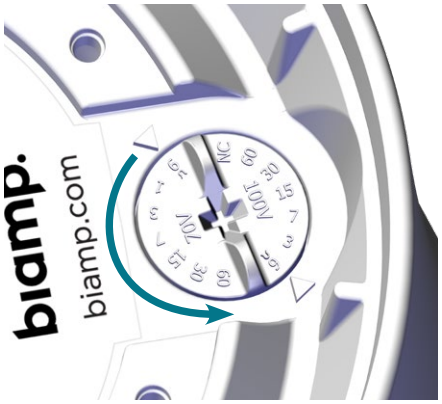


Figure 8. Rotate knob to select tap setting - align desired value with arrows

P6-SM

The tap switch is located under a removable rubber cap. **Do Not** make any changes to the tap setting while the loudspeaker is connected to any equipment powered ON.

1. A small screwdriver or fingernail will pry the cap loose. If possible, make any changes before hanging the pendant.
2. With the cap moved up and out of the way, rotate knob to the appropriate setting and align with the arrows (Figures 9a, 9b).
3. Replace the rubber cap in the pendant. It should be flush with the pendant housing.

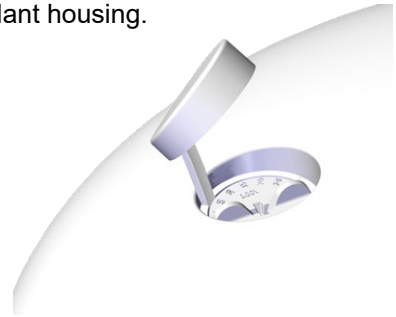


Figure 9a. LIft cap up and move out of the way to access tap.

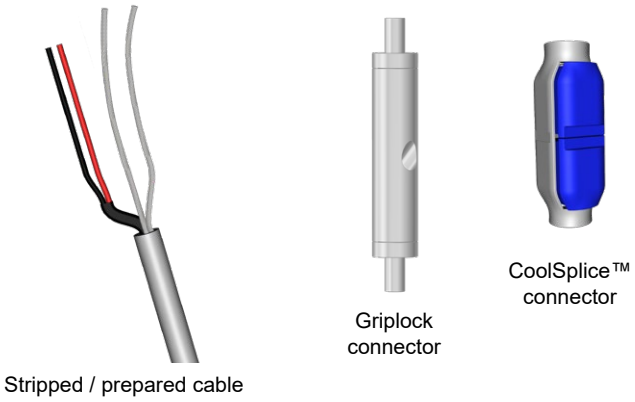
Figure 9b. Rotate knob to select tap setting - align desired value with arrows

Splice Case Installation

Splice Case kits offer an easy solution when splicing Magic Cables together to make a longer drop, attaching a pendant to a pre-wired drop, or replacing a pendant.

Prepare the loudspeaker cable by stripping and removing the cable insulation 3" (76mm) from the end of the Magic Cable to expose the support cables and wiring using the rip cords.

1. Insert one support cable into the bottom end of a Griplock and push it up until the end of the cable protrudes from the side hole at least 1" (25mm) (Figure 10).
2. Do the same for the second support cable. It should have enough slack to sit next to the primary cable's Griplock connection in the splice case.
3. Trim the conductors to expose 1.25" (32mm). The insulation does not need to be stripped from the end of the conductors.
4. Fully insert the positive (red) and negative (black) conductors into the same end of the CoolSplice™ connector (Figure 11). *The wire ends must touch the end of the compartment in the connector.*
5. Using pliers, firmly depress the blue plunger on that end *ONLY* of the CoolSplice to secure the connectors. *Do not depress the plunger on the opposite end until the other conductors are in place.*



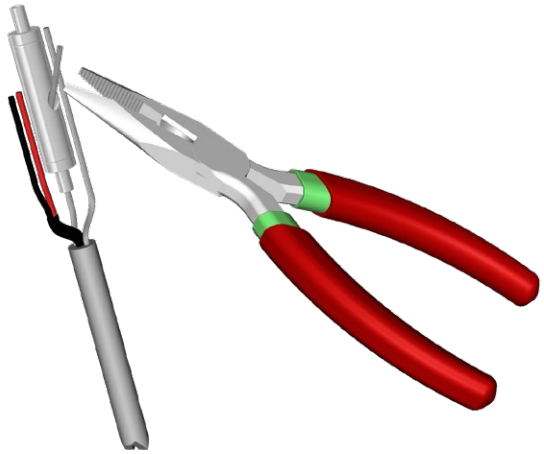


Figure 10. Pull cable through each Griplock

IMPORTANT: A minimum of 1" (25mm) of cable must protrude from side holes of the Griplock to ensure full locking function.

IMPORTANT: The CoolSplice connector is a single use connector and will need to be replaced if the connections are not made correctly.

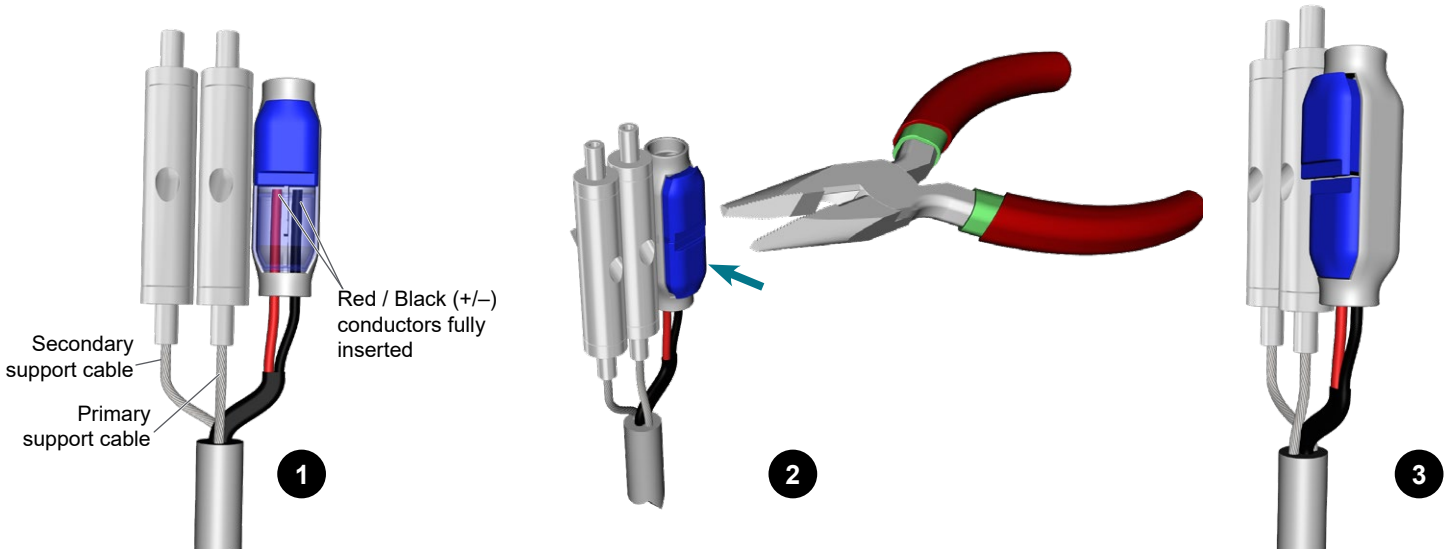


Figure 11. Fully insert conductors into one end (1) and depress the plunger on that end ONLY of the CoolSplice connector (2-3)

Splice Case Installation (continued)

Connect the prepared loudspeaker cable to the hanging Magic Cable.

CAUTION: The loudspeaker must be fully supported until both support cables are fully engaged in the Griplocks.

6. Strip and remove the cable insulation 3" (76mm) from the end of the other Magic Cable to expose the support cables and wiring (Figure 12).
7. Attach the support cables and wiring using the same procedure as before. Make sure the positive and negative conductors align with the ones on the opposite side (Figure 12b). *Polarity must match!*
8. The splice case is intended to fully cover the spliced connections and not have any support or conductor cables exposed. If necessary, cinch up the primary and secondary support cables to close the gap.
9. After signal testing the conductors, close the splice case around the connections. Make sure the tabs are fully engaged and the splice case is tightly closed around the cable (Figures 13a, 13b).

IMPORTANT: The splice case is a cosmetic cover and does not perform any function other than to cover the cable and conductor connections. Once closed it is not easily opened, so all mechanical and signal connections should be verified/tested *before* the case is closed.

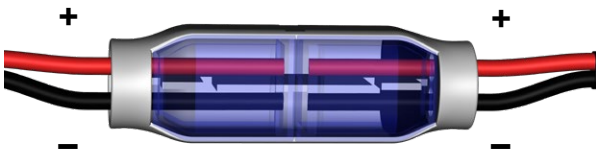


Figure 12b. Conductors must be fully inserted into the CoolSplice connector, and polarity must match

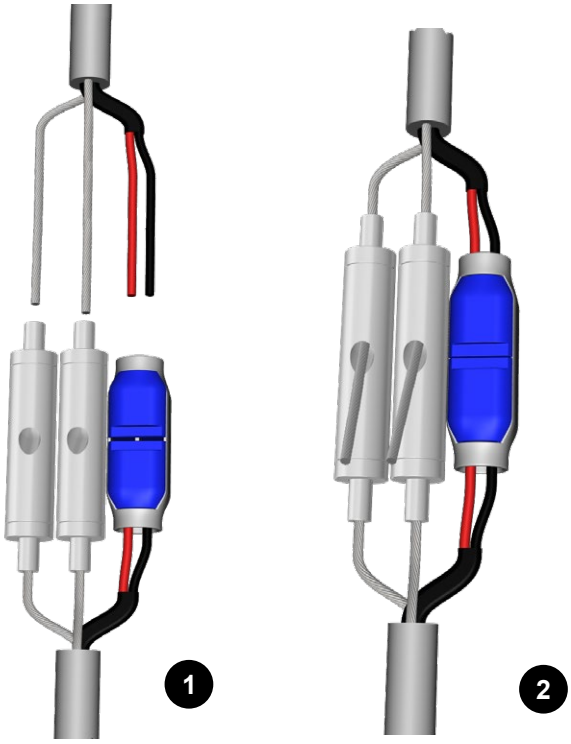


Figure 12a. Attach cables and conductors from the upper Magic Cable

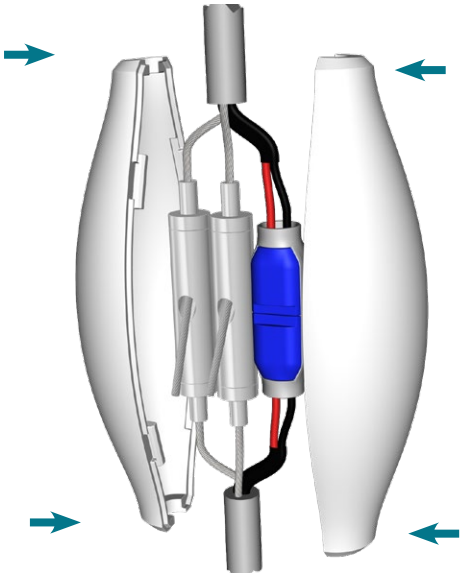


Figure 13a. Close the splice case around the finished spliced connections

Figure 13b. Closed/secured splice case

Painting Instructions

The ABS plastic cabinets accept almost any type of latex or enamel (oil based) paint. We recommend application of two coats. If the grille is to be painted, it must be removed to be painted (spray paint only) and then reinstalled.

IMPORTANT: If the pendants are to be used outdoors, the grilles can NOT be painted because removal of the scrim material will adversely affect its weather-resistance (allowing water in).

Process

If the grille will not be painted, fully mask it and proceed to Step 3.

1. Carefully remove the grille. It is tightly fitted to the enclosure. Insert a scribe tool into a hole near the edge of the grille and pry up slightly. Move around the grille in small increments and repeat the process. Do not try to pry it up from one side - it must be moved off evenly or it will bend. (see Figure 14 at right).
2. Remove the scrim material from the grille. Paint can NOT be applied to the scrim material as it will both adversely affect the performance and void the warranty. **Note:** Replacement scrim material is not available from Biamp.
3. **Loudspeaker preparation differences**
   P6: The dust cap should be removed by using a small putty knife or spudger tool and moving around the edge to pry it up evenly. Do not use a straight screwdriver as that will likely mar the pendant edge. If it will not be painted, it can just be moved up the cable and masked. If it needs to be painted it should be removed from the Magic Cable entirely.
   P6-SM: Remove the rubber cap over the tap switch and fully cover with painter's tape. Fit it back into the hole to protect the tap switch from any paint or overspray.

CAUTION: NEVER use abrasives, gasoline, kerosene, acetone, methyl ethyl ketone (MEK), paint thinner, harsh detergents or other chemicals on the loudspeaker. These chemicals and agents may permanently damage the finish. Some are also toxic and highly flammable.

IMPORTANT: Biamp does not sell replacement grilles or scrim material. Take care not to bend or damage the grille on removal or reinstallation.

IMPORTANT: Blocking the grille holes with paint or getting any paint on the drivers or internal parts will affect loudspeaker performance and void the warranty.

You will need:

- Removable masking tape or painter's tape
- Machinist scribe tool or similar for grille removal (ex. Empire Level #27027)

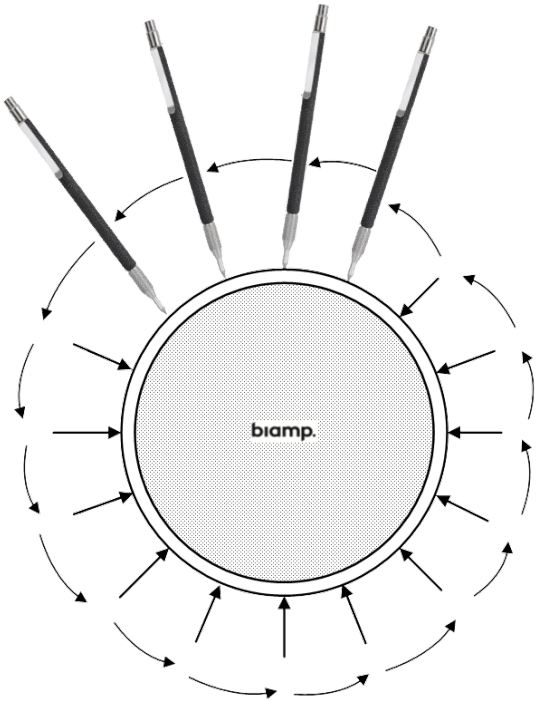


Figure 14. Carefully pry up the grille moving around the outside in small increments

Useful Tips

Use a sharp knife to trim the masking material close to the edges of the masked areas.

Reminder - the tops of the loudspeakers are not usually visible, so the dust cap on the top of the P6 may not need to be painted.

Do NOT paint the Magic Cable. The cable jacket is specially formulated to not propagate flame. Painting it could make it flammable and may void the warranty. The cable can be masked easily by wrapping it with toilet paper and then tape. The tape mask can then be easily removed without leaving adhesive residue.

Painting Instructions (continued)

4. Fully mask the loudspeakers so that the surrounds, horns, cones and internal components will not receive any paint (Figure 15). We advise against using conventional masking tape and NEVER use duct tape in this application; these kinds of tape generally leave adhesive residue that can be difficult to remove and that may actually cause damage. Painters tape is best. For the P6, also fully mask the top of the pendant around the Magic Cable out to and including the inside edge where the dust cap fits. For the P6-SM, please mask the product label to keep that legible.
5. Clean the grille assembly and the loudspeaker cabinet by rubbing them with a lightly dampened cloth. Do not use abrasives such as sandpaper or steel wool.
6. After cleaning, apply two or more thin coats of either latex or oil-based paints. Latex paint will adhere better if an oil-based primer is used first. Paint is best applied by spraying it on, but the enclosure may be brushed with light coats.
7. To paint the grille, tape off the Biamp logo (optional), and spray paint with 2 light coats – enough to cover grille but NOT clog any of the holes. Let all components dry completely before reassembly.
8. Remove all of the masking materials and reassemble. On the P6, leave the dust cap loose until the tap switch is set.
   IMPORTANT: The grille must be reinserted as carefully as it was removed - press around the outside a little at a time moving around the perimeter in small increments. Do not push on the center of the grille as it will deform and negatively affect performance.

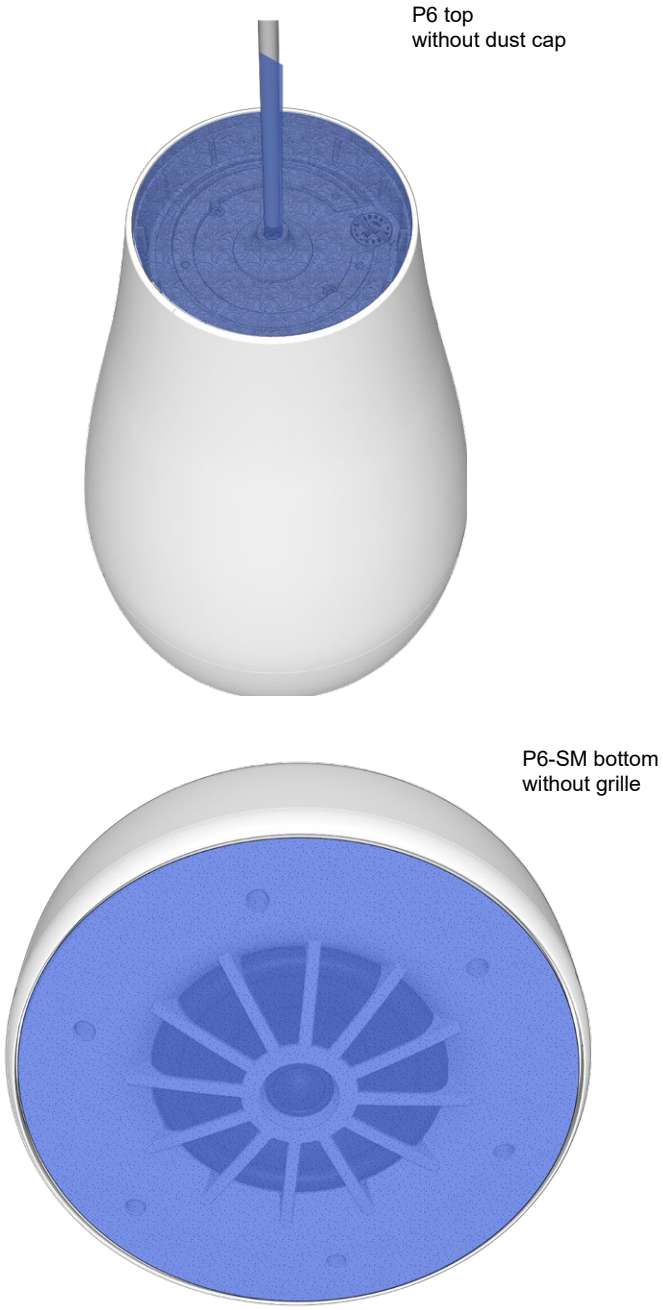
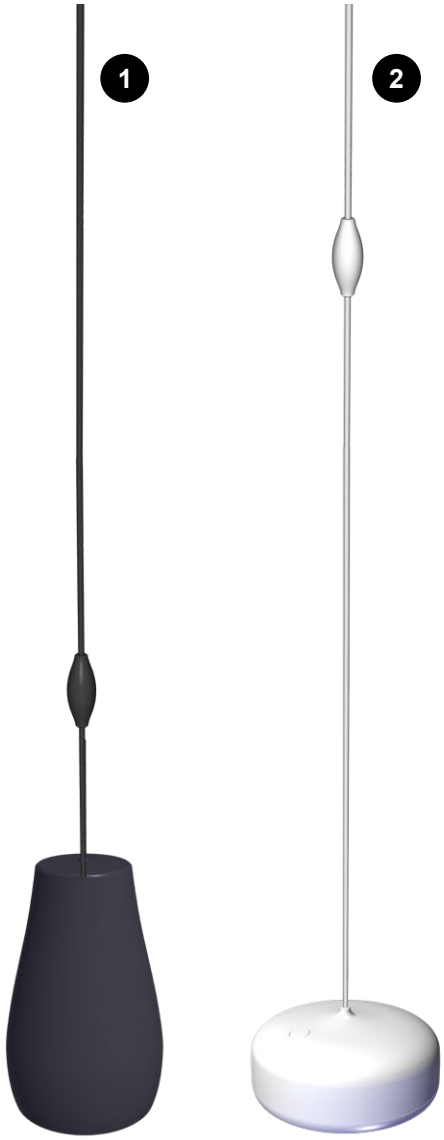


Figure 15. Fully mask interior components and Magic Cable

Typical Splice Case Applications

1. Venue has Magic Cable installed as prewired drops
2. Suspension height is longer than 14 ft (4.2m)



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Safety & Compliance: biamp.com/compliance

Note: *Every effort has been made to ensure that the information contained in this manual was complete and accurate when printed. However, due to ongoing technical advances, changes or modifications may have occurred that are not covered in this manual. The latest version is available at support.biamp.com.*

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