EASE Focus 3
Sound Reinforcement System Design Project

4/10/2020 Update

Overview

- At least two team members should download and install EASE Focus 3 on their own PCs (see the User Guide for a tutorial) and download the project file provided
- Review the report skeleton file and note the system design constraints specified
- Decide among your teammates how to divide project responsibilities:

Team Member(s)	Project Responsibilities	Report Contributions
1/2	EASE Focus – loudspeaker selection, aiming, SPL mapping; design constraint satisfaction	Sections 3.0, 4.1, 4.2, 4.3; portions of App. B & C
3	Engineering design process, design constraint analysis, summary and recommendations	Sections 1.0, 2.0, 5.0
4	Equipment selection	Sections 4.4, 4.5, 4.6, 4.7, 4.8; App. B & C
(all)	Engineering design process, summary, and recommendations; activity logs	portions of Sections 1.0, 5.0, 6.0; App. A

- Team members should then collaborate remotely to complete their report (one per team, uploaded via submission portal on course website no later than May 5, 2020

Primary System Design Constraints

- tapered line arrays for the main floor coverage area, along with a subwoofer array
- delay zone coverage for under/over balcony seating space (as required)
- minimum SPL of 105 dB at back row of (main floor) seating
- no more than ±6 dB variation in SPL over the entire seating space for the 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 KHz,   2 KHz, 4 KHz, and 8 KHz frequency bands
- frequency response of 30 – 15,000 Hz $\pm$ 6 dB
- minimum 48-channel mixing console
- minimum of 16 personal monitor mixers (capable of mixing up to 16 channels to provide a custom stereo mix for each performer), transmitters, wireless body packs, and earbuds
- support for a minimum of 20 compatible wireless microphone channels (include multiple transmitters/receivers to support all 20 available channels)
- good assortment of general-purpose wired and wireless microphone systems for speaking, individual vocalists, a variety of musical instruments, choral performances
- wireless transmission support for hearing assistance
- digital media recording/playback capability
- all equipment mounted in rack cabinet(s)
- no explicit budget constraint is specified other than it should be a "competitive bid"

WebEx Office Hours

- Prof. Meyer will hold WebEx office hours for ECE 40020 every Thursday, 3:00-5:00 pm EST (https://purdue.webex.com/meet/meyer

- Meeting room number is 627 607 489

- Each team should plan to (virtually) meet with Prof. Meyer each week during WebEx office hours (continuing through April 30, 2020) as follows:
  - Team 1 – 3:00-3:15 pm
  - Team 2 – 3:15-3:30 pm
  - Team 3 – 3:30-3:45 pm
  - Team 4 – 3:45-4:00 pm
  - Team 5 – 4:00-4:15 pm