

Extron

FF 120T

Flat Field Speaker

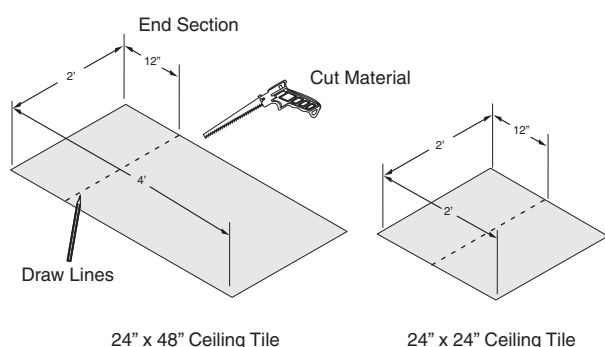
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1 Power down

Power down all attached devices before proceeding.

2 Suspended ceiling installation

Remove the ceiling tile where the FF 120T speaker will be installed. Cut out a 12" section of the tile from either end where the speaker will be installed, as shown below.



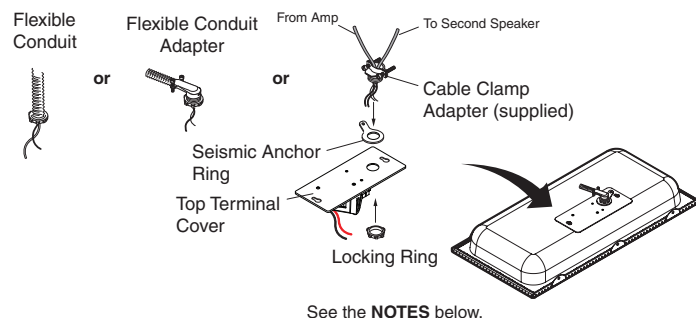
3 Remove the terminal cover plate

Loosen the two screws (do not remove) on the top terminal cover plate and remove the cover plate.

- If a 70 V/100 V line distribution amplifier is being used, such as the Extron XPA 2001-70V or XPA 2001-100V, the cover plate is no longer needed since the included CPX 120 transformer cover plate will be installed in its place.
- If the 70 V/100 V line distribution system is not being installed, retain the cover plate and proceed to step 6b.

4 Routing cables through the CPX 120 cover plate

The CPX 120 cover plates mount to the speakers with the transformer side down. See the illustration below.



NOTE Installation of conduit and conduit adapters should conform to all applicable building codes and local ordinances.

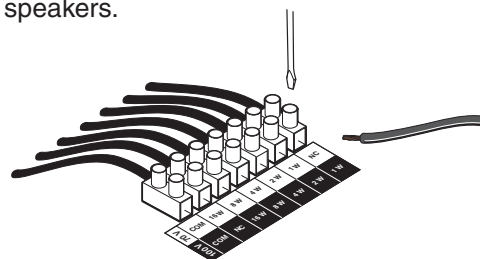
5 Connecting wires to the CPX 120 terminal block

The transformer side of the CPX 120 cover plate has a 7-connector terminal block. Route the two wires from the amplifier through the cover plate hole to the transformer side. The black negative (-) wire attaches to the "COM" terminal, and the red positive (+) wire attaches to the desired terminal tap.

70 V	COM	16 W	8 W	4 W	2 W	1 W	NC
100 V	COM	NC	16 W	8 W	4 W	2 W	1 W

NOTE Installation in a plenum-rated environment requires a wire gauge of 12 AWG to 18 AWG.

Pull the speaker wires from the conduit if a conduit is used. Strip 3/16" (5 mm) from the wire ends, keep the wire end strands together by twisting them (do not tin the wires), and secure the wires to the appropriate taps on the terminal block's captive screw connectors as indicated on the tap label. Use a small flat blade screwdriver to tighten the terminal block screws. See the note below for wiring additional speakers.



NOTE Route the speaker wires from the second speaker through the cover plate hole to the transformer side and twist the black negative (-) wires together and twist the red positive (+) wires together before inserting them into the terminal block. Additional speakers can be daisy chained this way.

NOTE Be sure to observe the 70 V or 100 V system designation as indicated on the label.

NOTE Wiring two speakers in parallel requires that the maximum wire gauge not exceed 16 AWG. In a single speaker installation the wire gauge should not exceed 12 AWG.

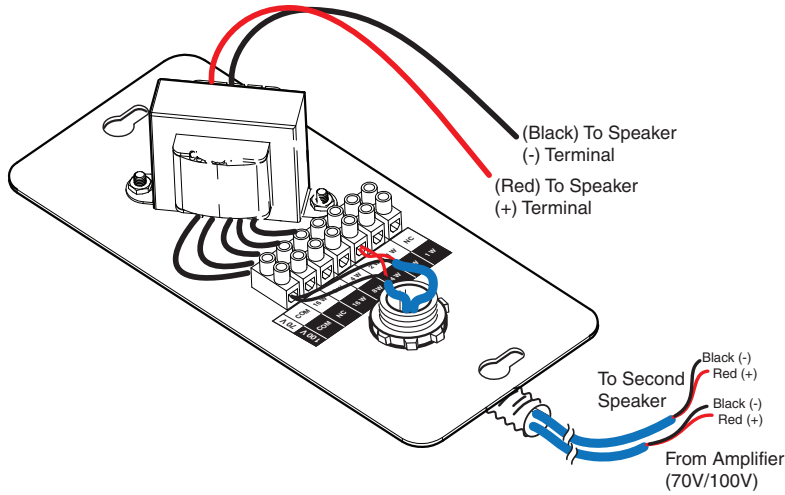
When using flexible conduit, insert the conduit into the cover plate opening using an appropriate conduit adapter and secure the conduit to the plate as shown in the following illustration.

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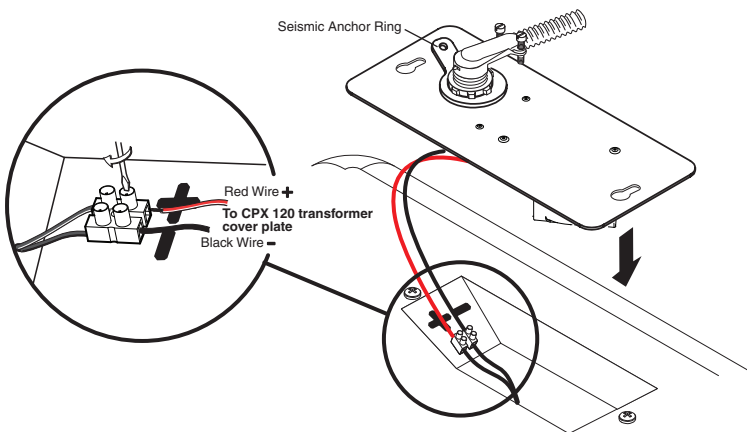
When using plenum speaker wire without a conduit, insert the wire through the cable clamp adapter (included) and secure the adapter to the cover plate.

- If a seismic support line is being used, install the seismic anchor ring (included) between the conduit adapter and the CPX 120 cover plate as shown below.
- If the CPX 120 transformer cover plate is being installed, proceed to step 6a, otherwise proceed to step 6b.

6a Connecting wires from the CPX 120 to the speaker

Strip 3/16" (5 mm) from the ends of the two speaker wire leads (+ and -) coming from the transformer. Keep the wire strands together by twisting them (do not tin the wires), and secure the wires to the speaker's input terminals while observing the correct polarity.

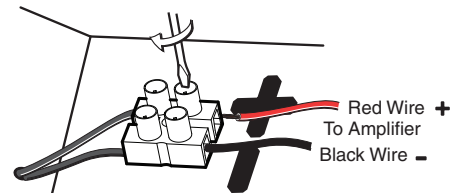
Connect the red positive (+) wire to the + speaker terminal and connect the black negative (-) wire to the - speaker terminal as shown below. Proceed to step 7.



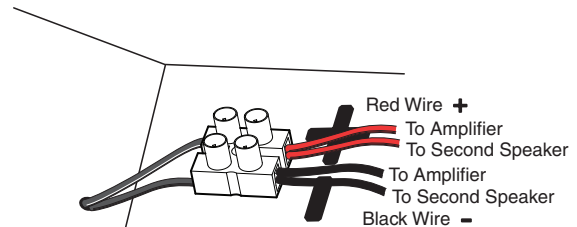
6b Connecting wires from a low impedance amplifier to the speaker

Route the wires from the amplifier to the speaker using the same procedure for routing speaker wire (and conduit if applicable) through the cover plate as described in step 3. Strip 3/16" (5 mm) from the ends of the two speaker wire leads (+ and -) coming from the amplifier. Keep the wire strands together by twisting them (do not tin the wires), and secure the wires to the speaker's input terminals while observing the correct polarity.

Connect the red positive (+) wire to the + speaker terminal and connect the black negative (-) wire to the - speaker terminal depending on whether one or two speakers are being connected, as shown below.



One Speaker



Two Speakers

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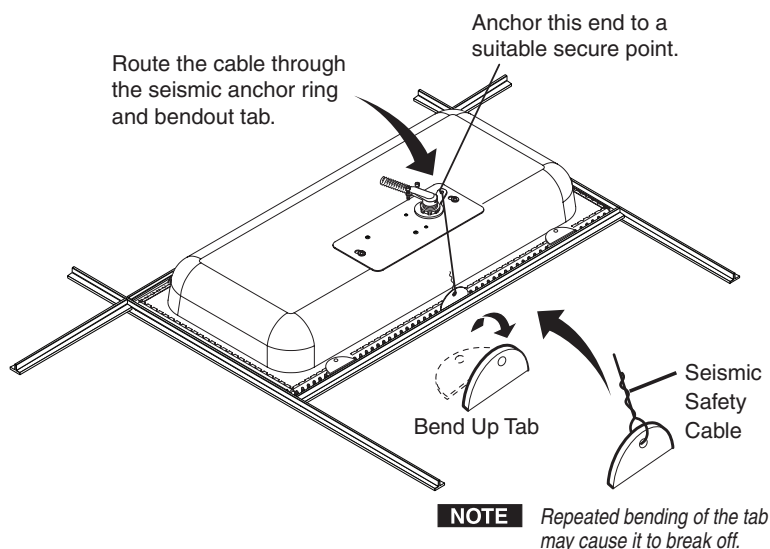
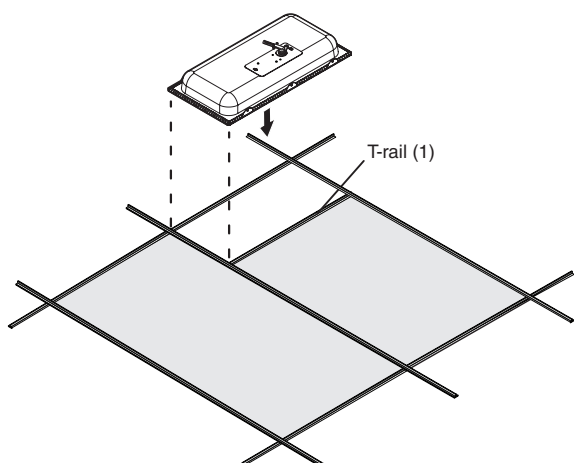
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7 Installing the speaker in the ceiling

See the following illustration.

- Replace the cover plate and tighten the two cover screws.
- Install the included T-rail crosspiece into the ceiling opening up against the cut tile.
- Set the speaker into place so that the edges are hidden by the support rails.



9 Power up

After checking all speaker connections, power up the amplifier.

8 Attaching the seismic support lines

If seismic support lines are being used, connect a line through the seismic anchor ring on the top terminal cover plate and attach it to one of the center seismic bendout tabs (the center tab is preferred) located on either side the speaker as shown below. Use a small screwdriver or similar tool to bend out the tab. See the following illustration.

NOTE Observe all applicable building codes and local ordinances when installing the speaker.

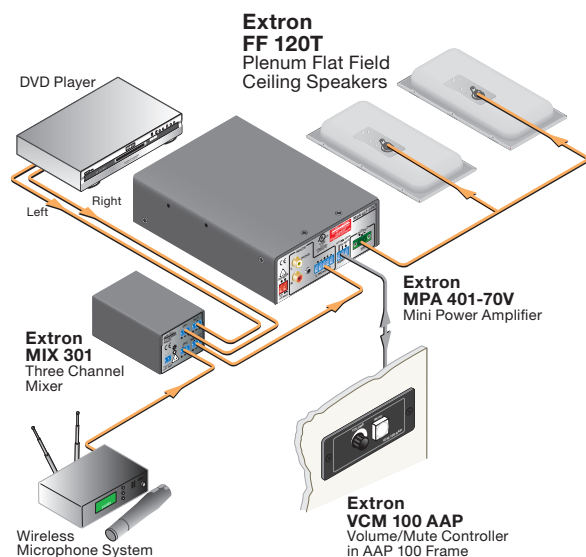
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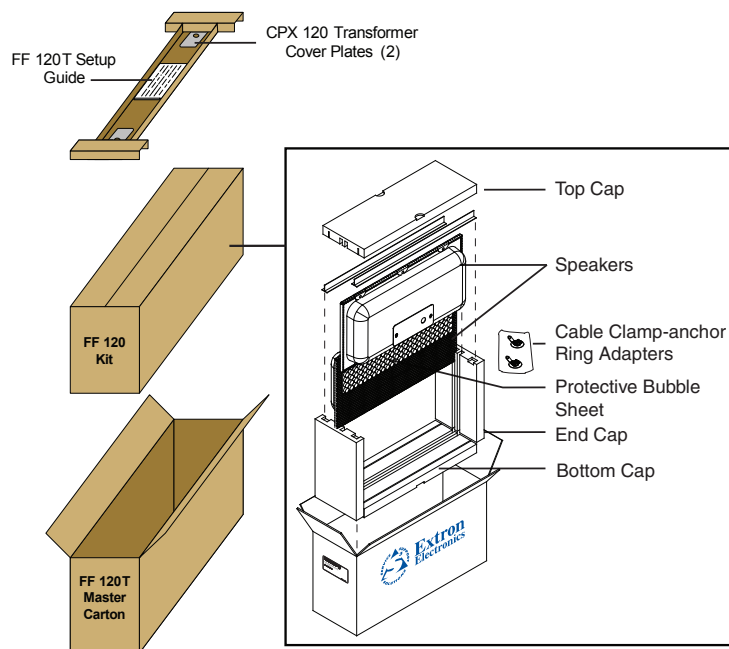
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Application diagram



Packaging



Specifications

Audio/acoustic and electrical

Speaker type.....	1-way full-range in-ceiling speaker
Frequency range.....	68 Hz to 18 kHz, -10 dB, half space
Power capacity.....	16 W rms continuous pink noise
	32 W rms continuous program
Nominal sensitivity.....	86 dB SPL, 1 watt, 1 m, half space
Nominal coverage angle.....	170° conical coverage
Nominal impedance	8 ohms per speaker
Driver.....	(1) 3" (76.2 mm) paper cone
Input connector.....	(1) 8 mm Euro-style captive screw terminal block, 7 pole
Tap settings	
70 V input.....	16 W, 8 W, 4 W, 2 W, 1 W, null (bypass 8 ohms direct connection)
100 V input.....	Null, 16 W, 8 W, 4 W, 2 W, 1 W (bypass 8 ohms direct connection)

General

Package	2 speakers (1 pair) with 2' (61 cm) cross bars
Temperature/humidity.....	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing
	Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Mounting.....	Drops into 2' x 2' (61 cm x 61 cm) or 2' x 4' (61 cm x 122 cm) suspended tile ceilings
Enclosure type	Composite, rectangular, with metal grille
Enclosure outer dimensions.....	3.25" H x 23.75" W x 11.75" D (8.3 cm H x 60.3 cm W x 29.9 cm D)
Product weight.....	Single: 5.1 lbs (2.3 kg)
Shipping weight.....	Pair: 17 lbs (8 kg) with mounting kit
Vibration.....	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety	NFPA90A, NFPA70; UL Listed for use in plenum airspaces meets UL 2043 for heat and smoke release, meets UL 1480 for commercial and professional audio systems
Warranty	5 years parts and labor

NOTE All nominal levels are at $\pm 10\%$.

NOTE Specifications are subject to change without notice.