On the above date, a core group meeting was held at the Dover Area School District Offices to review Audio & Visual Systems for the Dover Area High School project. Pertinent issues and items of discussion are as follows.

1. USB connections are not needed at projector locations.
2. Mobile display will be needed in addition to the overhead projector and projection screen in the band and chorus classrooms.
3. The sound recording system was reviewed.
   a. Playback is required in all rooms that record.
   b. Choral and Band room recording to be higher quality with overhead microphones.
   c. Practice room recording system is less robust. Provide hard wire mic and touchscreen control in each room.
   d. The recording head end equipment shall be located in the Music Tech classroom.
   e. System shall have capability to transfer recordings via USB input (thumb drive).
   f. Network based recording is not required.
   g. The office shall have the capability to listen to any of the rooms with recording.
   h. Touchscreen controls should be provided adjacent to the teacher podiums in band and choral for recording and playback of respective room audio.
   i. Recording is not required in the Piano Lab.
   j. System shall have the ability to control recordings from the Auditorium control desk (at both the upper and lower ADA locations).
   k. Music playback to occur in practice rooms, band, and choral.
   l. Playback for sound in the music tech to be via the sound bar on the mobile display unit.
   m. DASD provided a product datasheet for the anticipated piano lab teacher’s controller: GEC5 audio controller by Korg.
   n. DASD to determine the connection requirements for the Music Tech student computers.
4. The Auditorium Audio and Video systems were reviewed.
a. Speaker arrays to be located adjacent to side projection screens, mounted to proscenium wall. Overhead speaker monitors will be provided on the 1st and 3rd stage electrics.

b. Projection screens to have additional blackout space above the projection area to allow the screens to be viewed at a lower angle.

c. System to accommodate up to 48 wired microphones and 24 wireless microphones.

d. Provide a password to use the systems.

e. Overhead speaker monitors will be provided on the 1st and 3rd stage electrics.

f. Center projection screen to be 20'-0" wide and side screens to be 12'-0" wide.

g. Auditorium cameras, video mixer, and cabling will be provided by DASD. Rough-ins will be provided by the EC under the construction project.
   - Provide camera location at upper control desk.
   - Provide video monitor in Orchestra Pit.

h. System to accommodate up to 48 wired microphones and 24 wireless microphones.

i. Provide 2 diaphragm microphones in the Pit. Provide 2 additional left/right inputs for standard mics.

j. Stage monitor output jacks will be provided at the stage left and right wing walls and at the rear stage wall.

k. Sound rack to be located in the IDF (does not need accessed regularly).

l. The stage manager system shall consist of 6 wireless and 1 wired headsets.

5. Provide 4 display cases for the Auditorium, 1 shall be 12" deep.

6. Provide 1 display case in the corridor for band and 1 for choral.

7. MEC to investigate if the hearing impaired listening devices can be shared between the assembly spaces (Auditorium, Gymnasium, and Natatorium).

8. All projection screens to be motorized and provided & installed by EC (MEC to specify).

9. The cafeteria Audio and Video system was reviewed.
   a. DASD to determine if projection screens or large wall mounted LCD displays are to be used for the cafeteria video system.
   b. Presenter stations with one (1) HDMI input jack will be provided at each display location. No USB connections will be provided at the presenter stations.
   c. Provide ceiling speakers and 2 wireless mics.
   d. Provide touch panel controls station with lockable box at student bank wall.

10. The Natatorium Sound System was reviewed.
   a. Speakers to be stainless steel.
   b. Provide wireless mic.
   c. Provide Bluetooth receiver with MP3 inputs. Locate in office.
   d. Provide on/off volume control in Natatorium.
   e. Head end to be located in Auditorium IDF.

11. The Gymnasium Audio and Sound System was reviewed.
   a. Projection screen to be 15'-0" wide.
   b. Presenter station to be located on Concessions wall. Provide additional HDMI input at scorer’s table.
   c. Provide wireless mic. Provide hard wired mic input at scorer’s table and at presenter station.
   d. Provide Bluetooth receiver with MP3 inputs. Locate in PE Storage.
   e. Provide touch panel controls station (for audio and video) with lockable box at Concessions wall.
   f. Head end to be located in PE Storage.
   g. Sound to be capable of being played in Natatorium, Auditorium, Cafeteria, or Auxiliary Gymnasium.

12. The Auxiliary Gymnasium Sound System was reviewed.
   a. Provide wireless mic.
b. Provide Bluetooth receiver with MP3 inputs. Locate in Storage.
c. Provide touch panel controls station with lockable box at plan north wall adjacent
to entrance.
d. Head end to be located in Storage.

13. Cardio/Weight Rooms
   a. A Bluetooth receiver will be provided with controller located in the weight room
      office.
   b. Ceiling mounted speakers will be provided.
   c. System will be an extension of the Gym or Aux Gym sound system mixer.
   d. Power and video jacks will be provided for wall mounted TVs in the cardio and
      weight rooms. Video will be network TV.
   e. May be potential alternate bid.

14. The LGI Audio and Sound System was reviewed.
   a. DASD to determine quantity and configuration of cameras.
   b. Camera to be tied into cafeteria displays.
   c. USB connections are not required.
   d. Provide presenter input for board setup in floor.
   e. Provide 16 wireless desk mics for the board and 1 wireless mic for the presenter.
   f. Ceiling mounted drop mics will be provided over the audience seating area for
      audio recording.
   g. Ceiling mounted speakers will be provided.
   h. Provide video controllers at each larger wall mounted display.

15. MEC will investigate whether hearing assistance body pack and neck loop quantities can
    be shared between sound systems (based on maximum anticipated occupancy during
    multiple simultaneous events), or if separate equipment needs to be provided based on
    the maximum occupancy of each individual space.

16. Provide teacher demo camera systems in FCS and Art Classrooms. Cameras to have
    HDMI output to demo unit location. Mobile display then to connect to HDMI input.

17. WAP for Natatorium to be Cisco 2702E which will have the antenna mounted on the
    outside of the building and radio controller on the inside of the building. EC to provide
    back box for each location with interconnected conduit.

18. WAPs in Auditorium and Gymnasium to be wall mounted in location that is easily
    accessible for maintenance.

19. Video head end systems shall have the capability to expand technology.

20. All hard wired presenter input stations (with fixed wall mounted displays) to have 1 HDMI
    and 1 USB in lieu of 2 each.

21. Provide deduct alternate for CAT 6 cabling in lieu of CAT 6e.

22. Paging system will interface with AV Sound Systems:
    a. Typical status: general and emergency announcements broadcast
    b. Performance status: general PA announcements do not broadcast (local AV
       sound system overrides general announcements); emergency announcements
       broadcast

23. Provide one HDMI and one date input at TV Studio Control Room.

24. Paging system to have capability to turn off certain zones for general paging (Auditorium,
    Natatorium, and Gymnasium) during performances or events.

25. A data and power connection is required at the main entrance reception desk for the
    visitor log-in system.

26. Vending will not be provided in the cafeteria.

27. The building will not be used as a mandatory emergency shelter. The building may be
    used as an emergency shelter by choice which would not require extensive modifications
    to the emergency power requirements.
28. Provide signage for maximum occupant load on all large capacity spaces.

Respectfully submitted,
CRABTREE, ROHRBAUGH & ASSOCIATES

Scott Cousin, AIA, LEED AP
Principal, Senior Project Manager

cc: Core Group
    Design Consultants
KORG

GEC5
AUDIO CONTROLLER

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Korg GEC 5 Lab System

The Korg Group Education Controller 5 (GEC5) represents the most advanced system in group instruction technology. With an intuitive, easy-to-use software user interface, multiple practice and instruction modes, fully-digital stereo sound and the option of wireless tablet integration, the Korg GEC5 Lab System will take any music, language or technology lab to a new level of high efficiency and create a superior classroom experience.

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Introducing... The 828x with Thunderbolt Technology.

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Thunderbolt fulfills the promise of a truly state-of-the-art connectivity standard for personal computers. With massive bandwidth, Thunderbolt allows you to connect displays, hard drives, and other peripherals to your computer, along with the 828x, up to six devices total (with the 828x at the end of the chain), and the Thunderbolt bus won’t even break a sweat. Thunderbolt combines plug-and-play convenience with massive bandwidth and low latency for truly
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28 inputs and 30 outputs
How can one audio interface offer this much I/O?
We pack it in, like no one else can: two combo-style mic/guitar inputs with preamps, 8 balanced analog in/out, XLR main outs, 16 channels of ADAT optical (8 channels at 96 kHz), plus S/PDIF, word clock and MIDI. Connect all of your studio gear, including microphones, guitars, synths, keyboards, drum machines and even effects processors.

Recording up to 192 kHz
Audio quality without compromise

Now in its fifth generation, the 828 has become a benchmark for the industry, setting the bar by which others are judged. How has this level of respect been earned? Through consistent design integrity and intelligent use of current-generation parts and design technologies.

Studio-grade mic channels
Enjoy extras like sends and optional hardware limiting

Do you work with outboard EQs and compressors? Each 828x mic input offers a pre-converter send for mono or stereo mic channel outboard processing. The 828x’s unique V-Limit™ hardware limiter employs a proprietary design to offer an additional 12 dB of headroom over digital zero with no digital clipping or harsh artifacts, for that added protection in dynamic recording situations. The 828x’s preamps are clean and neutral, allowing you to use your favorite plug-ins and host software to color the sound just the way you want for each recording application.

On-board digital mixer with effects
Mixing and effects for monitoring and live mixing
Record, monitor, route and process all live inputs using the professional on-board CueMix FX digital mixer – with no latency and no processor strain on your computer. Apply DSP-driven compression, EQ and reverb to every input and output, independent of your host computer.

Stand-alone operation as a mixer
Go instantly from studio to stage

After programming the on-board mixing in the studio, unplug the 828x from the computer and take it on the road for operation as a stand-alone mixer with effects. All mixing and effects parameters are adjustable using the front panel backlit LCD.

Solid metal chassis
MOTU interfaces are built to last, and last, and last...
We still get calls and Facebook posts from happy users of the original 828, introduced more than 10 years ago! Like all MOTU interfaces, the 828x's aluminum alloy chassis is lightweight, yet incredibly sturdy and durable, and designed to withstand the rigors of the studio, stage, and road. In a world awash with cheap plastic, the cool feeling of the 828x's metal exterior in your hands is a reassuring reminder that you are holding quality engineering and construction.

Support for Mac OS X and Windows

Run all your favorite audio apps

The 828x provides time-tested drivers for Mac OS X and Windows (8, 7 and Vista) for cross-platform compatibility with virtually all audio software via WDM, ASIO, and Core Audio drivers.
Advanced extras
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Add another MOTU audio interface for more inputs and outputs as your needs grow.

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The 828mk3 Hybrid provides virtually identical features to the 828x (including USB 2.0 support), except that instead of Thunderbolt, it provides FireWire connectivity to any FireWire-equipped Mac or PC. The connectors are "Type B" jacks typically used for FireWire 800, but they operate as standard FireWire 400 ports and are compatible with any FireWire port on your computer (A or B).

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