SSA
Stewart · Ait Allaoua

AV SYSTEMS
NARRATIVE DESCRIPTION

Tacoma Musical Playhouse

Submitted to:

Bill Zimmerman
William Zimmerman Architects

January 14, 2010

222 Etruria Street, Suite 100
Seattle, WA 98109
206.839.0819 ph // 206.839.0824 fx

I. Introduction

This report describes the proposed audiovisual systems for the Tacoma Musical Playhouse. The Audiovisual System will be designed to provide clear reproduction of speech and music for both live and prerecorded content throughout the audience areas. The speakers will be designed to provide adequate loudness and uniform coverage. The video system will be capable of playing and displaying high-definition quality at industry-standard aspect ratios, and be large and bright enough to be clearly visible throughout the audience seating area.

The rough order of magnitude cost of the system is $95,000 - $105,000. This cost estimate includes system components and labor, but does not include power and pathway infrastructure (conduit). This budget is affected by the reuse of existing equipment as indicated above.

II. Description of Audiovisual System

Overview

The Audiovisual System will consist of a dual manual / automatic system. The manual system will be designed for live performances when the mixing board can be operated. The automatic system will be for presentations and instruction when a mixing board operator would not be available. A panel will be provided to select the automatic or manual mode and provide source selection and volume controls for automatic mode input sources. Modes will operate as follows:

- In automatic mode, the wireless microphone system, 2 microphone jacks, and 1 auxiliary jack shall become active through the speakers. The video projector will be activated and signal from the video inputs at the floor box will be routed to the projector, with the associated source audio routed to the automatic mode audio system.

- In manual mode, a new 32-channel, Left / Center / Right (LCR) digital mixing console located in the performance space will be provided and will connect all input locations into the speakers. The digital console will allow for simple preset “scene” setup and recall to specific mixer configurations for consistency of use and for rapid recall of settings during a performance. The mixing console will connect to the house sound system via multi-pin connectors (CIP’s) and associated short length (15’) of multi-pin to fan snake cable.

- A new LCR speaker system is to be provided to allow for realistic reproduction of speech, music and program content and to allow for cogent sound reproduction localization of the stage panorama through the speaker system. In addition, a 4-channel effects / monitor sound system with portable speakers is provided to allow for stage foldback (monitoring) of audio content and for sound effect playback.

- New audio Digital Signal Processing (DSP) is provided for optimizing the audio capabilities of the system and to provide simple system operation in the automatic mode. DSP will allow for consistent and secure system tuning, equalization, dynamics control, feedback reduction and other advanced audio processing of the main sound system and the effects / monitor system.

- Program audio and effects will be ingested into the mixing system from an Owner-provided CPU or laptop.

- Certain existing audio equipment may be re-utlized as appropriate in the design, but much of the core audio system, like amplification and equalization is generally of a quality or condition that is not consistent with the desired performance outcomes. Existing microphones may be retained and reutilized if functioning properly and compatible with the new system (wireless mics, handhelds, stage boundary pickup mics, etc.)

Intercom System

- A production paging/monitoring system will be provided with intercom speaker stations at key lighting, stage tech and stage manager positions. Speaker stations will also be located in backstage spaces such as the Green Room and Dressing rooms. Page microphones will be located on the stage and in the control booth.

- A house monitor microphone will be provided above the stage for pick up of audience and stage audio. This audio will be inserted into the production intercom system for playback through IC system headsets and speaker stations as desired to monitor the progress of the performance.

Stage Equipment

- The main speaker system will consist of a Left-Center-Right system consisting of line array loudspeakers and subwoofers located above the stage opening to provide uniform coverage throughout the audience area. Speaker jacks at the side and rear of the house will be provided for temporary placement of speakers from the effects monitor system for localized effects.

- Eight (8) microphone input jacks, 1 auxiliary input jack and 4 speaker monitor output jacks will be provided on the walls on each side of the stage opening.

- 12 low-profile “theater-performance” wireless headset microphone systems with antennae distribution will be provided in a portable road case for connection to the mixer.

- The system will be designed to handle up to 24 wireless microphones.

- Three (3) Fly loft microphones will be provided just behind and above the proscenium opening in the central of the fly loft for enhanced pick-up of stage audio in conjunction with the existing stage mounted boundary microphones.

- Four portable effects / monitor speaker monitors will be provided. Certain existing speakers may be retained for these functions as well.

- A floor pocket will be provided stage center for audiovisual presentations and will include video, line and mic inputs, and connection to the building’s data network.

- A rack housing the amplifiers, equalizers, wireless and assisted listening devices will be located backstage.

Video System

- The video system will consist of a remote-controlled camera.

- A video monitor and control panel will be provided at the mixing booth for camera operation. The camera video signal will be injected into the building video distribution network and also will be able to be routed via the distribution system to the Dressing rooms, Green room, and lobby for viewing of stage productions.

Mixing Booth

- The mixing booth will be a permanently installed location in the back of house on the house left side. Racks housing the CD/MP3 player, digital recording system, main system DSP, amplification, video control, scaling and distribution head-end components and other related equipment will be located in the control booth. The theater camera control and audio mixing board will be located on the counter at the mix position in the booth.

III. Summary

Based on a review of the drawings and our experience, the Audiovisual Systems above are proposed as a design solution. This document should be carefully reviewed, as we anticipate questions and comments. We will then review the design based on your comments, actual needs and anticipated future growth. Where the budget is not sufficient, we recommend installing the infrastructure to support the equipment, which can be installed at a later date.

Product information for equipment recommended to meet the functional requirements outlined in this narrative are enclosed with this document.

Please contact our office if you have questions regarding this narrative.

Sincerely,
SSA Acoustics, LLP

Alan Burt
ACOUSTICAL& AV CONSULTANT