General Purpose Classrooms

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

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

Type #1

TLC Classroom Technology Diagram
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Dual-Projector HD Auditorium Floor/Wall/Ceiling Wiring Paths Example

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

Typ1

- Lights
- Power
- Additional Speaker(s)
- Lighting System
- Speaker
- Ceiling Mount
- Projector Lift
- Projector
- Contact Closure Interface
- Ceiling Power
- Motorized Projection Screen
- Speaker
- Motor
- Floorbox
- Building Power
- Building Data Closet

Front Wall (Behind Lectern)

Chalkboard

Floorbox

Lectern

Contact Closure Interface

Motorized Projection Screen

Motorized Projection Screen

Contact Closure Interface

Motor

Front Wall (By Door)

Classroom Door

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Single-Projector HD Classroom Signal Flow Diagram Example

LEGEND

@Lectern
@Ceiling
@Floor
@Wall
@Mobile

HDMI or DVI
VGA/RGB
Stereo-Audio
Speaker
USB Cabling

Radio Frequency
Network (Cat6)
AV (Cat6a STP)
Control Cabling

Type #4

Wireless Presenter
Presenter Rx

Keyboard
Mouse

PC w/ DV Output

Document Camera

Cables Cubby Enclosure

Cabled Laptop Inputs

Wireless Lapel Mic

Gooseneck Mic

Wireless Handheld Mic 1

Wireless Handheld Mic 4

Wireless Mic Rx 0

Wireless Mic Rx 1

Wireless Mic Rx 4

Can be expanded...

Can be expanded...

Diablo

HDBaseT Controllable Projector

Motorized Projection Screen

Wall Switches

Light Dimming System

Wall Switch

Ceiling Speakers

Personal Assistive Listening System Tx

PALS Rx

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Single-Projector HD Classroom Floor/Wall/Ceiling Wiring Paths Example
Example Signal Flow When DVX Used as Audio Amplifier in Small HD Classroom

These are actually the same device, just used for different things.

Note: Throughputs audio signal, acting as amplifier only
Above Ceiling Projector Lift Install Detail for HD Auditorium

- AV Conduit (≥1") to lectern floor box
- Cat6a AV cables
- Power conduit (¾")
- Control cable
- Power cable
- Scissor Lift Motor Control
- Auditorium Ceiling Height

Projector lift is installed so that the daily use is the lift's "closed" (full up) position, with projector mounting pole extending through the finish plate to within 6 inches of the top of the screen so the projector lens is lined up with the top of the image when the screen is deployed.

Lift operation is only needed for technician access to the projector.

Appropriately-sized Chief extension column "projector pole" extending down through projector lift's "finish plate" into classroom for attaching the projector.

Represented scissors of scissor lift

Power connectivity for projector

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Conduit to junction box and lectern floor box (1” TYP)

AV signal cabling to projector routed through mounting pole

Power conduit (typ ¾”)

Power for standard 110V duplex outlet (faces down to connect projector’s power cable below ceiling)

Projector Mounting Pole

Mount Adapter

Projector

Security cable for projector

Cables

Appropriately-sized (typically 6” long for 11’ ceiling) extension column “projector mounting pole” extending down into classroom for attaching to the projector mount adapter and to the projector.
Multimedia Lectern Floor Box Plate Typical Allocation:

Concrete Recessed
With Cover

To Network Closet:
1 ¼” conduit typical

To Ceiling for Distribution:
¾” conduit typical
1 ¼” conduit typical
(or 2” for dual-projection rooms)

Without Cover

To Power Circuitry:
¾” conduit typical

“AV” cabling typically consists of:
- Cat6a-STP cable for signal and control to each display
- Belden 8723 cable for control to the lighting system interface
- Belden 8451 cable for control to each projector screen interface
- Belden 1309a cable for speaker audio to each speaker set
- Manufacturer-specific cable for control to each projector lift

Recessed floor box by GC/EC able to accommodate up to 8 plates:
1 Data Plate (six total RJ45 jacks, run 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)