EDUCATIONAL ASSIGNMENT for JOSEPH JOHN WUNDERLICH for 11th grade
This assignment covers the following Educational Objectives (Subjects marked with a "■" are the main subject, and those marked with an "□" are secondary subjects):

- ■   PHYSICS
- □   ARCHITECTURE
- □   ENGINEERING

Describe the first days of your internship in helping produce the technology (mostly lighting, but also learning about audio, etc) for LCBC's 2000-seat seat auditorium; which is the main stage for four services broadcast to seven campuses containing 15,000 members total; Plus recording and post-production for internet distribution.
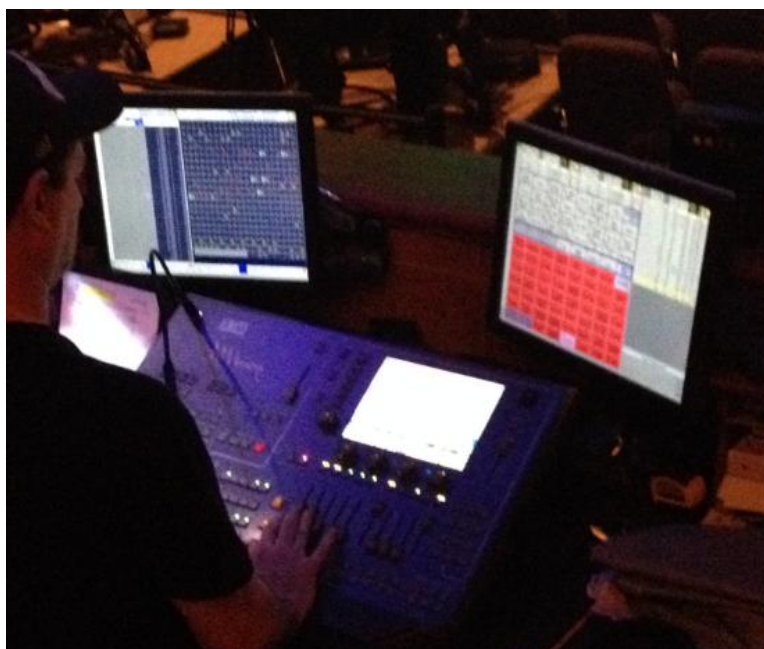

Figure 1.

Figure 2.

So far, as I am writing this, I have worked behind the scenes with Tim Moser, the composer of all LCBC main gathering lighting design, for two Saturdays this month. I've learned primarily about the illumination and effects programing, but also how the audio and video broadcasting is set up and so well maintained. The lighting done by Mr. Moser is prepared beforehand before each show. He listens to a pre-recorded version of the songs that will play and programs the lights to move in-sync with the live band cues. Next, later in the day, I watched the live band reherse an hour before the 4:30 preformance. Soon after, the crowd entered the room and it was show time. All tech professionals were in their respective areas to moniter the show. Although because the band is the only non-mechanical part of every event, the tech director only has to have everyone press play in sync and wait on call if something goes wrong.

The stage lighting works like this:

Tim Moser's light board (Grand MA) is a large scale DMX512 controller that talks to a large array of concealed dimmer racks that controll the lights. Every light has one or more channels (1-512) some lights that move have vs much as 4 (one for the camera's pan and tilt movements, one for the brightness and one for a mechanism that switches between sheet metal cutouts that shine a certain pattern. Some lights were LED which had 3 channels, one for each mix of R, B, G color. on computers each of these have a number 1-255 if each channel is 255, 255, 255 Then you'll get white for instance. on stage and around the auditorium are lights that shine a light through color and pattern filters and finaly to a moving mirror that reflects the light in any direction.

Dimmer racks (Universe 1 & 2)

CH 122 - Brightness
CH 121 - Color
Mirror Lights
Stationary lights

Light board

CH 1-4

CH 1 - Pan
CH 2 - Tilt
CH 3 - Preset colors
CH 4 - Switchable cutout

DMX512

(Universe 3)

LED lights

CH 81 Red
CH 82 Blue
CH 83 Gree