



**DATE:** August 22, 2022  
**TO:** Sam Marcos Activity Center  
**ATTN:** Jessica Ramos, CPRP, AFO, Manager  
**FROM:** Ken Dickensheets  
**RE:** Activity Center Audio-Video System Assessment

The San Marcos Activity Center was constructed about 1997. It consists of a quarter-circle entry, divisible banquet/meeting room, a smaller meeting room, several dedicated weight and aerobics rooms, a large two-court basketball gym, three handball courts, a swimming pool, an outdoor activity area, and a central office area.

#### **SUMMARY OF OBSERVATIONS**

Either during or after the initial construction sound and paging systems were added to the building, however no documentation could be found. These systems are located in a central media closet near the main entry reception desk in a single large electronics rack. The equipment is mostly all vintage of the estimated construction time period about 1997.



Existing sound system equipment located in main electronics rack.

None of the equipment is manufactured any longer nor is any of it even repairable. The wireless microphones appear to be on unusable frequencies. The room is too small.



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The system has paging capability into the hallways and some meeting spaces, however the quality and sound coverage is poor at best. There are 4" diameter speakers located around parts of the entry area but they provide sound coverage only to the perimeter of the space which means anyone in the main part of the entry or adjacent to it cannot understand or even properly hear what is being said. There are speakers in the main hallways also but they are spaced too far apart to provide adequate sound coverage. Part of the paging system is a low quality, two-way radio type microphone which has limited frequency response. The push-to talk controls for this microphone are intermittent and unreliable.



Microphone at main entry desk.

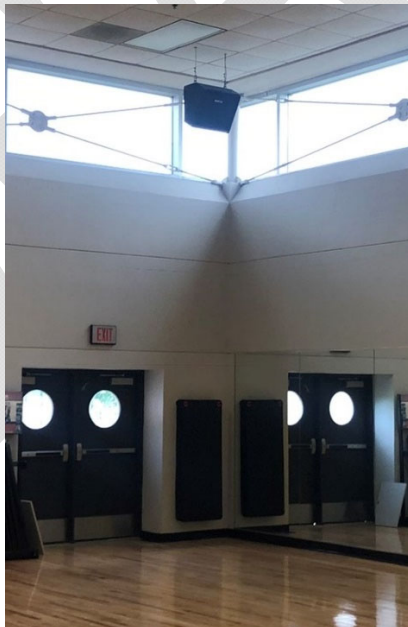


Ceiling speakers at entry and side hallways.

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Music store, band style loudspeakers have been installed in the aerobics room, the weight room and the new aerobics rooms but they are outdated. In some cases there is a local amplifier, CD player, and wireless microphone but all of this equipment is both outdated and under-powered for the intended use. In other locations, the equipment is missing.



Suspended speakers at weight and aerobics rooms.





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Most of the equipment in the weight, aerobics and swimming pool areas is consumer grade and is not designed for this type of use. In all cases it is underpowered resulting in very poor sound quality and high distortion levels. It is missing and assumed failed in some of these rooms.



Equipment and missing consumer grade equipment.

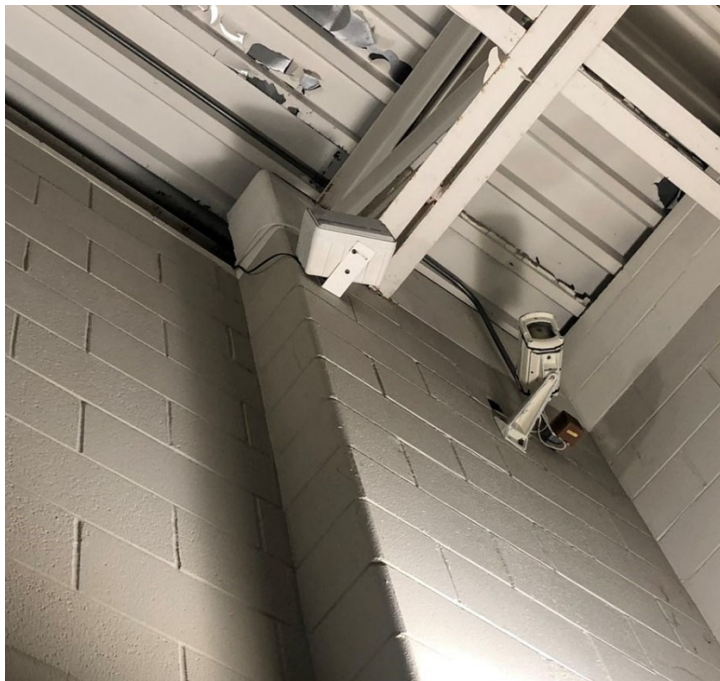
The swimming pool equipment is also consumer type and includes loudspeakers that are inadequate for the use, are not directional enough for the reverberant acoustics of the pool and of insufficient quantity to provide usable sound for instruction, background music or even paging. They are mounted incorrectly causing the already poor-quality sound to be even worse. To be usable, highly-directional speakers mounted over the entire pool area are required and need sufficient power to provide undistorted sound. A water-proof wireless microphone is needed for group instruction.



The pool amplifier is a consumer grade product and does not provide sufficient power for the system.

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Pool loudspeakers are the wrong type and mounted/aimed incorrectly.



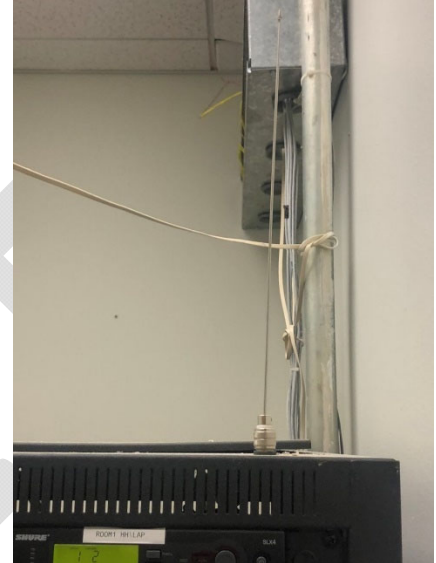
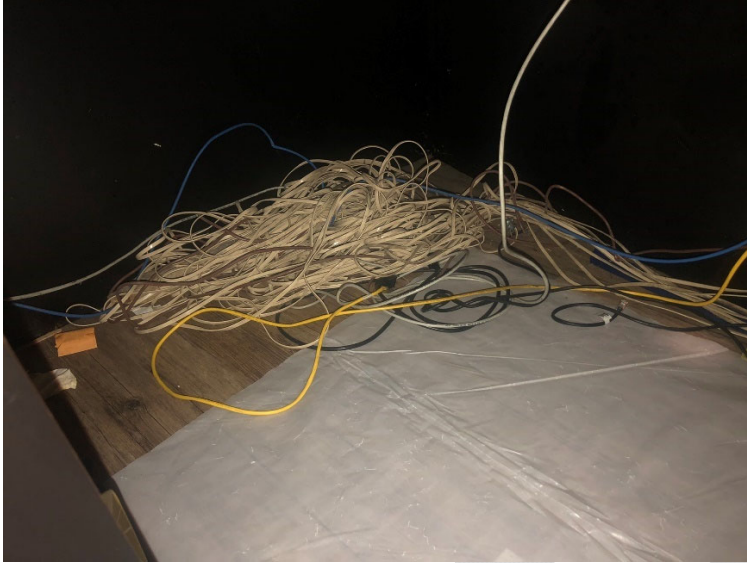
Wiring is exposed, unprotected and generally messy.





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Wire and cabling throughout the facility is not neatly installed and is prone to damage.

Sound support for the outside activity area is missing but could be used to support activities held in that area as well as to provide enhanced safety with delivery of paging and announcements.



The outdoor activity area has no sound support.



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There is no sound system in the large basketball gym for announcing events, crowd control, instruction or background music playback.



There is no sound system serving the basketball courts.

There are no speakers for announcements or paging in the handball courts nor the adjacent hallway.



Handball court area.

Both the small meeting room adjacent to the office and the large banquet/meeting rooms have outdated sound systems and neither has video support systems required for most meetings. The loudspeakers have outlived their expected lifetime. Controls for the sound system are



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inadequate and locked in storage closets. Video projection screens are absent as are video projectors. There is no capability to extend events from the large meeting rooms out to the pre-function area nor to allow that area to operate independently.



Sound system level controls are locked in storage closets and provide inadequate control for users or activity center personnel.



Basic video support for meetings is missing. There are no projection screens nor projectors.





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Parts of the wireless mics for the banquet/meeting rooms are missing and the models are operating on illegal frequencies (as of 2019).

### **RECOMMENDATIONS**

The presently installed sound systems are past their expected life. Much of the system is inadequate, was not designed correctly and does not support the activities in various areas of the facility. Specifically, the following problems exist:

1. The system components, without exception, are no longer manufactured nor even repairable. Existing wire and cable is either in poor condition or the wrong type. Therefore, the entire sound system needs to be replaced.
2. Add video presentation to the ballroom and pre-function area.
3. Provide water resistant wireless microphones for the activity areas.
4. Add an outdoor sound system
5. Extend the paging capabilities to all areas of the facilities.
6. Add a sound system and flat screen monitor to the small meeting room adjacent to the offices.
7. Provide touch-panel controls in the large banquet/meeting rooms with both user and building personnel controls with password protection.
8. Extend the banquet/meeting room systems to the pre-function area.



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9. Add a sound system into the basketball courts.

### **COSTS**

A complete upgrade and replacement of the system is recommended including expanding it to handle the exercise rooms, the outdoor activity space, the swimming pool, the basketball courts and extending paging/announcement capability to all areas.

This will include all new electronics, loudspeakers and controls. Loudspeakers will be added to all areas including the swimming pool, the outdoor area, the banquet/meeting pre-function area -- all with proper spacing. New loudspeakers will be installed in the banquet/meeting rooms and replaced in the exercise rooms.

Touch panel controls for each area will be installed in that same area. These touch panels will allow users or in-house personnel in that room to have limited control over functions, sound levels, and microphones within that room only. A similar touch panel will be installed at the main reception desk to control paging to any or all areas, background music levels, and so forth. For those rooms requiring music capability such as the exercise rooms, a local MP3/Bluetooth input will be available and controllable from the touch panel in that room.

Touch panel controls will be installed in each section of the meeting/banquet room so that each section will operate independently. When the folding partition between each section of this room is opened, those two sections will automatically combine into one larger room or three sections into a still larger room. Controls will also combine so that redundant settings do not have to be made in each section. Any or all sections will be able to overflow to the pre-function/lobby area. The lobby area will also be able to operate independently.

New wireless microphones will be provided for the exercise rooms, meeting and meeting/banquet rooms, swimming pool, basketball court, and outdoor activity area. These rooms will also have Bluetooth inputs for connection of user devices to the systems.

Projection screens and video projectors will be added to each section of the meeting/banquet room. A large flat-screen monitor will be added to the small meeting room. Each room will have a local HDMI input for a laptop computer or other video source. In the large meeting/banquet rooms, the three projectors will show the same image when the rooms are combined into one large room or a smaller double room. Flat screen TV's will be added to the lobby/pre-function area for independent use, signage functions or connection to the banquet halls.

We estimate the installed cost of this system for contractor and equipment will be \$554,289.00. Design and consulting fees to design the system and generate the technical



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drawings and specifications and to checkout and program the completed system are estimated to be \$29,650.00.

If portions of the entire system are not to be included at this time, we estimate the DEDUCT amounts from the overall cost will be:

Gym	\$ 30,880.00
Pool	\$ 29,016.00
Outdoor	\$ 13,635.00
Banquet/Ballroom Video	\$240,400.00
Typical Activity Room	\$ 16,500.00

These estimates are based on current equipment and labor costs and contractor markup. We have been seeing increases in overall systems in excess of 15% for the past several years and anticipate that this trend will continue. Most of the items estimated have had delivery times delayed due to supply chain issues but have been improving steadily. We estimate that most of the equipment now has a 30 to 60 day lead-time.

Please let us know if you have any questions and thank you for contacting us to assist with this project.

Yours truly,

DICKENSHEETS DESIGN ASSOCIATES, LLC  
Consultants In Acoustics, Noise Control  
IT and Electronic Media System Design

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