

## **SPECIFICATIONS**

### **Auditorium and Theatre Audio/Video Equipment for Pittsburg High School 2021-2022**

#### **Project Goals:**

The first goal of this grant funded project is to upgrade existing audio equipment in the auditorium to improve current audio capabilities and to allow for the live mixing of an off-site pit orchestra into musical performances. Currently, our auditorium does not always provide adequate seating for the audiences desiring to attend our performances. By having the ability to move the live pit orchestras into the band room, more rows of seating become available to attendees. In order to allow for this to happen, immediate communication between the stage actors and the off-site pit orchestra conductor would need to be available via video and audio. There are already two cameras for live streaming performances in the auditorium. They would need to be hardwired into the band room for visual communication unless a dedicated camera is necessary for this purpose.

The second goal of this project is to add large and small ensemble recording capabilities to the band room. In a given rehearsal, it is helpful to record and playback an ensemble's performance for the benefit of the student musicians. Additionally, we would like to be able to make decent quality recordings of our ensemble's performances for perpetuity.

The third goal of the project is to increase connectivity between the stage, the dressing rooms, and the theatre education room. During performances, actors should be able to see and hear what is happening on stage while completing costume and makeup changes. The audio and video from the stage should be able to be piped into the dressing rooms with local control for volume.

The final goal of this project is to add a digital display outside of the auditorium for advertisement of upcoming events in our auditorium. The digital display would be controllable from the sound and lighting booth at the front of the house. The addition of intermission bells in the lobby would also be welcomed.

Ideally, the work would start and be completed during the 2021 – 2022 Winter break from December 20 to January 3 and not to exceed the January 20, 2022 or May 23 to July 31 of 2022. A designation must be made on the proposal.

Below, you will find a sample set of specifications for guidance as well as blueprints for our performing arts facilities. We are open to any alternative design suggestions that you have as long as the designs accomplish the predetermined goals. If you would like to schedule an onsite consultation, please contact [cneil@usd250.org](mailto:cneil@usd250.org).

## Design Specifications

The sound system in the auditorium consists of full-range speakers, mounted at the point where the ceiling height changes. It covers the majority of the seating. Speakers across the front of the stage ensure coverage of the remaining seats. A high-SPL single 15” subwoofer provides low-frequency reinforcement. Other speakers include ceiling speakers in the dressing room and green room, and one surface-mount speaker each in the blackbox theatre and foyer. Each room has a volume control for local volume adjustment. All speakers are processed and amplified, including a digital signal processor, allowing for speaker optimization, sound system control, and the playback of chimes for intermissions.

### Auditorium Audio Upgrades

3	Renkus Heinz CX82 Dual 8” Speaker
3	Renkus Heinz U-bracket
5	Renkus Heinz CX41W Loudspeaker
5	Renkus Heinz UBRKT41B U-bracket
1	Danley THMINI5IB Loudspeaker
1	QSC CXD43XX 4000W Amplifier
1	QSC CSD45XX 8000W Amplifier
4	Yamaha VXc6W Two-way 6.5” Woofer w/ 0.75” Tweeter
2	Yamaha VXS8 Two-way 8” Woofer w/ 1” Tweeter
4	Atlas AT35 Volume Control
1	QSC SSPA2200 Amplifier
1	QSC CORE110F Digital Signal Processor
1	QSC TSC80WG2BK Touch Screen Controller
1	QSC TSC80TG2BK Tabletop Stand
1	QSC SLQUD110P Deployment Software License, Perpetual
1	QSC NS1124P 24-port Network Switch
1	Lowell LDSR1218 Desktop Rack
2	Juice Goose CQ1515 Sequenced 15A AC Power
1	Juice Goose CV10001 UPS

A new mixing console is provided at the front of house location. The QL5 has the ability to mix up to 64 mono channels, 8 stereo channels, 16 mix buses, and 8 matrices. The QL5 has sixteen user-defined keys most commonly used for direct scene recalls, providing one button operation of the mixing console. Most common scenes can be saved so that they can be recalled and used without needing knowledge of how to operate a mixing console. A portable stage box with 16 inputs and 8 outputs is included. An 8x8 stage box is installed in the band room. The Yamaja

console also includes natural sounding Dan Dugan Sound Design automatic microphone mixing. The system effectively reduces feedback.

#### New Mixing Console

- 1 Yamaha QL5 32 Fader + 2 Master Faders, 32 Onboard Mic/Line Analog Inputs, 16 Analog 64 Mono + 8 Stereo Mixable Channels
- 1 Yamaha HPHMT7 Monitor Headphones
- 1 Yamaha RIO1608D 16 Mic/line Inputs, 8 Analog Outputs, Dante Digital Network Remote I/O Unit
- 1 Gator GPROOR4U19 Rack Case
- 1 Yamaha RI8D Mic/Line Inputs Stage Box
- 1 Yamaha RO8D Analog Outputs Stage Box

The band room should include full-range speakers that are processed, amplified, and controllable. Accessories should allow for recording and playback of large ensembles and small ensembles. Audio from the band room should be able to be mixed through the auditorium sound system during musical performances to allow for an off-site pit orchestra.

#### Band Room Upgrades

- 2 Renkus Heinz CX82 Dual 8" Speaker
- 2 Renkus Heinz U-bracket
- 1 QSC CXD43XX 4000W Amplifier
- 1 QSC CORE110F Digital Signal Processor
- 1 QSC TSC80WG2BK Touch Screen Controller
- 1 QSC SLQUD110P Deployment Software License, Perpetual
- 1 Denon DN300Z CD/Media Player
- 1 Denon DN300R Solid-state SD/USB Media Recorder
- 1 Shure QLXD1485 WL 185 Lavalier Microphone System
- 5 Audix MB8450 84" Carbon Fiber Boom w/ M1250 B Microphone
- 5 Audix STANDMB Microphone Stand
- 3 Proco DBT1 Direct Box Transformer
- 1 Lowell LWR2123 Rack
- 1 SD Card
- 2 Juice Goose CQ1515 Sequenced 15A AC Power
- 1 Juice Goose CV10001 UPS

The video monitoring system is closed circuit TV, which includes two static cameras, one in the band room directed at the conductor, and the other in the auditorium directed at the full stage. The camera in the band room only feeds TV's located in the auditorium, viewable only by the

actors on stage. The camera in the auditorium feeds a TV located in the dressing room and a TV or the current projector located in the band room (provided there is an input available).

#### Video Monitoring System

- 2 Marshall CV505 Static Camera
- 2 Marshall Lens
- 2 Camera Wall Mount
- 2 Blackmagic CONVMSDIDA Mini Convers SDI Distribution
- 7 Blackmagic CONVCMICSHWPSU Micro Converter - SDI to HDMI
- 3 NEC Technologies E437Q 43" Display
- 1 NEC Technologies E557Q 55" Display
- 2 Premier Mounts P4263T Mount
- 2 Premier Mounts ECM3763S Mount

The video presentation system is used for video in the auditorium. Available video inputs include the CCTV system, an HDMI in the gymnasium, a wall plate with VGA and HDMI at the stage, and a digital signage player in the booth. The digital signage player allows advertising of upcoming events in the lobby while showing unique content in the auditorium. The displays can be combined to show the same content simultaneously.

#### Video Presentation

- 1 Crestron DMPS34K300C 4K DigitalMedia Presentation System
- 1 Crestron DMTX4K100C0GBT Wall Plate 4K DigitalMedia 8G+ Transmitter
- 1 Crestron DMTX200C2GWT Wall Plate DigitalMedia 8G+ Transmitter
- 2 Crestron DMRMC4KSCALERC 4K DigitalMedia 8G+ Receiver & Room Controller w/ Scaler
- 1 BrightSign XT1143 Interactive and Live TV 4K Digital Sign Player
- 1 Crestron TSW760BS 7" Touch Screen
- 1 Crestron TSW760TTKBS Tabletop Kit

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#### **Performing Arts Facilities Floor Plans**

Exhibit A: Band and Auditorium Floor Plan

Exhibit B: Band and Auditorium Reflected Ceiling Plan