

# How to connect a professional audio mixer to a professional audio amplifier and then to a professional audio speaker, including the pin configurations for all cables involved:

## 1. Connecting the Audio Mixer to the Amplifier

### a. Identify Output and Input Ports

- **Mixer Outputs:**
  - **Main Out / Master Out:** Commonly XLR or 1/4" TRS outputs.
- **Amplifier Inputs:**
  - **XLR Inputs:** For balanced audio signals.
  - **1/4" TRS Inputs:** Also for balanced audio signals.
  - **1/4" TS Inputs:** For unbalanced audio signals.

### b. Choose Appropriate Cables

- **Balanced Cables:**
  - **XLR to XLR or TRS to TRS**
- **Unbalanced Cables:**
  - **TS to TS**

### c. Connect the Mixer to the Amplifier

#### 1. XLR Output to XLR Input:

- **Mixer XLR Output Pinout:**
  - **Pin 1:** Ground
  - **Pin 2:** Hot (Positive)
  - **Pin 3:** Cold (Negative)
- **Amplifier XLR Input Pinout:**
  - **Pin 1:** Ground
  - **Pin 2:** Hot (Positive)
  - **Pin 3:** Cold (Negative)
- **Connection:** Plug one end of the XLR cable into the mixer's XLR main output and the other end into the amplifier's XLR input.

## 2. TRS Output to TRS Input:

- **Mixer TRS Output Pinout:**
  - **Tip:** Hot (Positive)
  - **Ring:** Cold (Negative)
  - **Sleeve:** Ground
- **Amplifier TRS Input Pinout:**
  - **Tip:** Hot (Positive)
  - **Ring:** Cold (Negative)
  - **Sleeve:** Ground
- **Connection:** Plug one end of the TRS cable into the mixer's TRS output and the other end into the amplifier's TRS input.

## 3. TS Output to TS Input:

- **Mixer TS Output Pinout:**
  - **Tip:** Hot (Positive)
  - **Sleeve:** Ground
- **Amplifier TS Input Pinout:**
  - **Tip:** Hot (Positive)
  - **Sleeve:** Ground
- **Connection:** Plug one end of the TS cable into the mixer's TS output and the other end into the amplifier's TS input.

## 2. Connecting the Amplifier to the Speaker

### a. Identify Output and Input Ports

- **Amplifier Outputs:**
  - **Binding Posts:** Typically accept bare wire, banana plugs, or spade connectors.
  - **Speakon Connectors:** For a secure, locking connection.
- **Speaker Inputs:**
  - **Binding Posts:** Usually accept banana plugs, spade connectors, or bare wire.
  - **Speakon Connectors:** For a secure connection similar to the amplifier.

## b. Choose Appropriate Cables

- **Speaker Wire:**
  - **For Binding Posts:** Use speaker wire with appropriate gauge (e.g., 16-gauge for shorter runs, 14-gauge for longer runs).
  - **For Speakon Connectors:** Use Speakon cables.

## c. Connect the Amplifier to the Speakers

### 1. Binding Posts:

- **Amplifier Binding Post Pinout:**
  - **Positive Terminal (Red):** Connects to the positive speaker terminal.
  - **Negative Terminal (Black):** Connects to the negative speaker terminal.
- **Speaker Binding Post Pinout:**
  - **Positive Terminal (Red):** Connects to the positive terminal on the amplifier.
  - **Negative Terminal (Black):** Connects to the negative terminal on the amplifier.
- **Connection:** Use appropriate speaker wire to connect the positive terminal on the amplifier to the positive terminal on the speaker and the negative terminal on the amplifier to the negative terminal on the speaker.

### 2. Speakon Connectors:

- **Amplifier Speakon Output Pinout:**
  - **Pin 1+:** Positive phase of the audio signal.
  - **Pin 1-:** Negative phase of the audio signal.
- **Speaker Speakon Input Pinout:**
  - **Pin 1+:** Positive phase of the audio signal.
  - **Pin 1-:** Negative phase of the audio signal.
- **Connection:** Plug the Speakon cable from the amplifier's Speakon output into the speaker's Speakon input. Ensure the connection is secure by locking it into place.

## Summary of Cable and Pinout Configurations

### 1. XLR Cables:

- **Pin 1:** Ground
- **Pin 2:** Hot (Positive)
- **Pin 3:** Cold (Negative)

2. **1/4" TRS Cables:**

- **Tip:** Hot (Positive)
- **Ring:** Cold (Negative)
- **Sleeve:** Ground

3. **1/4" TS Cables:**

- **Tip:** Hot (Positive)
- **Sleeve:** Ground

4. **Binding Posts:**

- **Positive Terminal (Red):** Positive
- **Negative Terminal (Black):** Negative

5. **Speakon Connectors:**

- **Pin 1+:** Positive
- **Pin 1-:** Negative
- **Pin 2+ and 2-:** For additional channels or bi-amping (if applicable)

Following these steps and pinout configurations ensures proper connectivity and optimal performance for your audio system.