

Film Board Sound System Upgrade — A proposal

If you talk to anyone today that remembers seeing the original Star Wars in theaters nearly 40 years ago, they will tell you the most exciting and vivid memory of the film was hearing the Star Destroyer coming from the rear surrounds before it appeared on screen. The engulfment of sound compliments what is *and* is not on screen. A rich aural experience engages the movie-goer into the story.

Sixteen years ago, Film Board made a huge upgrade to the way in which we screen movies. We transitioned from an archaic 16mm projection system with mono sound to an equally archaic—although far superior in visual quality—35mm projection system with emulated 7.1-channel audio. Without getting into technical details, the system effectively has 5.1 channels of sound (left, center, right, surround right, surround left, subwoofer), except in the case of certain 35mm movies which have two additional channels hidden that the system can use to produce the “back surround” channels and emulate 7.1 audio. However, Film Board now uses a digital projection system for nearly all of our screenings, so the emulated 7.1 setup is rendered effectively useless.

Additionally, in the past sixteen years, Film Board has experienced difficulties with this system. At an unknown time a horn (responsible for what are known as medium and high frequencies—what give sound energy and presence) in one of the speakers ripped out of the cabinet it was attached to. Luckily the horn and driver were not damaged, but the box could not be repaired and a new, slightly different box had to be acquired, which necessitated a retune and equalization of the system. When Fisher Hall received its much needed renovation in 2006, more issues occurred. An entire wall of our surround speakers were stolen, requiring them to be replaced and the whole system yet again to be equalized and certified. Some time since the re-certification in 2006 and the digital upgrade in 2009, additional issues have occurred which cause the loss of surround sound entirely during features, especially on the right side (the side which was replaced).

Six years ago, Michigan Tech became the first university in the United States to convert to digital projection. This was at a time that less than 50% of the screens in North America were digital. With digital projection technology came a new and improved true 7.1-channel soundtrack. However, at the time of our upgrade, it was not cost effective to move to the new audio system while retaining the capability to screen 35mm films. Therefore, we sacrificed the audio upgrade in order to maintain the ability to show both formats. This barrier is no longer in place.

Now, Film Board is looking to resolve the issues in our aging, failing, out-of-date audio system, while at the same time giving it the upgrade to true 7.1-channel audio, bringing its quality up to the caliber of our digital projection system. This means a redesign of the audio system from the ground up—new cinema processor, new amplifiers, new speakers/brackets, and new/additional wiring. The first configuration from JBL/Crown is most similar to our existing setup but with much more control over how the sound is amplified. Additionally, this has the simplest setup as the amplifiers have presets for the speakers. The second configuration from QSC is more of a “bleeding edge” configuration, yet is the economical option. This enables the ability to have remote amplifiers, which means the amplifiers would not need to be in the booth and can be in a room on the stage, which allows for much shorter wire runs, at the cost of a module to allow this. This configuration also offers greater control over how sound is amplified, minus preset configurations in the amplifiers. This configuration is more costly and is very different from our existing setup. In either configuration, the cost of the upgrade breaks down roughly to 45% to 50% for the speakers, 35% to 45% for amplifiers, and I estimate \$10,000 for the installation. The installation is for certification, delivery of speakers, mounting hardware, system integration, equalization, plus preventative maintenance while a technician is here (notably a coolant change for the projector). The cost to get a technician here for four (4) days is roughly \$3,000 with the remaining \$7,000 going to the cost of maintenance, mounting hardware for the surround speakers, and the hundreds of feet of wiring necessary. The total upgrade for JBL/Crown would be \$46,000 and QSC would be \$32,000.

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With a reach of 13,000 (500 students per weekend on average, 26 movies per year) students, staff, faculty, and community members per year, the service Film Board provides is something that has been and will continue to be enjoyed universally. Film Board, in some form, has been screening movies since well before the 70s for everyone. Film Board often works with other student organizations and departments, from planning family friendly movies with Housing and Residential Life during family weekend to helping raise awareness for the diverse community with Center for Diversity and Inclusion. We believe in our motto of “Where Quality Movies Cost Less”, but we have not been delivering the level of quality in our audio system that should match our projection. With your help, we can provide a top-notch movie-going experience with outstanding picture quality and crystal clear audio that you hear and *feel* all around you.

Film Board is reaching out to organizations on campus to assist with reaching our goal of raising \$32,000 for the much needed upgrade. To show appreciation, Film Board will showcase the donor’s name on the screen before the beginning of each film and free advertising for one year.