User Guide

Speakers

SF 10C SUB Ceiling-mounted Subwoofer





Safety Instructions

Safety Instructions • English

WARNING: This symbol, A, when used on the product, is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

ATTENTION: This symbol, \triangle , when used on the product, is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

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Sicherheitsanweisungen • Deutsch

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Instructions de sécurité • Français

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ATTENTION: The Twisted Pair Extension technology works with shielded twisted pair (STP) cables **only**. To ensure FCC Class A and CE compliance, STP cables and STP Connectors are also required.

For more information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the "Extron Safety and Regulatory Compliance Guide" on the Extron website.

Conventions Used in this Guide

Notifications

The following notifications are used in this guide:

WARNING: Potential risk of severe injury or death.

AVERTISSEMENT: Risque potentiel de blessure grave ou de mort.

CAUTION: Risk of minor personal injury. **ATTENTION:** Risque de blessure mineure.

ATTENTION:

- Risk of property damage.
- Risque de dommages matériels.

NOTE: A note draws attention to important information.

TIP: A tip provides a suggestion to make working with the application easier.

Specifications Availability

Product specifications are available on the Extron website, **www.extron.com**.

Extron Glossary of Terms

A glossary of terms is available at http://www.extron.com/technology/glossary.aspx.

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Introduction

- About this Guide
- About the SF 10C SUB
- Features

About this Guide

This guide describes the Extron SF 10C SUB, a subwoofer, that is typically installed above a suspended ceiling. This guide describes how to install, operate, and configure the subwoofer.

About the SF 10C SUB

The SF 10C SUB (see **figure 1** on the next page) is a plenum-rated, 8 ohm, 4th order bandpass subwoofer with a tuned bass-reflex port. When installed, the subwoofer is typically suspended by wire from the structural ceiling above the suspended ceiling. This avoids unwanted rattling and vibrating in the ceiling tile grid. It features a 10 inch ported woofer housed within a cylindrical enclosure. A right-angle port on the front of the enclosure directs the sound waves into the listening area.

The subwoofer has a frequency range of 25 Hz to 160 Hz, -10 dB, half space. The SF 10C SUB is compatible with any Extron low impedance amplifier with sufficient output drive power. The unit is UL 2043 listed for use in air-handling spaces.

The subwoofer is intended for use in a bi-amplified system. Separate amplifiers should power the low and high frequencies.

The SF 10C SUB is UL Listed for use in plenum airspaces: meets UL 2043 for heat and smoke release.

Suitable for use in environmental air space in accordance with Section 300-22(C) of the National Electrical Code, and Sections 2-128, 12-010(3) and 12-100 of the Canadian Electrical Code, Part 1, CSA C22.1. The product has been additionally investigated to UL 2043, "Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces".

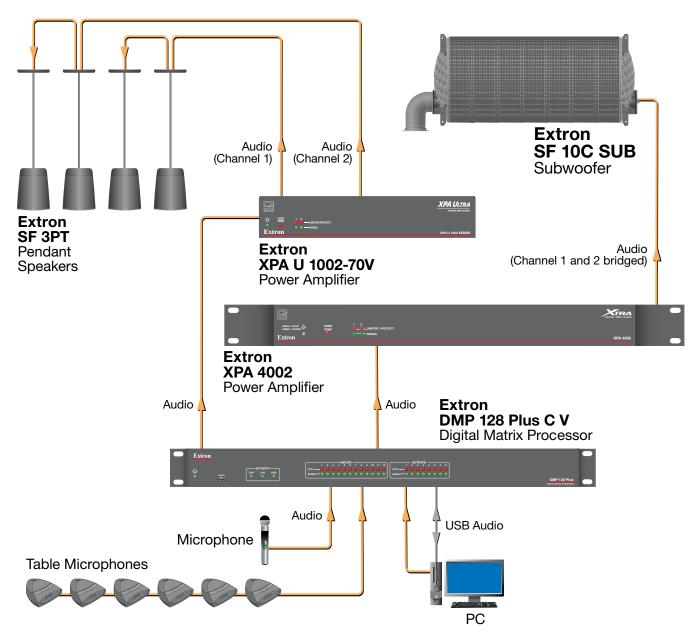


Figure 1. Typical SF 10C SUB Application

Features

- 10-inch (254 mm) low frequency driver with a tuned port Designed specifically for low frequency extension.
- **UL 2043 rated, rigid composite enclosure** Enclosure remains out of view when suspended above the ceiling grid.
- Frequency range: 25 Hz to 160 Hz
- 800 watts continuous program
 400 watts continuous pink noise Power capacity per IEC 60268-5
- **8 ohm operation** Direct low impedance power avoids low frequency transformer distortion.
- Suspension mounting above the ceiling structure greatly reduces rattle Physically isolated from the ceiling grid, low frequency vibrations are not transferred to loose structural components.
- 4th order bandpass enclosure design High output with controlled and clean low frequency extension
- No crossover needed when used with SF 26CT, SF 3C LP, or SF 3CT LP ceiling speakers — Eliminates phase problems at a crossover point.
- Includes installation and suspension hardware Four sets of 15-foot (4.6 m) steel cables with locking adapters are used to raise the SF 10C SUB into place and suspend it.
- **Includes C-ring and paintable grille** Port output into the room blends in with ceiling speakers.
- **Paintable enclosure** The SF 10C SUB enclosure can be painted with a plastic-friendly paint.
- Integrated flame arrester for safety Restricts flammability for plenum installations.
- 5-year parts and labor warranty

Installation

This section describes the installation and the operation of the SF 10C SUB, including:

- Placement Considerations and Acoustical Reinforcement
- Mounting the Subwoofer
- Mounting the Port Tube
- Installing the Grille
- Connection and Operation
- Troubleshooting

Placement Considerations and Acoustical Reinforcement

Installation Environment

Ceiling placement

- The speaker is rated for installation in plenum spaces.
- The mounting kit comes with four sets of aircraft cables and cable gripper mounting hardware for suspending the speaker in a horizontal orientation.
- Mounting holes for mounting using unistruts or all thread rods are provided.
 - Isolation grommets are provided that dampen mechanical vibrations from the subwoofer to the rest of the structure.
 - Other than the isolation grommets, the installer must provide the mounting hardware for unistrut or all thread rod installation.
- The mounting holes can also accept hanger wire.
- The port tube does not isolate the listening space from the installation space. Bleed-over into adjacent rooms must be taken into consideration.

Placement behind a wall

- When the subwoofer is installed behind a wall, the port tube must be located as close to the wall surface facing the listening space as possible.
- The drywall facing the subwoofer may need to be removed between the studs on either side of the unit, in order to bring the port tube as close as possible to the front surface of the wall. In this case, fire blocks must be run in-between the studs, to seal off the space above the removed portion of the wall.
- The optional SMK F SF 10C floor mounting kit must be used when the subwoofer is placed on the floor and must be strapped to a stud.

Acoustical Reinforcement

Depending on where you mount the subwoofer, such as next to a large, rigid planar surface, you can achieve some level of acoustical reinforcement (see figure 2).

NOTE: At the frequencies at which the subwoofer operates, fiberglass ceiling tiles are acoustically transparent and offer little acoustical reinforcement.

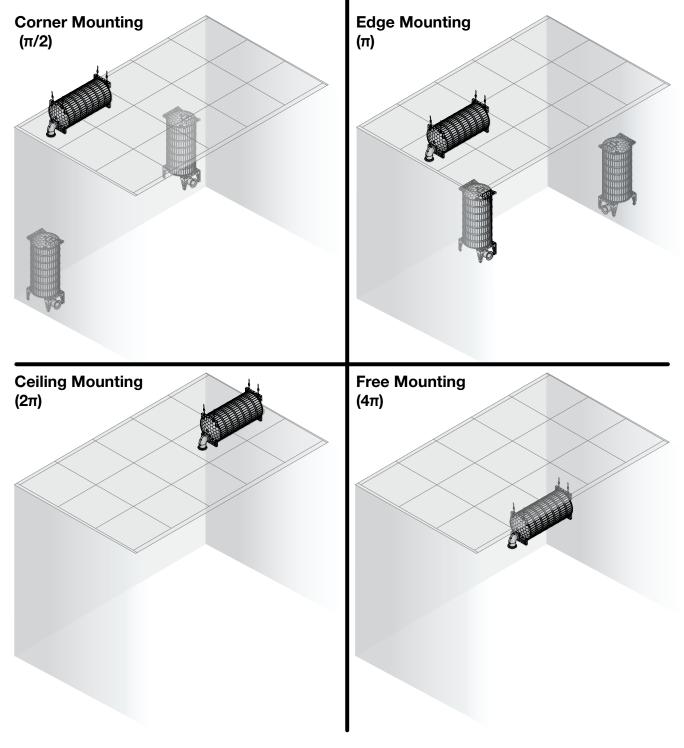


Figure 2. Mounting Locations for Discussion of Acoustical Reinforcement

- Corner mounting (see figure 2 on the previous page) The subwoofer is mounted
 in a corner of a surface where three surfaces meet, giving reinforcement from all three
 surfaces. This option provides the most reinforcement. The port tube should be as close
 to the corner as possible for best results.
- **Edge mounting** (see **figure 2**) The subwoofer is mounted at the edge of a surface where two surfaces meet, giving reinforcement from both surfaces. This option is as much as 6 dB less sensitive than corner mounting. The port should be as close to the wall as possible for best results.
- **Ceiling, wall, or floor mounting** (see **figure 2**) The subwoofer is mounted in or on a surface in an area away from any other surface. This option is as much as 12 dB less sensitive than corner mounting. There is reinforcement from only one surface.
- Free mounting (see figure 2) The subwoofer is mounted away from all walls, the floor and the ceiling. This option is as much as 18 dB less sensitive than corner mounting. There is no reinforcement from any surface.

Mounting the Subwoofer

The SF 10C SUB can be suspeded in a ceiling or rested on the floor.

Suspending in the Ceiling

WARNING:

AVERTISSEMENT:

- Properly suspending equipment requires training and expertise. Improper rigging of suspended equipment can cause the speaker to fall, resulting in **death**, personal injury, equipment damage, and legal liability. Installation must be carried out by fully qualified installers, in accordance with all required safety codes and standards at the place of installation.
- Il est indispensable de disposer de compétences techniques pour pouvoir suspendre l'équipement. Une manipulation incorrecte de l'équipement suspendu peut provoquer la chute de l'enceinte, entraînant la **mort**, des lésions corporelles, des dégâts matériels, et engageant la responsabilité d'un individu. L'installation doit être effectuée par des installateurs hautement qualifiés, conformément à l'ensemble des codes et des normes de sécurité réglementaires sur le lieu de l'installation.
- The legal requirements for suspending equipment vary from country to country.
 Extron strongly recommends that you consult your local safety standards office before installing any product. Extron also recommends that you thoroughly check any laws and bylaws prior to installation.
- Les conditions juridiques relatives à la suspension d'équipements varient de pays en pays. Extron vous recommande vivement de consulter les standards de sécurité en vigueur dans votre pays avant d'installer un produit. Extron vous recommande également de vérifier minutieusement toute loi et tout règlement avant l'installation.

ATTENTION:

- Installation and service must be performed by authorized personnel only.
- L'installation et l'entretien doivent être effectués par le personnel autorisé uniquement.
- This unit must be repaired by personnel trained by Extron or returned to Extron for repair.
- Cette unité doit être réparée par un technicien formé par Extron ou renvoyée à Extron pour réparation.

The subwoofer can be suspended using the included aircraft cables (see "Aircraft cable installation") or, optionally, with threaded rods acquired locally (see **Threaded rod installation** on page 10).

Aircraft cable installation

Suspend the subwoofer above a false ceiling using the included aircraft cables as follows:

Remove ceiling tile and install suspension cables.

For installation with optional threaded rods, see **Threaded rod installation**.

1. Determine where the subwoofer is to be suspended and its orientation above the suspended ceiling.

NOTE: Remember that the sound from the unit is directed out the port. Therefore, although you can suspend the subwoofer in any horizontal orientation, the port needs to be pointed into the listening space.

Consider the following as you make this determination:

- Possible acoustical reinforcement (see **Acoustical Reinforcement** on page 5).
- The size (length, width, and height) of the subwoofer.
- The desired location of the woofer port. Ensure that the center of the port tube will be at least 5-3/16 inches (13.7 cm) from the edge of suspended ceiling tile once that tile is installed.

NOTE: This positioning ensures that the grille adapter and C-ring fit properly once installed (see figure 3).

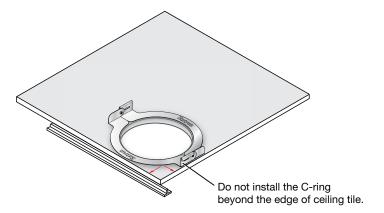
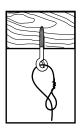


Figure 3. Grille Adapter and C-ring Fit

- Any obstructions above the suspended ceiling that could constrain the orientation of the suspended subwoofer.
- 2. At the location where the subwoofer is to be installed, remove as many ceiling tiles as necessary to install the subwoofer.

NOTE: The number of tiles to remove depends on the height of the structural ceiling above the suspended ceiling, given the 10-degree spread from the subwoofer to the structural ceiling.

- **3.** At an approximate angle of 10 degrees out from each corner of where the subwoofer will be installed, mark and drill four holes in the structural ceiling for the suspension cable anchors.
- **4.** Screw a lag eye bolt (or an appropriate anchor) into each hole.
- 5. Thread the loose end of the suspension cable through the bolt eyehole, pass the loose end of the cable through the looped end and tighten. Allow each cable to hang.



Suspend the main subwoofer enclosure from the ceiling

ATTENTION: The SF 10C SUB is heavy, approximately 38 pounds (17 kg), and bulky. **ATTENTION:** La SF 10C SUB est lourde, et pèse environ 17 kg (38 livres), et est volumineuse.

- Use at least two people to install the subwoofer; one person to lift the unit into position **AND** to hold it, the second person to fasten the suspension cables.
- Il faut au minimum deux personnes pour installer le caisson de grave ; la première pour mettre l'unité en place **ET** la tenir, et la seconde pour raccorder les câbles de suspension.
- Consider using a scissor-lift or other lifting apparatus rather than a ladder to work in the ceiling.
- Songez à utiliser une nacelle élévatrice ou tout équipement similaire plutôt qu'une échelle pour travailler au plafond.
- Do not rest the subwoofer on the ceiling grid, even temporarily.
- Ne posez pas le caisson de grave sur la grille de plafond, même temporairement.

TIP: If a scissor-lift is not available, the speaker can be hoisted using the suspension cables.

- 1. Remove the grommets from all four corners of the subwoofer frame (see **figure 4** on the next page).
- 2. Install the included eyebolts into the four holes on the four corners of the subwoofer frame. Secure the eyebolts in place with the provided locking nuts (see **figure 4**).
- **3.** With the help of at least one other person, carefully lift the subwoofer enclosure into the installation location.
- **4.** Holding a cable gripper, pass the loose end of one of the cables down through one hole of the gripper. Ensure that about 12 to 15 inches (30 to 38 cm) of cable has exited the gripper (see **figure 4**).

MARNING:

AVERTISSEMENT:

- Maintain at least a 2 inch (5 cm) clearance between the plunger on the cable gripper and any other object in the ceiling space. This includes the space between the eyebolt below the gripper and the mounting hardware above the gripper. If an object strikes the plunger, the cable gripper could disengage and allow the subwoofer to fall.
- Conservez au minimum 5 cm (2") d'espace libre entre le piston sur le serrecâble et tout autre objet se trouvant dans l'espace plafond. Il s'agit de l'espace entre l'anneau de levage sous le serre-câble et le matériel de montage audessus du serre-câble. Si un objet heurte le piston, le serre-câble pourrait se desserrer et entraîner la chute du caisson de basses.

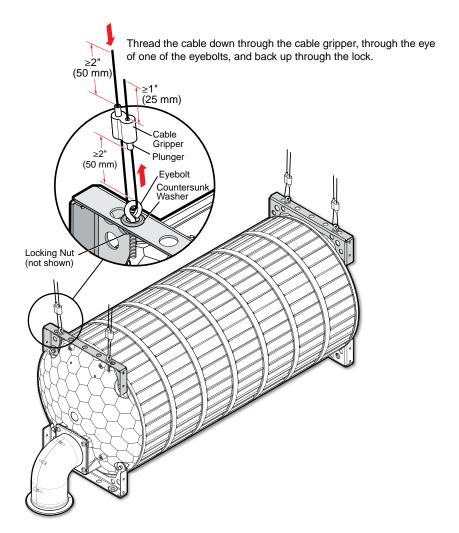


Figure 4. Installing the Subwoofer with the Included Steel Cables

- 5. Pass the loose end of the cable through the eye of one of the eye bolts on the subwoofer enclosure and then through the other hole in the cable gripper. Ensure that at least 1 inch (15 cm) of cable comes through the other end of the gripper.
- 6. Repeat steps 4 and 5 for each corner.
- 7. Adjust the cable tension through all cable grippers so that the subwoofer appears level to the critical eye and to ensure that its bottom brackets will be approximately 1 inch (2.5 cm) from the top surface of suspended ceiling tile once that tile is installed.

NOTE: The exact height of the subwoofer is not critical at this point. You will make final adjustments after the grille is installed.

Threaded rod installation

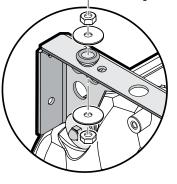
Secure the subwoofer to the structural ceiling using threaded rods as follows:

NOTES:

- Extron recommends 1/4-inch or 3/8-inch diameter threaded rods for installing this product.
- The threaded rod must be properly secured to the ceiling structure. For example, properly fasten a unistrut to the ceiling structure and attach threaded rods using nuts and fender washers.
- **1.** Fasten four threaded rods to the support structure. Extron recommends fastening the rods to unistruts, one over each corner of the subwoofer installation location.
- 2. Fasten a rod to each corner securing point of the subwoofer with nuts and fender washers (see the figure at right).
- 3. Adjust all the nuts that secure the subwoofer to the ceiling so that the subwoofer appears level to the critical eye and to ensure that its bottom brackets will be approximately 1 inch (2.5 cm) from the top surface of suspended ceiling tile once that tile is installed.

NOTE: The exact height of the subwoofer above the ceiling is not critical at this point. You will make final adjustments after the grille is installed.

Insert threaded rods through holes on the ends of the mounting bracket.



Resting on a Floor

ATTENTION:

- The SF 10C SUB must have firebreaks installed in the wall, above and below it, when it is protruding through a wall, to meet UL requirements.
- Le SF 10C SUB doit disposer de systèmes coupe-feu installés au mur, au-dessus et au-dessous de l'unité, lorsqu'elle est placée en saillie du mur, afin de satisfaire les exigences de l'UL.
- The subwoofer must be securely fastened to the stud or other stationary surface.
- Le caisson de grave doit être solidement fixé au montant ou à une autre surface stationnaire.

The subwoofer can be rested on a floor using the optional SMK F SF 10C floor mounting kit, as follows:

1. Determine where the subwoofer is to be placed and its orientation (port tube on top or port tube on the bottom).

NOTE:

- Remember that the sound from the unit is directed out the port. Therefore, the port needs to be pointed into the listening space.
- To ensure that the Extron grille fits fully into any masking wall or other partition, the center of the port tube must be at least 5-3/16 inches (13.7 cm) from the edge of the wall.
- The grille will not fit if you install the feet on the subwoofer with the port
 tube down. Consider fabricating a small platform to lift the subwoofer (see
 figure 6, 1 on the next page) or otherwise design your own way to dress the
 installation to give your installation a finished look.
- Steps 3, 4, 5, and 8 are only necessary if you are installing the subwoofer in an adjoining space.
- 2. Fasten two feet to each installation bracket using the provided screws and locking nuts, two on one side of the foot (see figure 5, 1), and one on the other side (2).

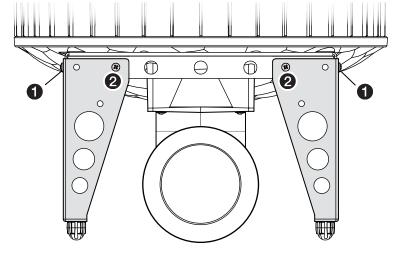


Figure 5. Installing a Floor Mounting Kit

3. When installing in an adjoining space — On the far side of the wall (outside the listening space), remove enough wall material so that the subwoofer port tube can be placed as close to the wall (facing the listening space) as possible.

- 4. When installing in an adjoining space On the near side of the wall (inside the listening space), mark where the center of the port tube faces the installation surface. The center mark must be at least 5-3/16 inches (13.7 cm) from the edge of the installation surface (see figure 3 on page 7) if the grille will be used (see Installing the Grill on page 13).
- **5.** When installing in an adjoining space On the near side of the wall (inside the listening space), mark and cut the hole in the surface.
- **6.** Place the subwoofer in the desired location.
- 7. Use a locally-obtained perforated metal hanger strap to secure two of the mounting holes on the top bracket to the nearest stud or other stationary surface (see figure 6, 2).

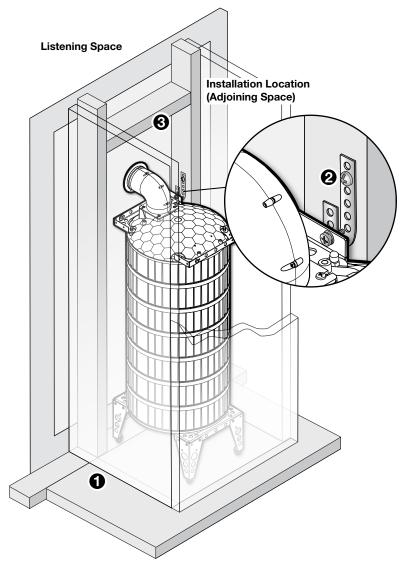


Figure 6. Securing the Floor-mounted Subwoofer and Installing Fire Breaks

8. When installing in an adjoining space — Ensure that there are fire breaks above and below the port tube (3) to meet UL requirements. If necessary, fabricate them.

Mounting the Port Tube

1. Orient the port tube so that it is pointed into the listening space (see figure 7).

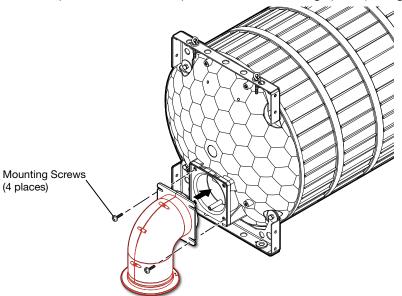


Figure 7. Installing the Port Tube

2. Using the included hardware, mount the port tube to the speaker.

Installing the Grille

NOTE: For ceiling tile installation, if the ceiling tile is not removed for the subwoofer installation, remove it.

- 1. If not already accomplished, on the installation surface, mark where the center of the port tube faces the installation surface. The center mark must be at least 5-3/16 inches (13.7 cm) from the edge of the installation surface.
- 2. If not already accomplished, using the included grille cut-out template, mark and cut the hole in the surface.
- **3.** For ceiling tile installation, replace the ceiling tile in the grid.
- **4.** Place the C-ring on the subwoofer side of the installation surface and center it over the hole.
- **5.** Place the grille adapter on the opposite side of the installation surface (see **figure 8** on the next page) and use a Phillips screwdriver to turn the three locking arms to loosely mate the adapter to the C-ring.

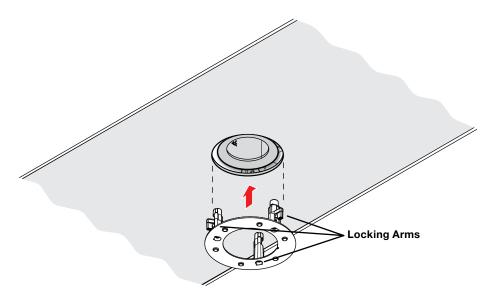
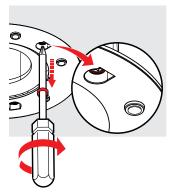


Figure 8. Installing the Grille Adapter

- **6.** Rotate the C-ring and grille adapter such that the locking arms do not collide with the subwoofer.
- 7. Use a Phillips screwdriver to tighten the three locking arms to clamp the adapter to the C-ring.

NOTE: For installation in rigid vs. soft material:

- Rigid material Three locking arm screws use Opti-Torque indicator rings that snap and separate from their plastic rings when the screws are tightened to the correct torque. The indicator ring falls down the screwdriver shaft. When this occurs, stop tightening the screw to avoid overtightening the locking arms to the C-ring (see the figure at right).
- Soft material Because fiberglass ceilings and other soft materials are not as rigid as mineral tiles and other hard materials, the Opti-Torque indicator should not be used as a tightening guide due to the risk of overtightening. See the ATTENTION below.



ATTENTION:

- To avoid damaging or deforming soft ceiling material, tighten the locking arms to secure the grille adapter, but short of causing the grille adapter to deform the flat mounting surface of the ceiling, as seen from below.
- Afin de ne pas endommager ni altérer un plafond souple, serrez les bras de verrouillage pour sécuriser l'adaptateur en grille, en veillant cependant à ce que l'unité ne cause l'altération de la surface de montage plane du plafond, comme illustré ci-dessous.

- 8. Affix the metal grille to the magnetic grille adapter.
- 9. Adjust the position of the subwoofer relative to the installation so that the subwoofer appears level to the critical eye and is centered over the grille. Ensure that the port tube is as close as possible to the installation surface without touching it.

NOTE: Do not allow the port tube or any part of the subwoofer to touch the installation surface. Undesired audio vibrations can occur.

Connection and Operation

Connection

NOTES:

- Pair the 8-ohm subwoofer with an appropriate amplifier; one that outputs up to 800 watts at 8 ohms.
- Consider the distance between the subwoofer and the amplifier and whether
 doubling up the speaker cable (see figure 11 on page 17) is necessary to reduce
 the power losses through the wires.
- Avoid audio clipping:
 - Ensure that the audio source does not clip the input stage of the amplifier (check the specs of the amplifier)
 - Ensure that the audio signal does not clip the output stage of the amplifier (check the limiter or protect indicators on the amplifier).
 - Apply a limiter to the amplifier channel that drives the SF 10C SUB.
- No crossover is needed when the subwoofer is used with SF 26CT, SF 3C LP, or SF 3CT LP ceiling speakers.

Configure the cable conduit access plate and captive screw connector as follows.

1. Loosen the cable conduit access plate screw and remove the plate before wiring the subwoofer (see figure 9).

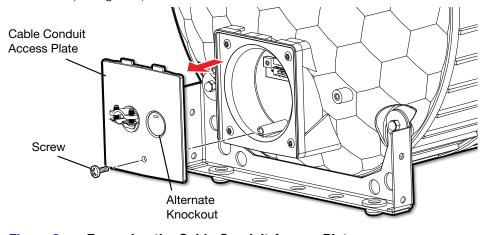


Figure 9. Removing the Cable Conduit Access Plate

- 2. Configure the cable conduit access plate, using either of the following methods:
 - When not using flexible conduit: Route the speaker wires through the cable clamp (see figure 10, 1).
 - When using flexible conduit: Remove the cable clamp and install the flexible conduit into the plate opening. Secure the flexible conduit to the plate with the locking nut and pull the speaker wires from the flexible conduit (2).

NOTE: The cable conduit access plate has an alternate hole available by removing the knockout.

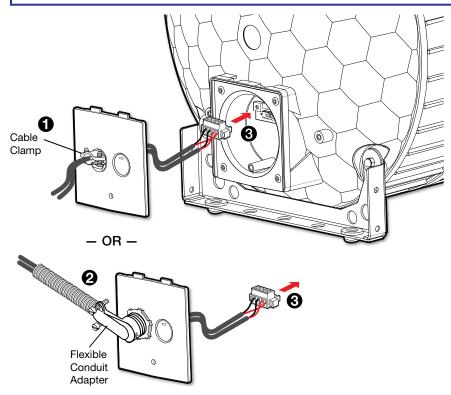


Figure 10. Connection Using a Cable Clamp or Flexible Conduit

3. Strip 3/16 inch (5 mm) from the wire ends.

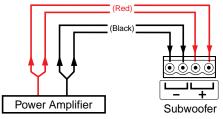
NOTES:

- The length of exposed wires is important. The ideal length is 3/16 inch (5 mm).
 - If the stripped section of wire is longer than 3/16 inch, the exposed wires may touch, causing a short circuit.
 - If the stripped section of wire is shorter than 3/16 inch, wires can be easily pulled out even if tightly fastened by the captive screws.
- Do not tin the leads before installing them in the connector. Tinned wires are not as secure in the connector and could be pulled out.

4. Connect four or two speaker wires to the captive screw connector, as shown by the following two methods (see figure 11).

Double Wiring

Using two 12 AWG wires yields effective 9 AWG wiring, reducing cable losses.

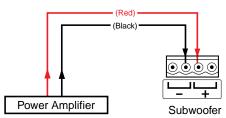


Wire Gauge Table

| Number of Wires per Pole | Maximum Wire Gauge |
|--------------------------|-----------------------|
| 1 | 12 AWG |
| 2 | 16 AWG |
| 4 | 18 AWG |

\r_ ____

Single Wiring



Maximum Recommended Cable Length Table

| Gauge | Cable Length |
|-------------------------------------|-----------------|
| 12 AWG doubled (effectively 9 AWG) | 253 feet (77 m) |
| 14 AWG doubled (effectively 11 AWG) | 159 feet (48 m) |
| 12 AWG single | 126 feet (38 m) |
| 16 AWG doubled (effectively 13 AWG) | 100 feet (30 m) |
| 14 AWG single | 80 feet (24 m) |
| 18 AWG doubled (effectively 15 AWG) | 63 feet (19m) |
| 16 AWG single | 50 feet (15 m) |
| 18 AWG single | 32 feet (9 m) |

Figure 11. Subwoofer Wiring Methods

ATTENTION:

- Do not tin the wire leads before installing into the connector. Tinned wires are not as secure in the connector and could be pulled out.
- Ne pas étamer les conducteurs avant de les insérer dans le connecteur. Les câbles étamés ne sont pas aussi bien fixés dans le connecteur et pourraient être retirés.
- 5. Insert the captive screw plug into the four-pole receptacle of the subwoofer (see figure 10, 3 on the previous page) and screw it into place.
- **6.** Replace the access plate and tighten the retaining screw.
- 7. Tighten the cable clamp if it was used.

Operational Considerations

Play content that you are familiar with through the system and verify that it sounds as expected.

- Set the gain structure through the audio system appropriately.
- Set the gain on the subwoofer and speakers such that they are at the same sound pressure level.
- If any distortion is heard, you may be driving the subwoofer too hard and may need to add additional subwoofers to the system to get the desired sound pressure level.

Troubleshooting

| Symptom | Description | Solution |
|---|---|---|
| Hear a "chuffing" Distortion due sound coming from the subwoofer placement. | Check the placement of the port tube. Move the tube opening slightly away from the grille surface to reduce distortion. | |
| | | This reduces the output level slightly; this is a trade-off that must be managed. |
| Distortion due | Attenuate the signal to the subwoofer. | |
| | to overdriven subwoofer. | If the desired sound pressure level cannot be achieved at the new setting, consider relocating the subwoofer to a more favorable location (for example, edge or corner mounting — see Acoustical Reinforcement on page 5) and swapping fiberglass tiles (if used) for mineral tiles. |
| | | If the desired sound pressure level still cannot be met, then the listening space needs more subwoofers. |

Extron Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America, and Central America:

Extron Electronics 1330 South Lewis Street Anaheim, CA 92805 U.S.A.

Europe and Africa:

Extron Europe Hanzeboulevard 10 3825 PH Amersfoort The Netherlands

Asia:

Extron Asia Pte Ltd 135 Joo Seng Road, #04-01 PM Industrial Bldg. Singapore 368363 Singapore

Japan:

Extron Electronics, Japan Kyodo Building, 16 Ichibancho Chiyoda-ku, Tokyo 102-0082 Japan

China:

Extron China 686 Ronghua Road Songjiang District Shanghai 201611 China

Middle East:

Extron Middle East Dubai Airport Free Zone F13, PO Box 293666 United Arab Emirates, Dubai

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions, or if modifications were made to the product that were not authorized by Extron.

NOTE: If a product is defective, please call Extron and ask for an Application Engineer to receive an RA (Return Authorization) number. This will begin the repair process.

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.