WVU Classroom Technology Renovation Standards Guide:

General Purpose Classrooms

Typical Signal Flow, Wiring, and Installation Detail Diagrams for CTec Designated GPC Technology Facility Upgrades

Classroom Designations (by Type):

1. Dual-Projector HD Auditorium Diagrams
2. Single-Projector HD Auditorium Diagrams
3. Dual-Projector HD Classroom Diagrams
4. Single-Projector HD Classroom Diagrams
5. Small HD Classroom Diagrams

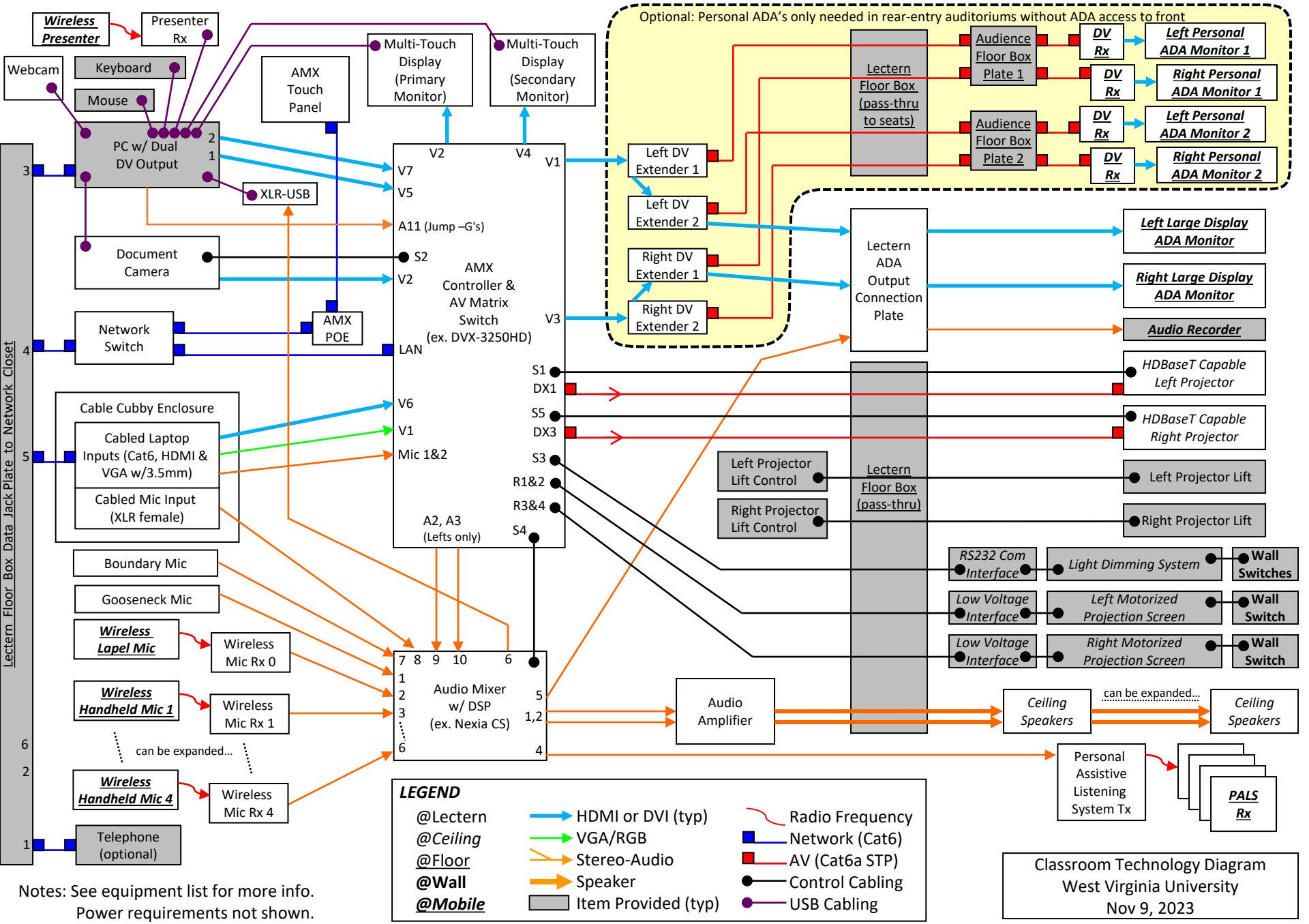
Additional Installation Details:

6. Above Ceiling Projector Lift Install for Auditoriums
7. Above Ceiling Projector Plate Install for Classrooms
8. Multimedia Lectern Floor Box Plate Allocation

Note: This is only a guide with examples. Each classroom space has characteristics that could necessitate adapting the “typical” design to meet that room’s needs. Contact CTec for more information.

Type #1

Dual-Projector HD Auditorium Signal Flow Example: (Featuring Webcam, All Mic Types, Lifts, and Personal ADA Monitors)



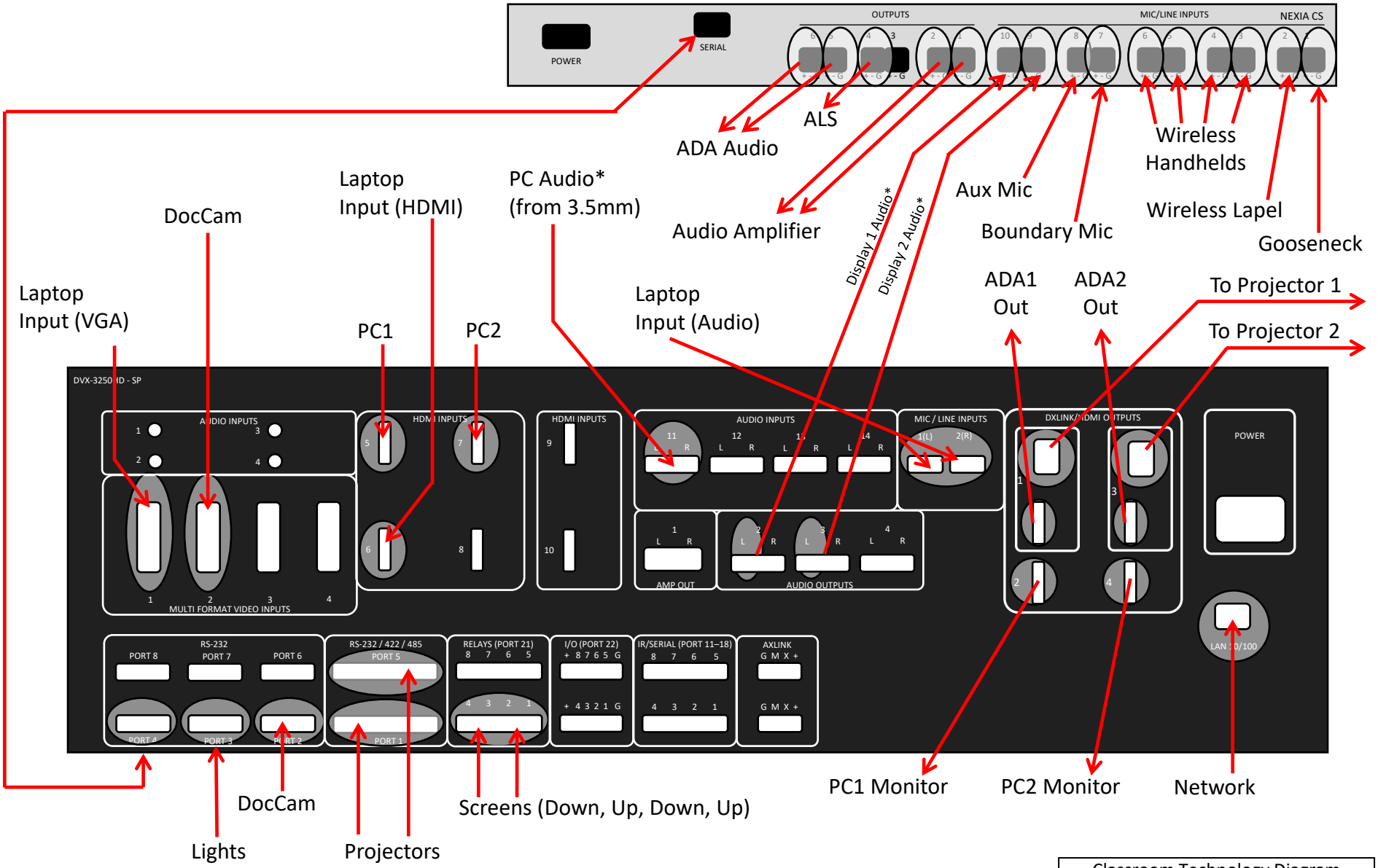
Notes: See equipment list for more info.
Power requirements not shown.

Classroom Technology Diagram
West Virginia University
Nov 9, 2023

Type #1

Dual Projection Example using DVX-3250HD with Nexia in HD Auditorium

(without Personal ADA Monitors)



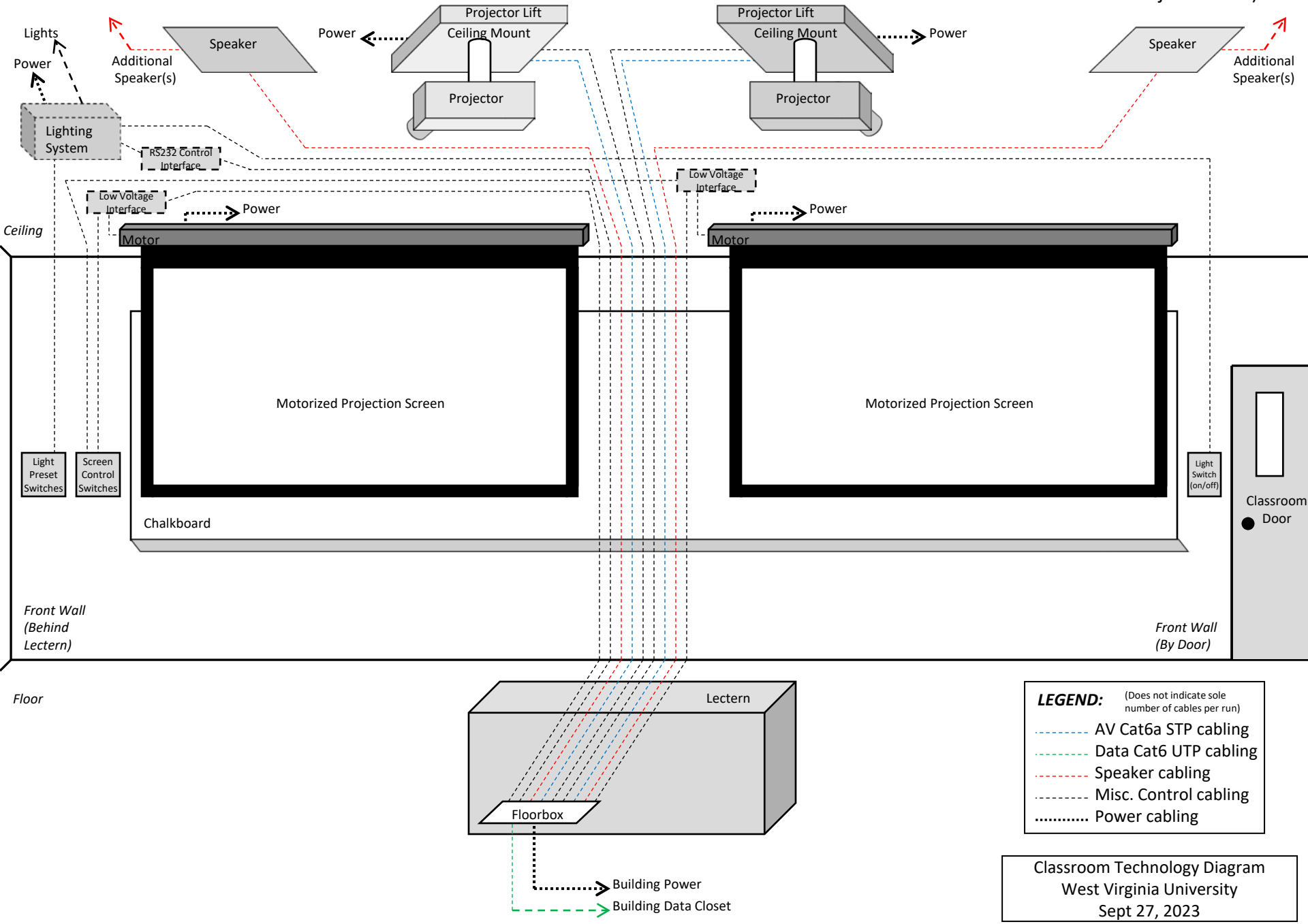
Note: When wiring DVX Audio Output 2 & 3 as "Left" only, also configure those to Mono in DVX settings)
When wiring DVX Audio Input 11 for PC audio (from 3.5mm jack), jumper the grounds.

Classroom Technology Diagram
West Virginia University
Oct 19, 2023

Type #1

Dual-Projector HD Auditorium Wiring Paths Example:

(Featuring Motorized Projection Screens and Projector Lifts)



LEGEND: (Does not indicate sole number of cables per run)

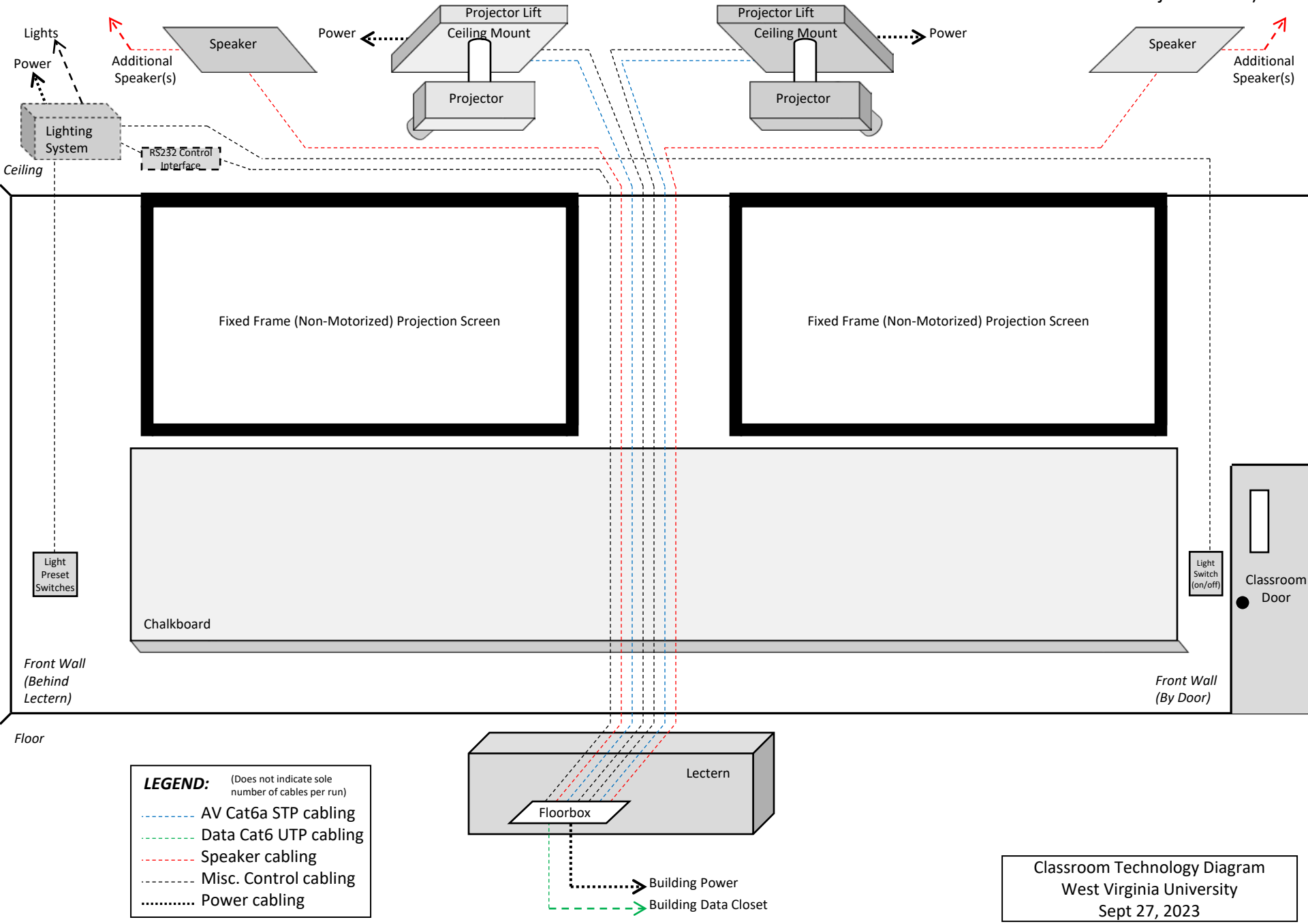
- AV Cat6a STP cabling
- Data Cat6 UTP cabling
- Speaker cabling
- Misc. Control cabling
- Power cabling

Classroom Technology Diagram
West Virginia University
Sept 27, 2023

Type #1

Dual-Projector HD Auditorium Wiring Paths Example:

(Featuring Fixed Frame Projection Screens and Projector Lifts)

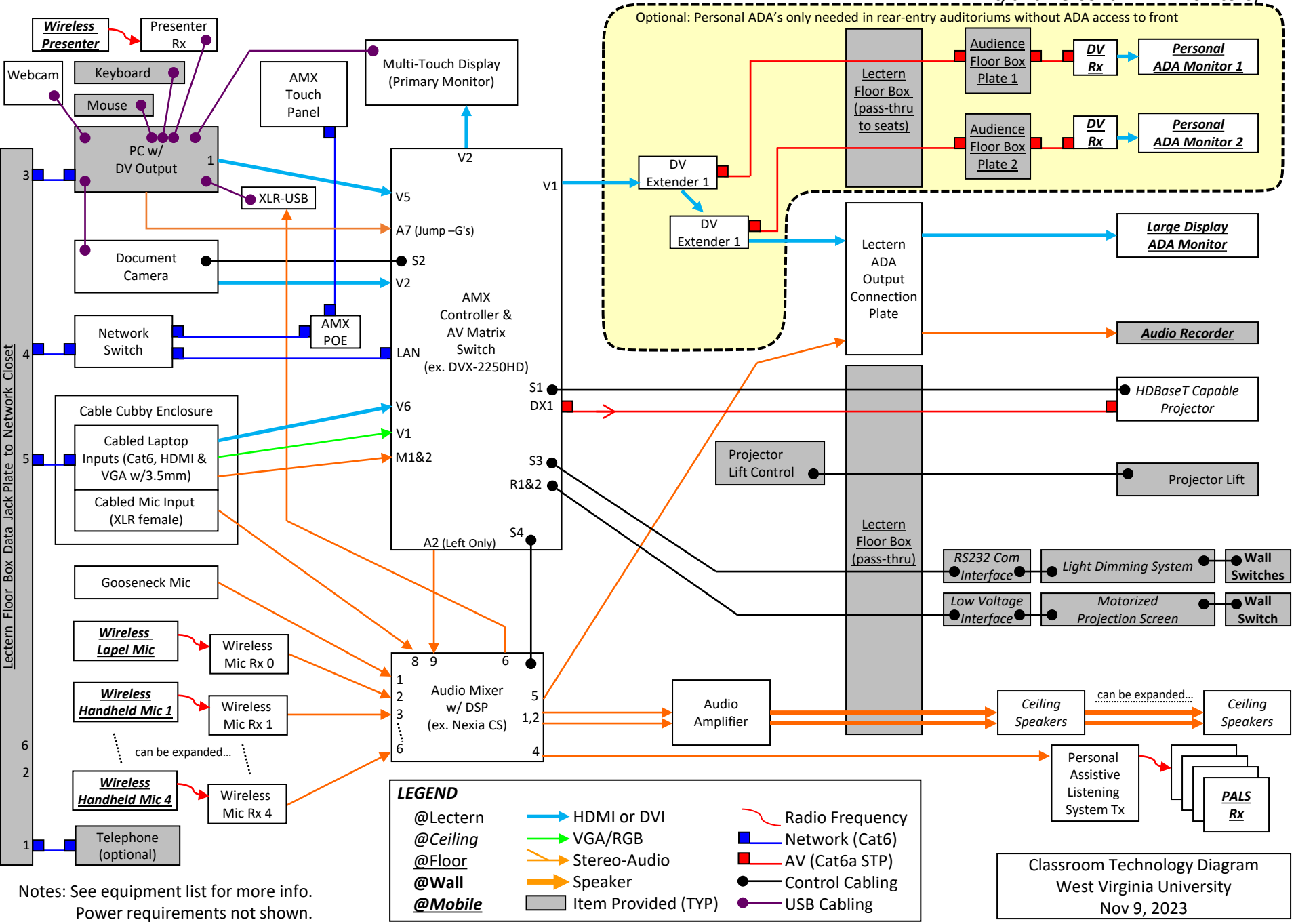


Classroom Technology Diagram
West Virginia University
Sept 27, 2023

Type #2

Single-Projector HD Auditorium Signal Flow Example:

(Featuring Webcam, Multiple Mic Types, Lift, and Personal ADA Monitors)



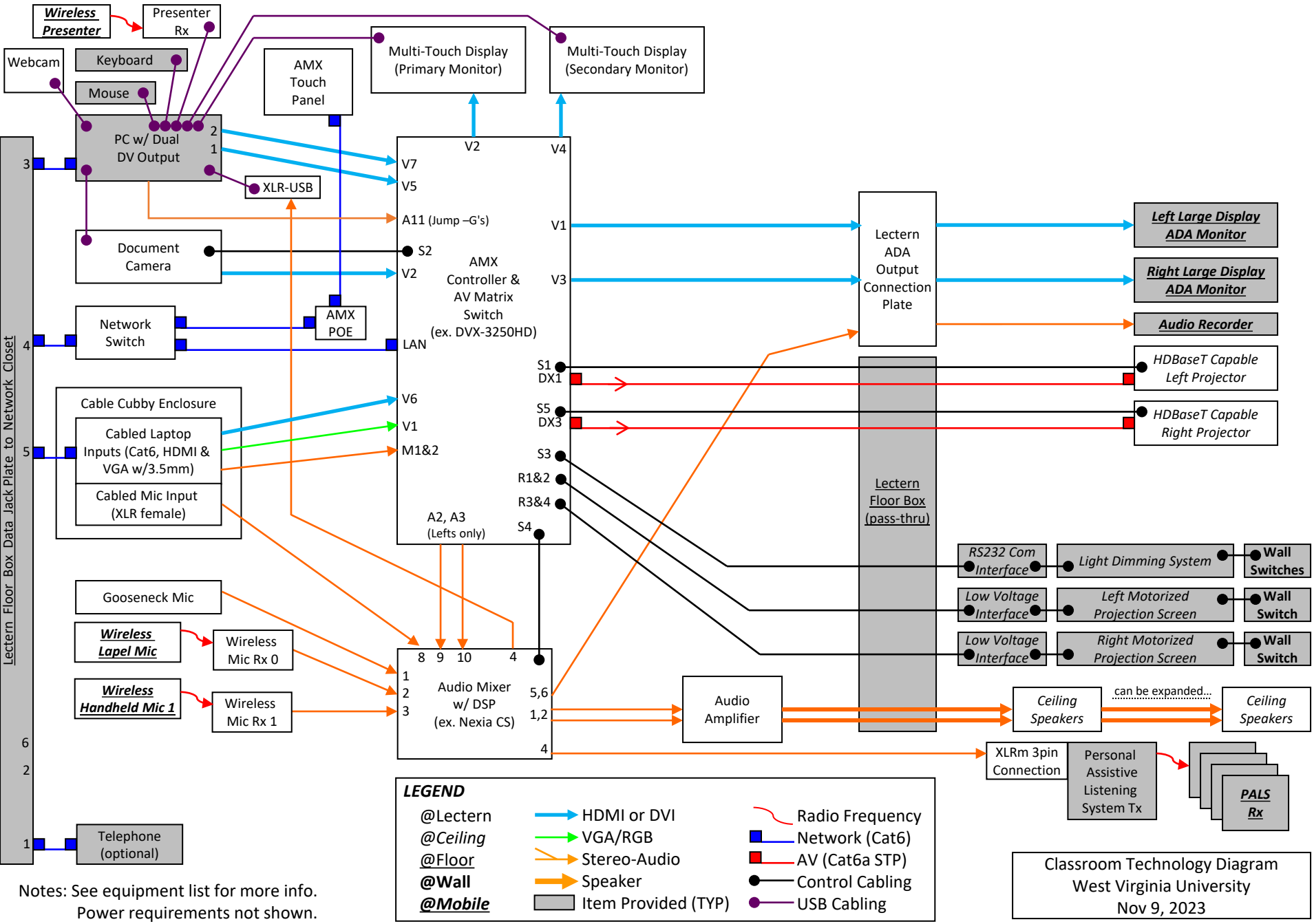
Notes: See equipment list for more info.
Power requirements not shown.

Classroom Technology Diagram
West Virginia University
Nov 9, 2023

Type #3

Dual-Projector HD Classroom Signal Flow Example:

(Featuring Webcam and Multiple Mic Types)



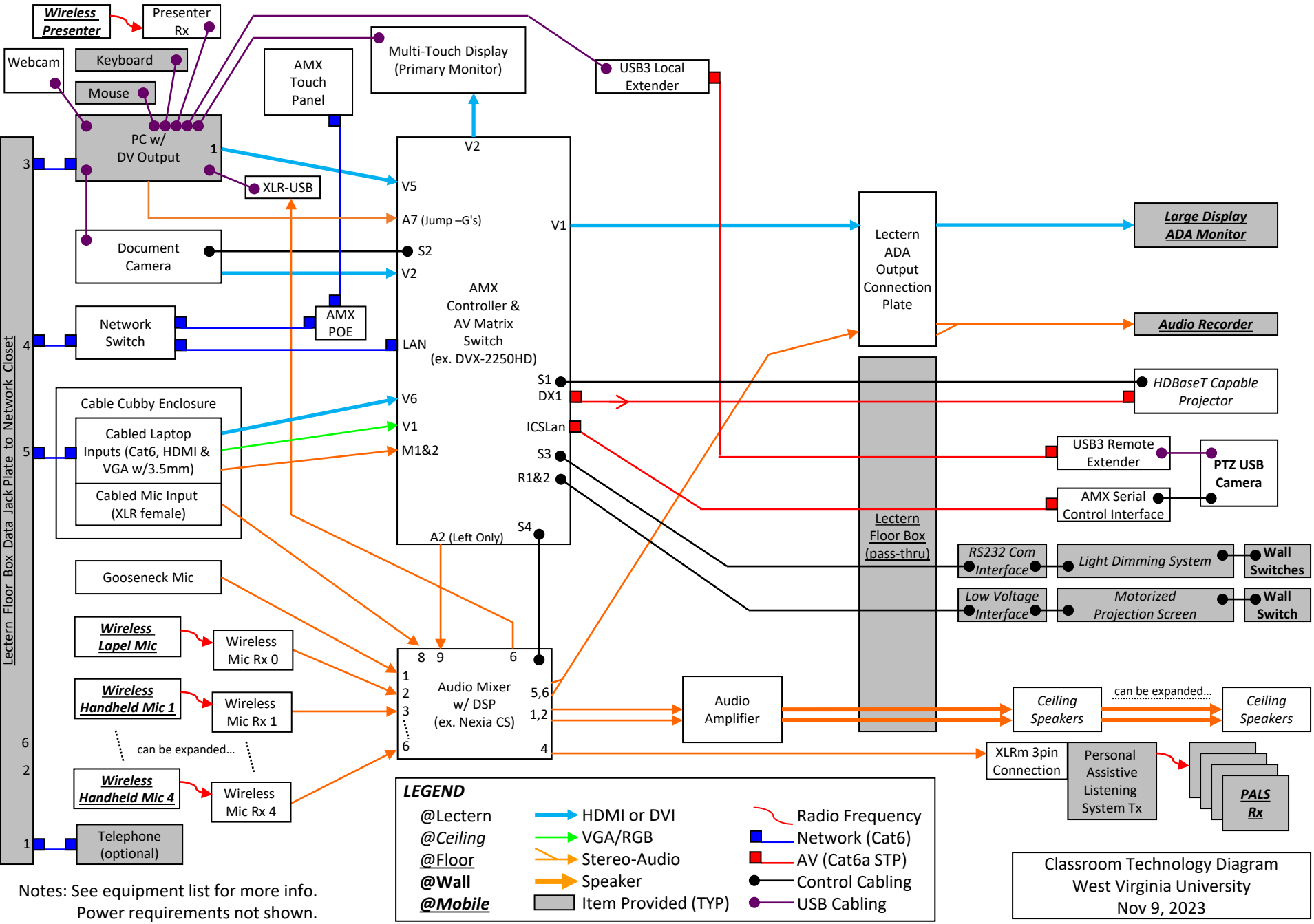
Notes: See equipment list for more info.
Power requirements not shown.

Classroom Technology Diagram
West Virginia University
Nov 9, 2023

Type #4

Single-Projector HD Classroom Signal Flow Example:

(Featuring Webcam, PTZ Camera, and Multiple Mic Types)



Notes: See equipment list for more info.
Power requirements not shown.

Classroom Technology Diagram
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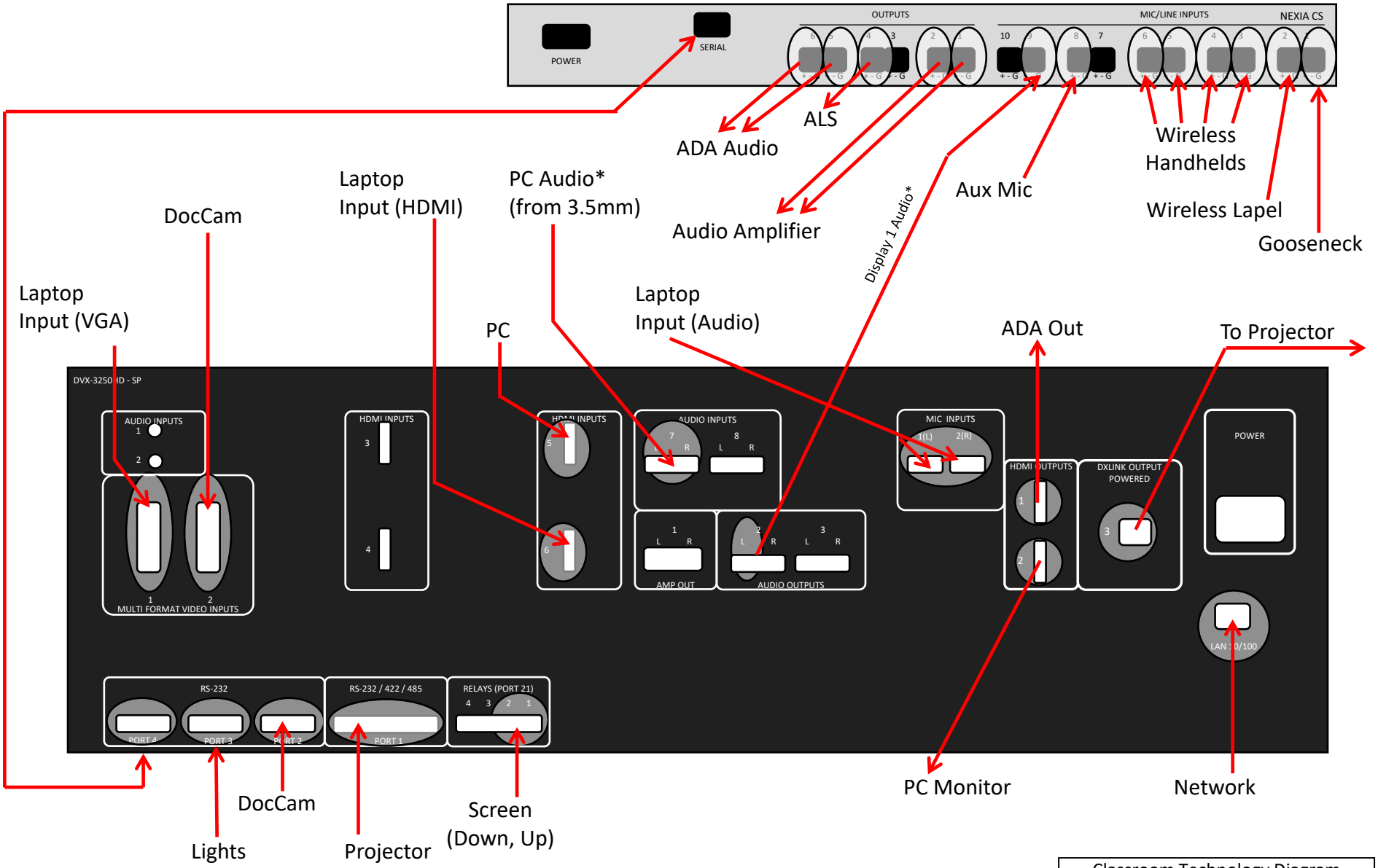
Nov 9, 2023

Type #4

Single Projection Example using DVX-2250HD with Nexia in HD Classroom



Note: When wiring DVX Audio Output 2 as "Left" only, also configure it to Mono in DVX settings)
When wiring DVX Audio Input 11 for PC audio (from 3.5mm jack), jumper the grounds.

Classroom Technology Diagram
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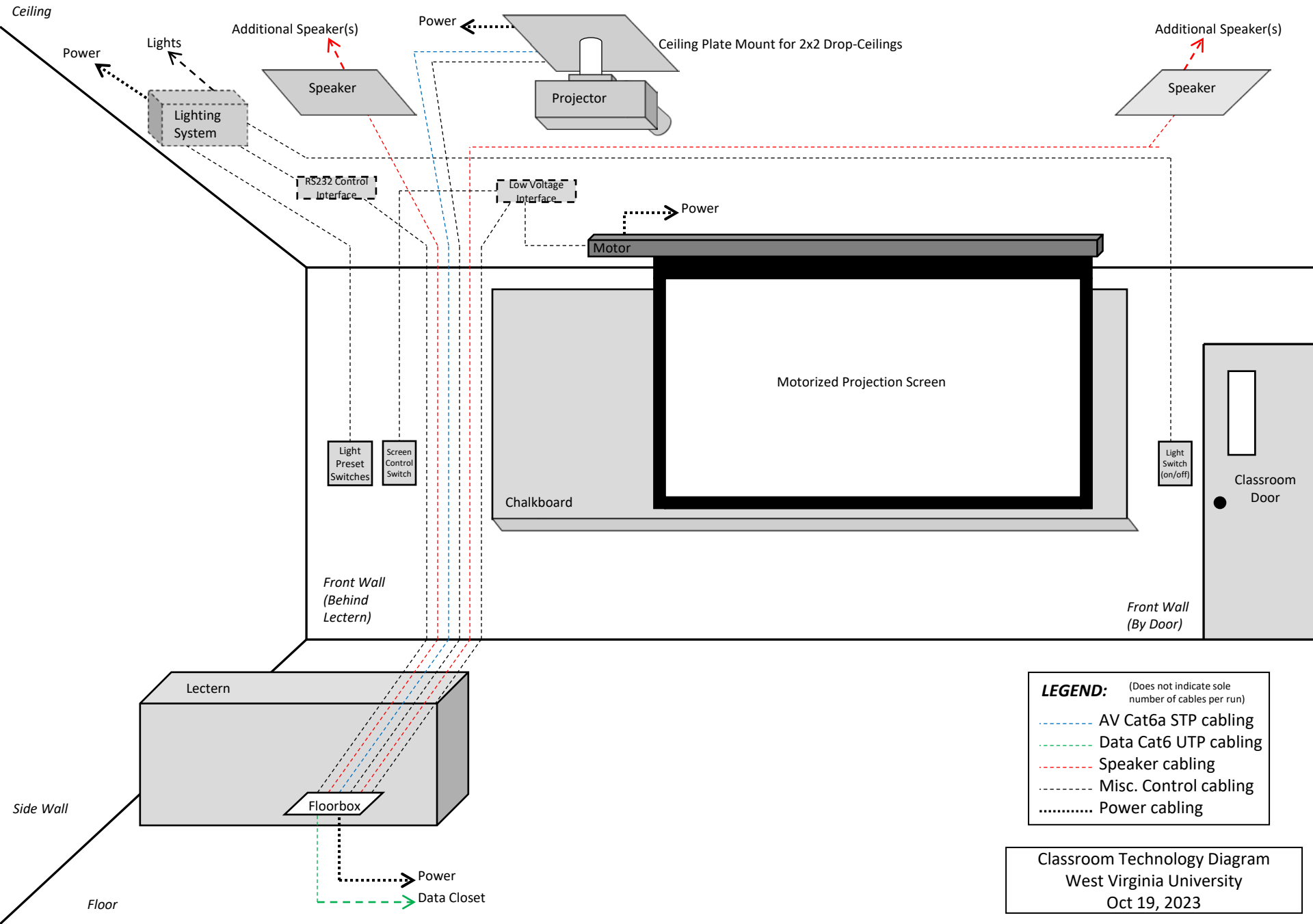
Type #4

Single-Projector HD Classroom Wiring Paths Example: (Featuring Motorized Projection Screens)



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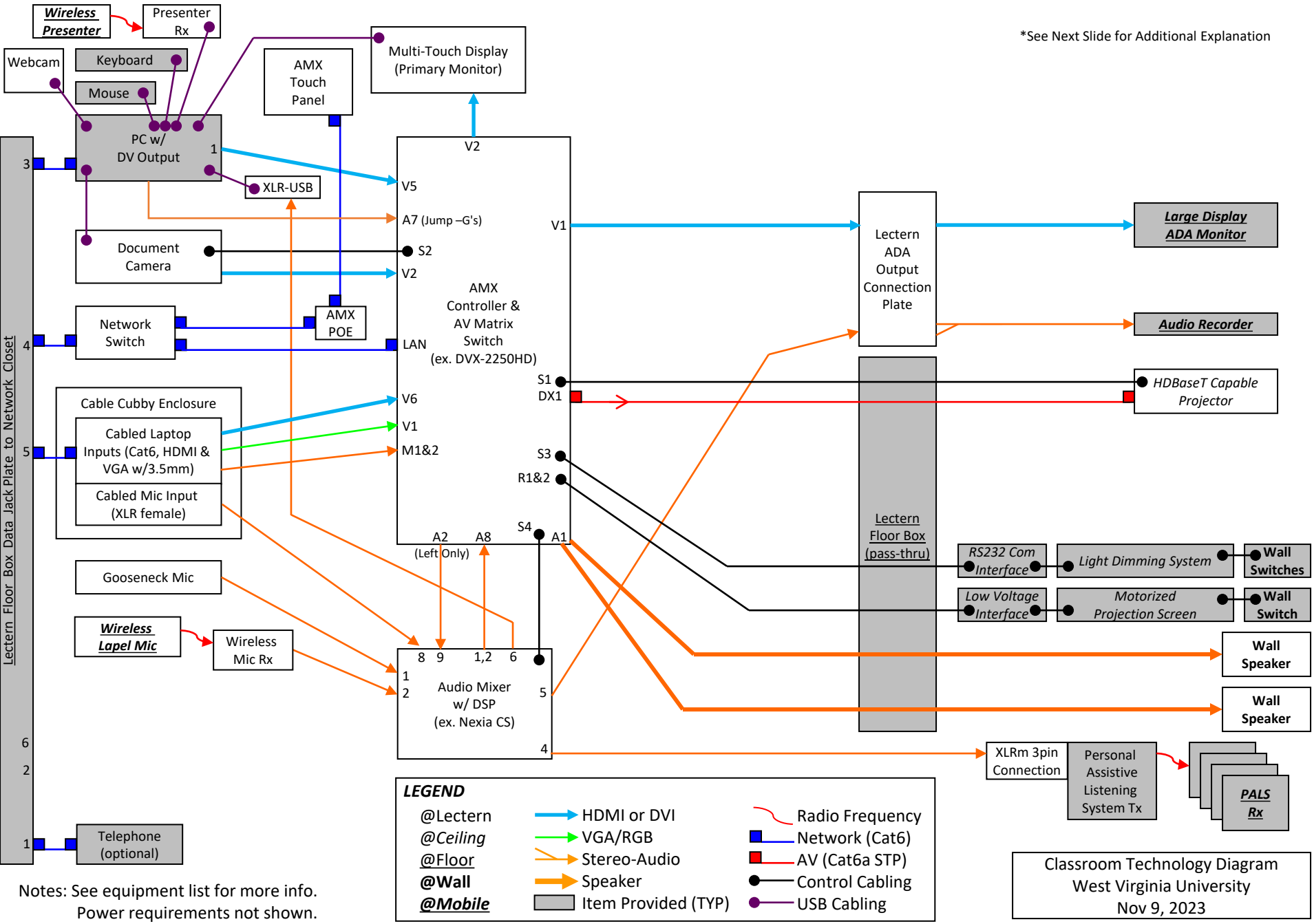
Type #5

Small HD Classroom Signal Flow Example:

(Featuring Webcam, Multiple Mic Types, and DVX Used as Amplifier*)

*See Next Slide for Additional Explanation



Notes: See equipment list for more info.
Power requirements not shown.

Classroom Technology Diagram
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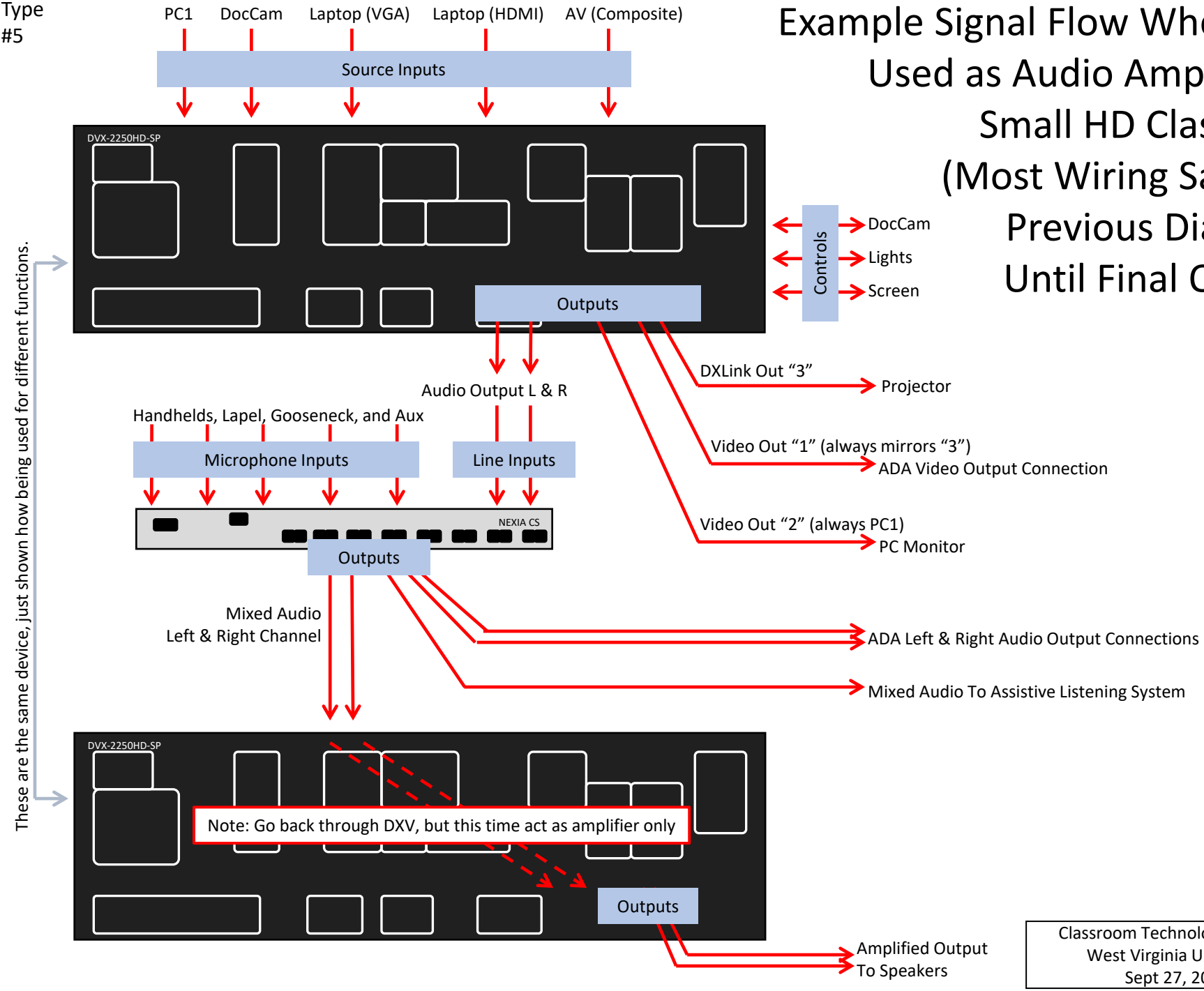
Nov 9, 2023

Type #5

Example Signal Flow When DVX Used as Audio Amplifier in Small HD Classroom (Most Wiring Same As Previous Diagrams Until Final Output)



Classroom Technology Diagram
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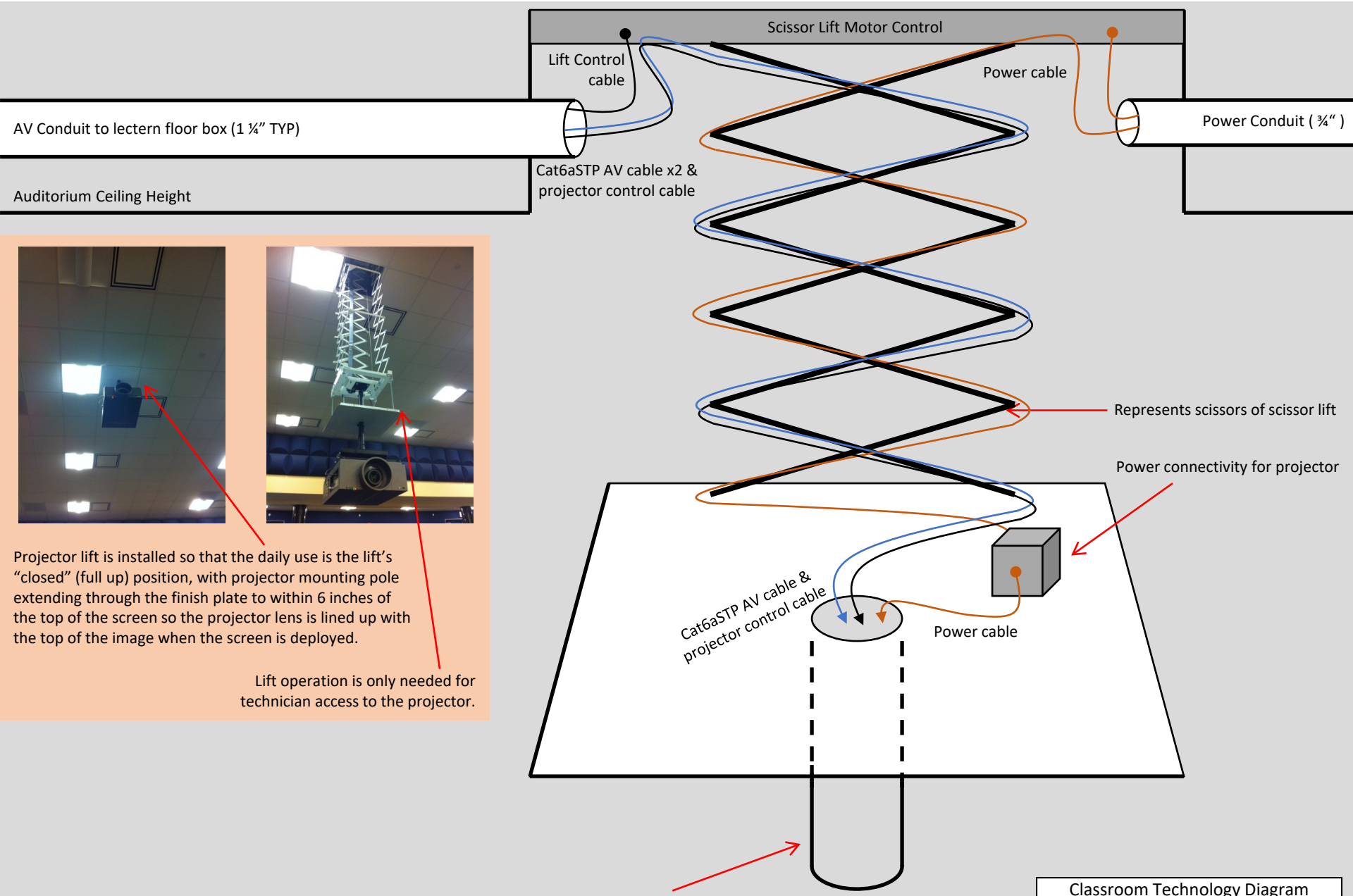
Detail #6

Above Ceiling Projector Lift Install Detail for HD Auditorium



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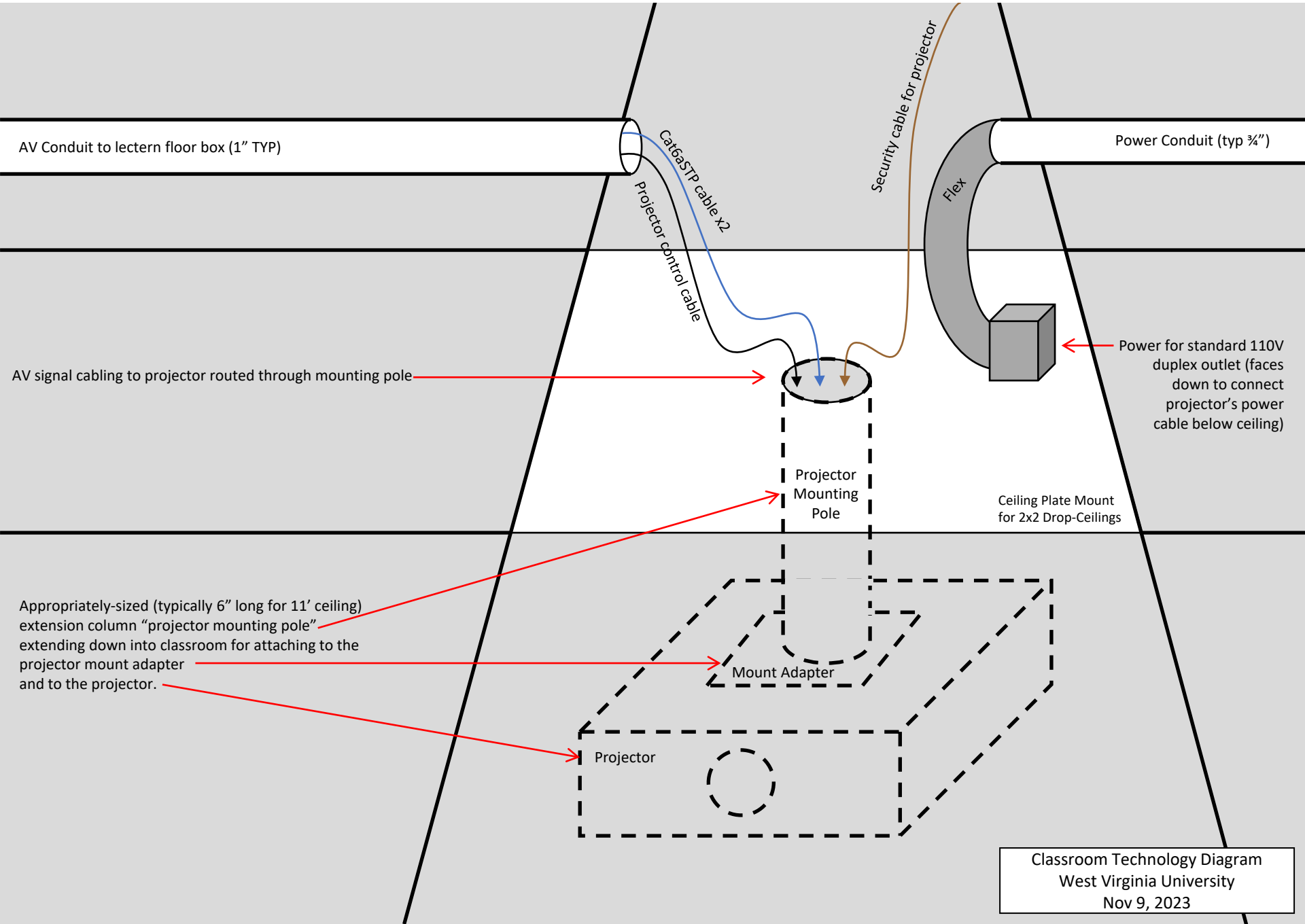
Detail #7

Above Drop-Ceiling Install Detail for Projector in HD Classroom



Classroom Technology Diagram
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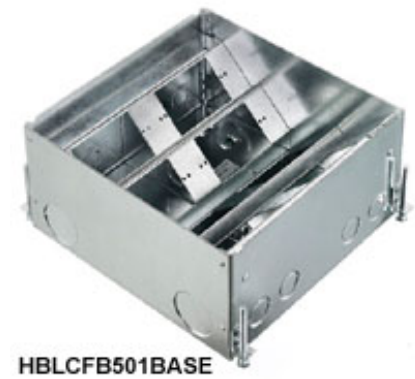
Nov 9, 2023

Detail #8

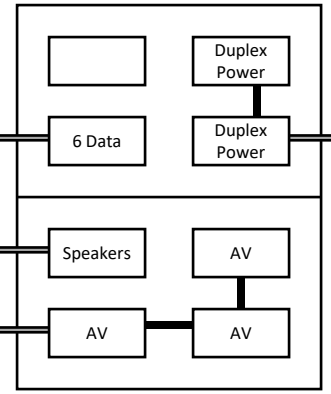
Multimedia Lectern Floor Box Plate Typical Allocation:

Important: Remove cover before placing lectern over it for ease of access from lectern.

Concrete Recessed
With Cover



Shown Without Cover



To Network Closet:
1¼" conduit typical

To Power Circuitry:
¾" conduit typical

To Ceiling for Distribution:
¾" conduit typical
1" conduit typical
(or 1¼" for projector lift rooms or 2" for dual-projection rooms)

"AV" cabling typically consists of:
Two Cat6a-STP cables for signal to each display
Belden 8723 cable for control to each display
Belden 8723 cable for control to the lighting system interface
Belden 8451 cable for control to each projection screen interface
(and when installed: Manufacturer-specific cable for projector lift)

"Speakers" cabling typically consists of:
Belden 1309a cable for speaker audio to each speaker set

<u>Recessed floor box by GC/EC able to accommodate up to 8 plates:</u>

1 Data Plate (six total RJ45 jack CatUTP runs to IT network closet) by WVU

2 Duplex Power (each duplex outlet on separate circuit) by Electrical Contractor

Up to 4 gangs available for AV & speaker pass-thru (see notes above)