

Pro AV of Ohio: Cambridge High School Sound & Lighting System Guide: Spring 2025

QR Code to Links and Documents found on ProAVofOhio.com



Introduction Welcome to the Pro AV of Ohio Sound & Lighting System Guide for Cambridge High School. This booklet is designed to help teachers, staff, students, volunteers, and administrators understand and operate the installed sound and lighting systems effectively. The guide covers equipment details, operational instructions, best practices, and troubleshooting tips. This is a high-altitude overview, so feel free to ask questions and use scenarios as well as take notes.

Common Theatrical Terms Understanding key theatrical terms will help you communicate effectively when working with sound and lighting in a performance setting.

- **Stage Right (SR):** The right side of the stage from the actor's perspective when facing the audience.
- **Stage Left (SL):** The left side of the stage from the actor's perspective when facing the audience.
- **Downstage:** The part of the stage closest to the audience.
- **Upstage:** The part of the stage farthest from the audience.
- **Center Stage (CS):** The middle of the performance space.
- **Front of House (FOH):** The area in the venue where the audience is seated and where sound and lighting are typically controlled from.
- **Wings:** The offstage areas to the right and left where actors and equipment are hidden from the audience.
- **Fly System:** A system of ropes, pulleys, and weights used to raise and lower scenery, curtains, and lights.
- **Cue:** A signal for an action to take place, often related to lighting or sound.
- **House Lights:** The lighting that illuminates the audience seating area.
- **Dimmer Rack:** Equipment that controls the intensity of stage lighting.
- **Spotlight:** A focused beam of light used to highlight a performer or area of the stage.
- **Mixing Console:** The control panel for adjusting and balancing audio levels during a performance.

Audio System Overview Installed Equipment:

- **Main House Speakers:** 2 JBL 70 J with extensions for audience sound, mounted for optimal coverage.
- **Stage Monitors:** 2 JBL CBT 50 speakers, positioned to provide clear monitoring for performers.
- **Mixer:** Compact Series 3 Presonus soundboard with intuitive digital control.
- **Amplifiers:** Updated for improved clarity and reliability.
- **Control:** 2 iPads running the Presonus iPad app (Universal Control) for wireless audio mixing.
- **Microphones:**
 - 2 Handheld wireless microphones for flexible stage use.
 - 2 Lapel wireless microphones for hands-free speaking.
 - 4 sE 7 choir microphones, connected via a 50' 4-channel audio snake to labeled inputs on stage left, near the main curtain control.

Setting Up Choir Microphones:

- **Placement:** Position the four sE 7 mics evenly across the front of the choir, about 3–5 feet in front and 6–8 feet high, ensuring even sound capture. (*Diagram in Appendix*)
- **Connection:** Each microphone is placed in a mount on the mic stands and uses a 25' proX XLR cable. Plug each line into the audio snake and run the snake to stage left where there are labeled inputs, verifying that each channel corresponds to its intended location (Stage Right Right would be 5, Stage Right Center would be 6, Stage Left Center would be 7, and Stage Left Left would be 8).
- **Mixing:** Use the Presonus soundboard or iPad app to adjust levels for a balanced sound, ensuring that all voices are heard clearly.

Using the Presonus iPad App (Universal Control):



- **Adjust Volume:** Use the faders on the app to control individual microphone and speaker levels dynamically.
- **Saving Presets:**
 - Go to **Scenes** in the app.
 - Select **Save Scene**, name it appropriately, and confirm.
- **Loading Presets:**
 - Navigate to **Scenes**.
 - Choose a saved preset and load it to recall settings instantly for different performances.

Notes:

Sound Mixing Principles:

- **Balance:** Ensure vocals/instruments/music blend naturally, maintaining clarity without overpowering one another.
- **EQ Adjustments:** Adjust frequencies to eliminate muddiness, reduce feedback, and enhance tone.
- **Microphone Gain:** Set gain levels correctly to prevent distortion while ensuring adequate amplification.
- **Monitor Mixes:** Adjust stage monitors so performers can hear themselves clearly without excessive volume.

Common Audio Troubleshooting:

Issue	Solution
No sound from speakers	Check power buttons/connections, mixer levels, and mute settings. Verify amplifier operation.
Microphone feedback	Lower gain, reposition mics, adjust EQ, and avoid pointing speakers at microphones.
iPad not connecting	Ensure Wi-Fi is on and connected to the correct network. Restart the app if necessary.

Notes

Lighting System Overview Installed Equipment:

- **Dimmers:** Strand SLD 96 dimmer rack located in the scene/woodshop off of stage left.
- **Control Board:** Strand Clamshell control board and computer for programming and cue control.
- **Fixtures:** ETC Source 4 fixtures with upgraded bulbs.

Basic Lighting Operation:

- **Power On:** Turn on the Strand Clamshell board and computer, allowing the system to initialize. (Ensure the DMX line is plugged in.)
- **Selecting Lights:** Use the board's interface to choose specific fixtures for control.
- **Dimming & Fading:** Adjust intensity using the faders, ensuring smooth scene transitions.
- **Programming Cues:** Save lighting presets and cue sequences for consistent show setups and easy recall.

Common Lighting Troubleshooting:

Issue	Solution
Lights not turning on	Check power supply, dimmer connections, DMX, and control board output.
Control board unresponsive	Restart the computer and check cables for secure connections.
Flickering lights	Ensure all bulbs and dimmers are properly connected and functioning. Check for electrical interference. <i>Call Pro A/V</i>

Notes:

Final Tips & Best Practices

- **Save Settings:** Always save audio and lighting presets for consistent results between events.
- **Test Equipment Before Events:** Run system checks in advance to identify and resolve potential issues.
- **Label Connections:** Clearly labeling cables and inputs prevents misconfiguration and saves time during setup.
- **Monitor Sound Levels:** Avoid excessive volume to maintain clarity.
- **Seek Help When Needed:** Contact Pro AV of Ohio for additional training, maintenance, or troubleshooting support.

For further assistance, reach out to Pro AV of Ohio. We are here to ensure a smooth and professional experience with your sound and lighting system!

QR to this Document



Notes:

Appendix: Equipment Overview with Images

Note: The images below are sourced from the respective manufacturers' websites to provide a visual reference for each piece of equipment.

Main House Speakers: JBL CBT 70J-1



With grill off to show array.

Stage Monitors: JBL CBT 50



Mixer: PreSonus StudioLive Series III



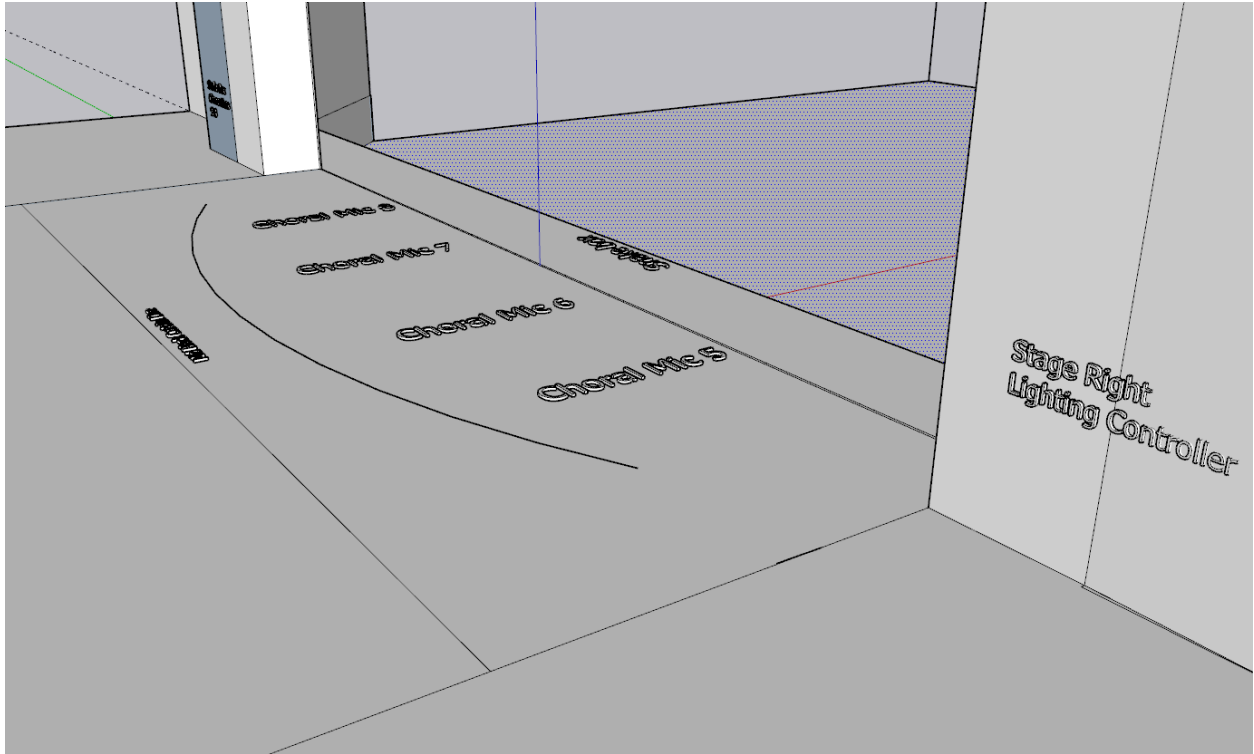
Choral Microphones: sE Electronics sE7



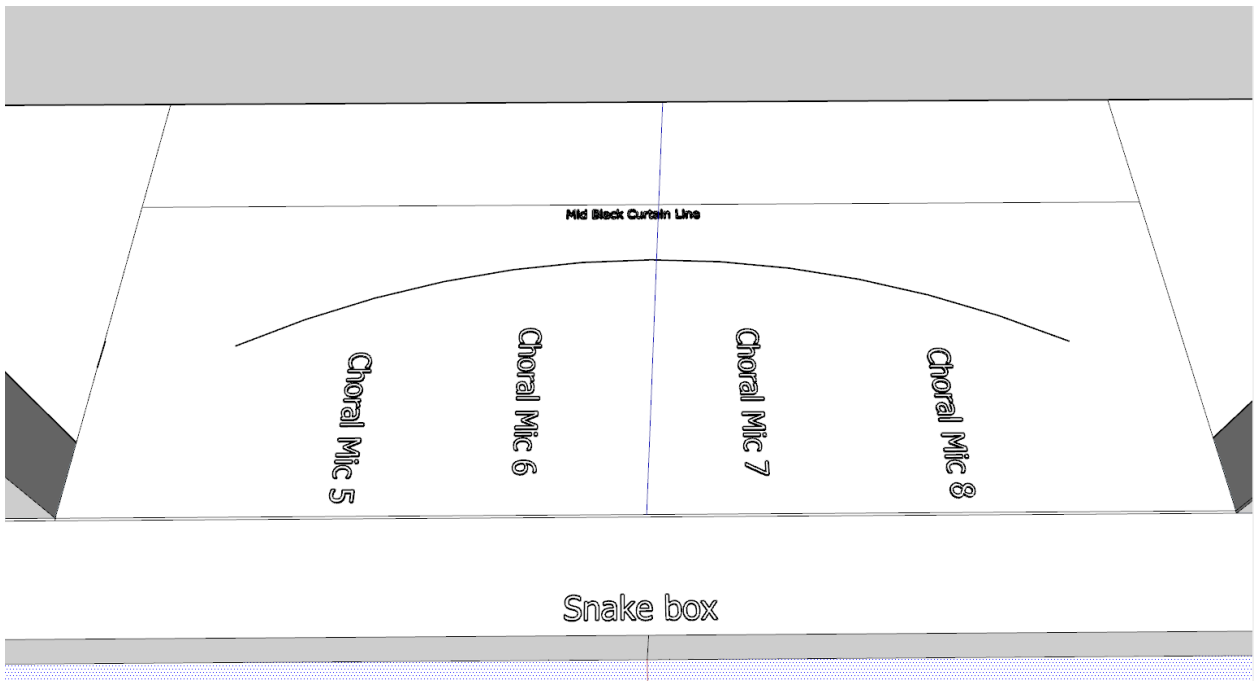
Lighting Fixtures: ETC Source Four



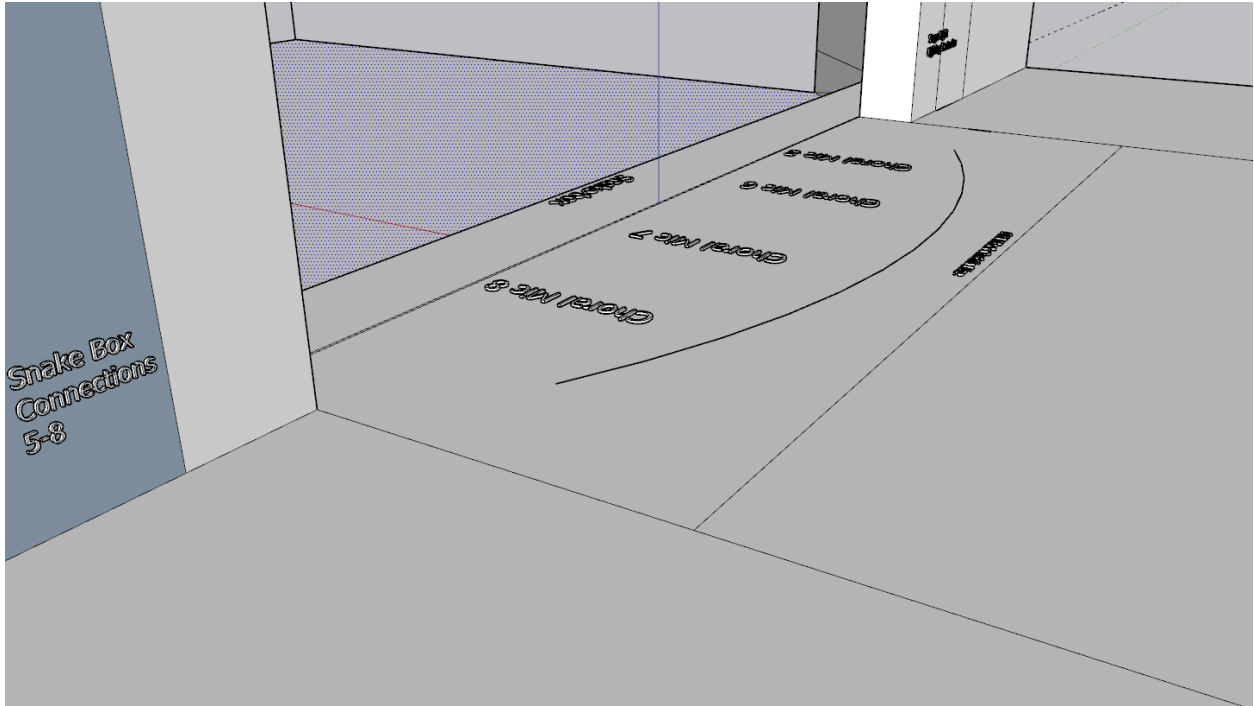
View from Upstage Right Apron



View from Above showing Choral Mic Placement



View from Up Stage Left Apron



Coverage Heat Map of Main House Speakers

