HACC — Central Pennsylvania's Community College
Harrisburg, PA

Request for Bid
RFB13-06

For

AUDIO VISUAL INSTALLATIONS
HARRISBURG, LANCASTER, AND LEBANON CAMPUSES

Issued: September 24, 2012

Mandatory Site Visit:

a) Harrisburg Campus: October 4, 2012 @ 1:00 PM
b) Lebanon Campus: October 5, 2012 @ 2:00 PM
c) Lancaster Campus: October 5, 2012 @ 9:00 AM

BID DUE DATE: October 12, 2012 by 1:30PM

Award of Contract: Following the November 6, 2012 Board of Trustees Meeting

Sealed Bids Must Be Delivered to:

HACC
Procurement and Business Services
Room PC223
349 Wiconisco Street
Harrisburg, PA 17110

All firms who respond to the RFB will receive a notification letter in the mail within one week after the Board of Trustee Meeting.

Bid results will be posted on HACC website: www.hacc.edu –
http://hacc.edu/Purchasing/RequestforBids/Current-RFBs-FY13.cfm

For information concerning the RFB process, required format and the schedule of activities, please direct questions to:

Garry Crider
Procurement Services Manager
Telephone: (717) 221- 1300 x 1645
Email: cgcrider@hacc.edu

ACKNOWLEDGMENT FORM

HACC — Central Pennsylvania's Community College

Request for Bid

RFB13-06 AUDIO VISUAL INSTALLATIONS

Acknowledgement: Please acknowledge receipt and interest in this Request for Bid (RFB) by completing the information requested below and emailing it to cgcrider@hacc.edu.

Acknowledgement due date is October 31, 2012.

Also, please include this page with your Bid.

Provider Name: _____ Contact Name: _____

Address (include City, State, Zip): _____

_____

Phone: _____ Fax: _____ Cell Phone: _____

Email: _____ Website: _____

Check One: We will _____ will not _____ be responding to this RFB.

If not responding, please explain briefly: _____

_____

_____

Terms:

1. All bids must be mailed or hand delivered in a **sealed** envelope clearly marked with your company name and the HACC bid number.

2. Bids must include all costs and shipping/handling/freight charges. HACC is tax exempt.

3. **Do not** include a copy of the original RFB with your response.

4. RFB Clarification

   Bidders may request an explanation of the intent or content of this RFB and clarification of procedures used for this procurement. No interpretation made to any Bidder as to the meaning of the RFB shall be binding on the College unless repeated in writing and distributed as an addendum by the College Central Administration Procurement Office. Questions will be asked during the Mandatory Site Visit. A Pre-bid Meeting minutes will be provided within two (2) following the Mandatory Site Visit.

   Failure of the Bidder to make appropriate inquires, evaluate any special conditions, or to verify requirements of this RFB shall not relieve the Bidder of the responsibility of fulfilling the contract in accordance with the terms of this RFB.

   Communication concerning the Request for Bid can only be with Garry Crider, Procurement Services Manager (717-221-1300 extension 1645 or cgcrider@hacc.edu). Oral communication with any other College employee, unit, department, or organization concerning this RFB is not binding on the College and shall in no way modify the RFB, or the obligation of the College or the Vendor, and may deem the Bidder's bid void.

5. **MANDATORY SITE VISIT**

   A MANDATORY SITE VISIT is planned for the following Campuses, locations, and times:

CAMPUS	ADDRESS	ROOM LOCATION	DATE / TIME
Harrisburg Campus	**One HACC Drive Harrisburg, PA 17110**	**Senator Jeffrey E. Piccola Law Enforcement Complex ROOM LEC104**	**October 4, 2012 1:00 PM**
Lancaster Campus	**1641 Old Philadelphia Pike Lancaster, PA 17602**	**East Building Room 210**	**October 5, 2012 2:00 PM**
Lebanon Campus	**735 Cumberland Street Lebanon, PA 17042**	**Room 202**	**October 5, 2012 9:00 AM**

The MANDATORY SITE VISIT will include a tour of the locations to be serviced.

The Pre-Bid Site Visit is **MANDATORY** for all prospective Bidders who wish to have their bids considered. Bids from prospective Bidders not attending, or who are not present for the **entire** pre-bid site visit will not be considered for award.

6) Acceptance of Bid

The College reserves the right in awarding the contract to consider the competency, responsibility, and suitability of the Bidder, as well as the services to be provided. The College further reserves the right to accept or reject any or all bids, to waive any irregularities or informalities, and to award the contract in the best interest of the College. Neither the College nor any agent thereof on behalf of the College will be obligated in any way by any Bidder's response to this RFB.

The College also reserves the right to allow a Bidder to correct a defect in its Bid provided that correction of the defect does not alter the amount of the Bid or the scope of work required under the Bid.

7) Addenda to the RFP

In the event that it becomes necessary to revise any part of this RFB, HACC's Procurement and Business Services Office will provide addenda in writing to the Bidders who indicate that they are interested by returning the acknowledgement sheet (page 2). No oral statements, explanations, or commitments by whosoever made shall be of any effect except as the College's Procurement and Business Services Office has confirmed the same in writing.

HACC - Central Pennsylvania's Community College

RFB13-06

AUDIO VISUAL INSTALLATIONS
REQUEST FOR BID

SCOPE OF WORK

HARRISBURG, LEBANON AND LANCASTER CAMPUSES
AV INSTALLATION SERVICES

(Guidelines)
Installation Services

This bid will include three Harrisburg Area Community College Campuses; Harrisburg, Lancaster, and Lebanon. Harrisburg work will include six brand new Data Projection classrooms. Lancaster will include two brand new Data Projection Classrooms as well as upgrading nine existing Projection Classrooms. Mainly the nine rooms will focus on the addition of wall plates, Extron controllers and ceiling audio. Lebanon will include upgrading nine existing Projection Classrooms. Again, those nine Lebanon rooms will focus on the addition of wall plates, Extron controllers and ceiling audio. All rooms are very similar in layout and almost identical in terms of equipment at each campus. However each campus will vary slightly. The vendor selected will be awarded all work. Work should begin as soon as a purchase order is released which should be the week of November 6, 2012. The following criteria, outlined below, will apply to the entire project.

Overall there are some criteria that must be followed with respect to materials used (cable, plates etc).

1. Vendor will supply and install all cable used for connection within instructor table and/or to data projector and speakers.
2. Vendor will also supply all data projector mounting hardware (except Chief RPA-191 or RPA-279 which will be supplied by HACC). Vendor will also supply any additional misc. hardware required to complete the work specified below.
3. All cable used for computer display must be computer XGA rated.
4. All cable that will run in walls and/or drop ceilings must be plenum rated.
5. Vendor must be familiar with installations using video over twisted pair. TIA 568A protocol must be followed where applicable.
6. Vendor must use Extron enhanced Skew-Free UTP23SF-4P for video twisted pair runs if applicable.
7. Wall plates must be metal, not plastic. Each plate should be black with engraved labels and meet the requirements as specified below and must be approved by each campus

AV representative at a time prior to vendor manufacturing, placing order and installation. Wall or desktop plates should be 2-gang unless otherwise specified. Diagrams of the proposed plates are attached.

8. All cables must be secured to the structure in the drop ceiling space where applicable. All cables must also be neat and hidden where possible in the room. **ALL** exposed cables in the room should be contained in cloth "snakeskin" wrap; large enough that no cables shall show through. Black or dark color is preferred for cables on or near instructor station or equipment rack. Light colored (white or off-white) should be used for exposed cables near the ceiling. No cables shall be actually visible except for the headshell.
9. HACC ITC Staff will provide all equipment for vendor at a time shortly prior to A/V installation. New equipment rack and/or instructor furniture may be picked up by vendor and worked on prior to project off site if you so choose. Note: Some furniture has been parked in classrooms and is already in use; whether in new or rooms to be upgraded.
10. HACC Staff shall be responsible for preparing network access for the PC and the controllers.
11. Surface mount wall raceway may be used in all rooms except Midtown, Lebanon and Lancaster. Lancaster rooms may vary between an open cavity or conduit within the walls and will be specified during the site survey. Conduit is in place and the walls are drywall in Midtown 2 Room 227. The wall cavity should be very easy to navigate in Midtown 2 Room 102, Lebanon and Lancaster.
12. Vendor will connect cables to HACC provided equipment and test all cables for operation and quality after termination. Each cable run shall be a continuous cable with no inline joints or adapters.
13. Vendor will not be given extra payments for conditions that can be determined in advance of bid by examining documents or job site. It is strongly suggested that vendors take pictures, measurements, ask questions and take detailed notes etc during site surveys.
14. Vendor will supply and install all cable to be used on the project.
15. Actual on site installation crew should have a minimum of three years in the industry and carry some level of certification stating such. All on-site installation crew must be a direct employee of the vendor awarded this contract. No subcontractors or third parties may be used. There will be no exceptions except as stated in advance and included clearly in writing in the submitted bid proposal.
16. Vendor will check data projectors for vibration and compensate (including supplying materials to correct) where necessary.
17. Vendor will secure audio speaker brackets (where applicable) to ceiling or wall and mount speakers. In areas of high ceilings and/or no drop ceiling, vendor shall supply **ALL** appropriate mounting hardware unless already included with the speaker. Speaker placement in each room should be for the best sound result. Vendor recommendations for sound coverage in each room (ie: quantity of speakers) that varies from that included in this bid, should be noted clearly in their proposal. Note: Equipment has been or is already being purchased. Any vendor-proposed ***increases*** in the speaker quantities should be the responsibility of the vendor to supply and should be clearly noted in the proposal. However each specific variation from the bid must also include technical reasons based on sound engineering.

18. Vendor shall terminate all cables so they may be used with the proper equipment as per individual room instructions below and/or attachments.
19. Any repair necessary to HACC property from damage caused by the vendor during installation shall be the responsibility of the vendor. This shall include structure, surface or equipment damage. HACC will be responsible for matching paint color where applicable.
20. Vendor shall be responsible for trash removal daily from the jobsite. This refers to trash generated only by work covered by this scope of work. This includes trash generated from boxes, related to this project, provided by HACC staff. Note: Installation work shall begin within two weeks of when the purchase orders are issued. Classes will already be in session when most installation work will be performed. Equipment and materials may be left in rooms from day to day (see #22 below) but must be kept neat and out of the way as much as possible until the room is completed. There may be classes held in that room before the vendor returns for the next-day work. Classes may be able to be relocated if there are open classrooms available. Once the room is determined to be "complete and functional" by HACC Staff, all tools and misc. materials must be removed.
21. All manuals and misc unused parts shall be removed from the site daily, held and given to Robert Dudley at the end of the project unless specified otherwise.
22. While HACC will try to maintain a secure environment, we encourage the audiovisual vendor to remove, on a daily basis; all tools, cables and anything involved in the audiovisual installation of the project. HACC will not be responsible for lost or stolen property.
23. Where specified, vendor shall supply and use 2' x 2' ceiling tile projector mounts attached securely to the structure with heavy duty wire. Projectors will be hung from the structure to the ceiling grid to be safe as well as stable (no vibration). Vendor shall include diagrams if possible as necessary.
24. This project will include one year of support. This includes cables, termination and all misc. parts supplied by vendor. This also includes Extron support as it related to this installation. Vendor shall be on site within 24 hours for service calls as needed related to installation on this project. Please note: This assumes HACC technical staff have determined that a given problem is with cabling, installation, etc.
25. Vendor shall keep in mind when calculating projector mounting in terms of distance from the screen. In the future, due to technology enhancements, HACC may choose to change from 4:3 to widescreen format. Projectors should be able to accommodate those future changes without the need for projector relocation or new cable being installed. A guideline for the screen image in technology rooms at HACC is for the image to be approx. 84" wide in rooms with a 96" screen where the ceiling is less than 10'. To fill the 96" screen at would make the bottom of the image too low for the students in the rear of the room to view. The projector, however, should still be mounted so that the image ***can***, reach 96" wide.
26. **Vendor shall calculate into this bid proposal any and all additional equipment, cables etc related to the functionality of this project not specifically discussed herein and make specific notation(s) on the bid proposal. Exceptions would be equipment discussed and itemized during the on-site surveys which will added to any addendum to this bid.**
27. Vendor should calculate labor for work to be done on off-hours such as late afternoons, evenings, weekends etc. However, vendor shall be considerate and keep disruptive noise such as hammering and drilling to an absolute minimum while nearby classes are

in session. Noise during class changes, however is acceptable. Again vendor shall refer to room schedules as many classes may run at non-regular times.

28. HACC Staff will assist vendor with key and/or electronic card access with HACC Security. It is the responsibility of the vendor to work out the specific daily method of key and/or card(s) pickup and returns with the HACC Security team on site.
29. Vendor may not use existing and may not supply additional cage-style data troughs or data hooks near ceiling.
30. Harrisburg classrooms on this project will not have projector electric already on place. HACC Facilities has already provided ceiling electric with a flexible conduit and a cutoff switch.
31. Vendor will supply one bottom line quote to include all three exhibits and will be awarded the entire project. Vendor should itemize proposal and provide a cost for each Exhibit. However due to budgetary constraints, please provide quotes in the following matter:
    a. Please provide one quote for all six Harrisburg Classrooms
    b. Please provide three quotes for Lebanon classrooms *
        1. One quote to include all 9 upgrade classrooms
        2. One quote to include just 8 upgrade classrooms
        3. One quote to include just 7 upgrade classrooms
    c. Please provide three quotes for Lancaster classrooms *
        1. One quote to include both new classrooms and all 9 upgrade classrooms
        2. One quote to include both new classrooms and just 8 upgrade classrooms
        3. One quote to include both new classrooms and just 7 upgrade classrooms

    * Actual classrooms that may be excluded will be decided at each site survey. Further, room priorities (if any) will be discussed during each site survey.
32. Project must be invoiced as each project is completed. All three projects shall be fully completed no later than January 31, 2013.
33. Specific vendor work schedules shall be determined once the vendor is selected. Work to be done when the College is open shall be at Lebanon and Lancaster. Work to be done when the College is closed shall be done at Harrisburg due to 24/7 security coverage
34. **Mandatory site visit shall be:**

    a. Harrisburg at 1pm on October 4, 2012 in the new Law Enforcement Complex Room 104 at the Public Safety Training Center at the Harrisburg Campus. We shall inspect that room as a sample HACC Projection Classroom, answer questions regarding this entire bid; then visit each Harrisburg room listed herein including the HACC Midtown facility at 3rd and Reilly Street, Harrisburg, PA.

    b. Lebanon Campus at 9am on October 5, 2012 in room 202

    c. Lancaster Campus at 2pm on October 5, 2012 in the East Building room 210.

35. Actual installation dates will be flexible. Key dates will be:

    a. August 20 – December 7 Classes meet Monday through Saturday; occasionally Sundays but Security available on site 24/7 at Harrisburg. Lebanon and Lancaster Security availability shall be 7:30am – 10pm or as specified by the technical representative during each site survey.
    b. October 8 – 9 No classes but the College is open
    c. November 21 No evening classes. College closes at 4:30pm
    d. November 22 - 25 Thanksgiving Holiday. No day or evening classes
    e. December 7 Regular classes end
    f. December 8 – 14 Final Exams No work shall be done on site since room availability is unknown
    g. December 24, 2012 – January 1, 2013 College closed. Security is available 24/7 at Harrisburg
    h. January 2, 2013 College offices reopen
    i. January 14, 2013 Spring classes begin
    j. January 21, 2013 Martin Luther King Holiday; College closed

New Projection Classrooms – Harrisburg Campus

(Exhibit A)

Location #1 Room Whitaker 125F

This room is a general classroom. Surface mount raceway may be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

* HACC will provide custom metal plate to cover opening cutout in wood furniture. Cover shall include 1.5" opening for cables

Item	Manufacturer	Model	Quantity
Ventilated Rack Shelf (for PC)	Raxxess	UTVS-3	1
Data Projector	Sanyo	PLC-XK3010	1
Speakers	Tannoy	CVS6	4
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	DaLite	Number 6	1 Pair
Projector Mount	Chief	RPA-279	1
Rack-mounted power strip for instructor station	TrippLite	PDU1220	1
Rack Shelf	Raxxess	UTS-2	1
Rack Drawer	Raxxess	SDR-2	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2xi VGA Distribution amp	Extron	60-506-03	1
Surface Mount Box	Extron	60-640-02	1
Rear rack rails	Penn Elcom	R0828/14	1 Pair
Hub	Netgear	FS105NA	1
12' Flexible VGA Cable	Extron	26-567-03	1
EWB 102 Wall Box (for MLC 104)	Extron	60-1162-02	1
EWB 102 Wall Box (for wall plate)	Extron	60-1162-02	1
Flip-up Slide Shelf	Spectrum	55402FM	1
Mini Amp	Kramer	900XL	1

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
2-gang desktop plate for Extron surface mount box	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1
Suspended projector ceiling plate	Peerless	CMJ500	1

Installation shall include:

1. Mounting data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'.
2. Install rear rack rails in and side shelf on instructor furniture.
3. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC to Extron P/2 DA2xi
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to 2-gang wall plate ('VGA 2')
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to VGA monitor
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   RCA {2-RCA (m to m)} from empty Raxxess shelf to 2-gang wall plate. Possible VCR in the future.
   Composite video {RCA (m)} from empty Raxxess shelf to BNC (m) on 2-gang wall plate. Possible VCR in the future.
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

4. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
5. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in")
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
   Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in")
   3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")

3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")

Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).

Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).

Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through raceway and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside box through raceway to projector. Leave 4' service loop at projector.

6. Custom 2-gang desktop plate including the following:

   VGA {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) 12' Extron Flex VGA cable provided by HACC} from desktop plate (inside) to wall plate ("VGA 1 in")

   3.5mm {(f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo to wall plate ("VGA 1 audio in")

   Computer-type power plug (feed-thru) from desktop plate (inside) to wall power

7. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
8. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
9. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
10. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
11. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
12. Connect cat5e cable in the ceiling provided by HACC ITS coming from data closet to Netgear hub
13. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
14. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
15. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate.

Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #2 Room Blocker 136

This room is a general classroom. Surface mount raceway may be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Ventilated Rack Shelf (for PC)	Raxxess	UTVS-3	1
Data Projector	Sanyo	PLC-XK3010	1
Speakers	Tannoy	CVS6	4
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	DaLite	Number 6	1 Pair
Projector Mount	Chief	RPA-279	1
Rack-mounted power strip for instructor station	TrippLite	PDU1220	1
Rack Shelf	Raxxess	UTS-2	1
Rack Drawer	Raxxess	SDR-2	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2xi VGA Distribution amp	Extron	60-506-03	1
Surface Mount Box	Extron	60-640-02	1
Rear rack rails	Penn Elcom	R0828/14	1 Pair
Hub	Netgear	FS105NA	1
12' Flexible VGA Cable	Extron	26-567-03	1
EWB 102 Wall Box (for MLC 104)	Extron	60-1162-02	1
EWB 102 Wall Box (for wall plate)	Extron	60-1162-02	1
Flip-up Slide Shelf	Spectrum	55402FM	1
Mini Amp	Kramer	900XL	1

* HACC will provide custom metal plate to cover opening cutout in wood furniture. Cover shall include 1.5" opening for cables

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
2-gang desktop plate for Extron surface mount box	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1
Suspended projector ceiling plate	Peerless	CMJ500	1

Installation shall include:

1. Mounting data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'.
2. Install rear rack rails in and side shelf on instructor furniture.
3. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC to Extron P/2 DA2xi
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to 2-gang wall plate ('VGA 2')
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to VGA monitor
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   RCA {2-RCA (m to m)} from empty Raxxess shelf to 2-gang wall plate. Possible VCR in the future.
   Composite video {RCA (m)} from empty Raxxess shelf to BNC (m) on 2-gang wall plate. Possible VCR in the future.
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

4. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
5. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in")
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
   Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in")

3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through raceway and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside box through raceway to projector. Leave 4' service loop at projector.

6. Custom 2-gang desktop plate including the following:

   VGA {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) 12' Extron Flex VGA cable provided by HACC} from desktop plate (inside) to wall plate ("VGA 1 in")
   3.5mm {(f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo to wall plate ("VGA 1 audio in")
   Computer-type power plug (feed-thru) from desktop plate (inside) to wall power

7. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
8. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
9. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
10. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
11. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
12. Connect cat5e cable in the ceiling provided by HACC ITS coming from data closet to Netgear hub
13. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
14. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *

15. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #3 Room Arts 210

This room is a general classroom. Surface mount raceway may be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Ventilated Rack Shelf (for PC)	Raxxess	UTVS-3	1
Data Projector	Sanyo	PLC-XK3010	1
Speakers	Tannoy	CVS6	4
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	DaLite	Number 6	1 Pair
Projector Mount	Chief	RPA-279	1
Rack-mounted power strip for instructor station	TrippLite	PDU1220	1
Rack Shelf	Raxxess	UTS-2	1
Rack Drawer	Raxxess	SDR-2	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2xi VGA Distribution amp	Extron	60-506-03	1
Surface Mount Box	Extron	60-640-02	1
Rear rack rails	Penn Elcom	R0828/14	1 Pair
Hub	Netgear	FS105NA	1
12' Flexible VGA Cable	Extron	26-567-03	1
EWB 102 Wall Box (for MLC 104)	Extron	60-1162-02	1
EWB 102 Wall Box (for wall plate)	Extron	60-1162-02	1
Flip-up Slide Shelf	Spectrum	55402FM	1
Mini Amp	Kramer	900XL	1

* HACC will provide custom metal plate to cover opening cutout in wood furniture. Cover shall include 1.5" opening for cables

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
2-gang desktop plate for Extron surface mount box	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1
Suspended projector ceiling plate	Peerless	CMJ500	1

Installation shall include:

1. Mounting data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Vendor shall mount wall screen and projector, centered between ceiling tile row that houses HVAC, fire alarm light, etc and the row of lights towards the hallway.
2. Install rear rack rails in and side shelf on instructor furniture.
3. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC to Extron P/2 DA2xi
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to 2-gang wall plate ('VGA 2')
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to VGA monitor
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   RCA {2-RCA (m to m)} from empty Raxxess shelf to 2-gang wall plate. Possible VCR in the future.
   Composite video {RCA (m)} from empty Raxxess shelf to BNC (m) on 2-gang wall plate. Possible VCR in the future.
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

4. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
5. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in")
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")

RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in")
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through raceway and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside box through raceway to projector. Leave 4' service loop at projector.

6. Custom 2-gang desktop plate including the following:

   VGA {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) 12' Extron Flex VGA cable provided by HACC} from desktop plate (inside) to wall plate ("VGA 1 in")
   3.5mm {(f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo to wall plate ("VGA 1 audio in")
   Computer-type power plug (feed-thru) from desktop plate (inside) to wall power

7. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
8. Remove existing wall screen and mount new one. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
9. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
10. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
11. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
12. Connect cat5e cable in the ceiling provided by HACC ITS coming from data closet to Netgear hub

13. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
14. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
15. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #4 Room Arts 125

This room is a ceramics lab. Surface mount raceway may be used. However cables should still be hidden as much as possible. There is only a wall mounted equipment rack in the prep room; no instructor station as in the other rooms.

The wall screen is a new 96" x 96" screen (see diagram). The audio speakers are to be wall mounted spaced for best sound. Three should cover the lab area and one to cover the prep room. The wall rack will be located on the wall adjacent to A-125 to the right of the window; near the corner. The 2-gang connection plate for a laptop shall be located in the lab.

There is no drop ceiling. It is open with exposed beams. (17' high). Please use beams as much as possible to run (and hide) cables. As specified in the guidelines section, exposed cables shall enclose in light colored (beige) cloth cable wrap with velcro enclosure.

HACC faculty will be asked to clear space between, and including, the sink and the door. This includes the counter as well as the entire floor. This should be done ASAP to allow work for the IT staff to install data, electricians to install electric for the rack and the AV vendor. Similar to the other classrooms, the data connection and power strip electric should be snakeskin-wrapped and neat - going to the wall.

HACC ITS Staff and Facilities Staff will provide data connections as well the electric to be located on the wall adjacent to the lab, in the far corner, the near the ceiling

HACC ITC Staff will provide computer monitor for use in the prep room. Vendor shall provide and install swing arm to be mounted on the side of the equipment rack. Vendor shall reinforce rack (if necessary) to withstand daily back and forth motion. The arm should be such that the monitor can be viewed from inside the prep room or from the classroom - though the window. The MLC 104 controller should remain easily accessible to the users. The monitor mount is VESA 75. **Mount specifications shall be included in the bid proposal.**

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Ventilated Rack Shelf (for PC)	Raxxess	UTVS-3	1
Data Projector	Sanyo	PLC-XK3010	1
Speakers	JBL	Control 25	4
Wall Rack	Raxxess	SWR-10-17	1
Plexi Front Door	Raxxess	SWRD-10PLX	1
96” x 96” Wall Screen	DaLite	Model B	1
Wall Screen Brackets	DaLite	Number 6	1 Pair
Projector Mount	Chief	RPA-279	1
Rack-mounted power strip for instructor station	TrippLite	PDU1220	1
Rack Shelf	Raxxess	UTS-2	1
Rack Drawer	Raxxess	SDR-2	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Dell	??	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2xi VGA Distribution amp	Extron	60-506-03	1
Surface Mount Box	Extron	60-640-02	1
Hub	Netgear	FS105NA	1
12’ Flexible VGA Cable	Extron	26-567-03	1
EWB 102 Wall Box (for MLC 104)	Extron	60-1162-02	1
EWB 102 Wall Box (for wall plate)	Extron	60-1162-02	1
19” Computer Monitor	Samsung	E1920x	1
Mini Amp	Kramer	900XL	1

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
Articulating pc monitor swing arm	??	??	1
2-gang desktop plate for Extron wall mount box	Custom Made	??	1

Installation shall include:

1. Mounting data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning ‘off’. In this room, due to the dust, the Kramer amp and the Netgear hub will be housed in the equipment rack, not the classroom.

2. Install wall mounted equipment rack. The wall rack will be located on the wall adjacent to A-125 to the right of the window. The bottom of the rack will be 21”

above the countertop. Raceway or pipe conduit (preferred) will enter directly into top of rack.

3. Cables needed to connect the equipment inside wall mounted rack to the data projector including:

   VGA {HD 15 (m to m)} from PC to Extron P/2 DA2xi
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to data projector ("Computer 1 in")
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to VGA monitor. Cable shall be flexible to be attached with articulating arm.
   PC audio out {3.5mm (m to m) stereo} from PC to data projector ("Audio 1 in")
   RCA {2-RCA (m to m)} from empty Raxxess shelf to data projector ("Video <audio> in") Possible VCR in the future.
   Composite video {RCA (m to m)} from empty Raxxess shelf to data projector ("Video in") Possible VCR in the future.
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp; located inside the rack
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers
   Serial {DB 9 (m to m)} from wall rack (inside) to data projector ("Serial") (Leave 2' coiled service loop for future Smart Classroom conversion).
   RJ-45 (m to m)} from wall rack (inside) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

      Note: No speaker wire for Smart Classroom ***preparation*** shall be needed in this location. Just the speaker wire from the Kramer amp

   The computer and video cables will run directly from the wall rack through raceway or pipe conduit and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

   Run cables for future Smart Classroom conversion. Leave 2' service loop inside wall rack and 4' service loop at projector.

4. Install industrial style ceiling-hanging 2 gang box next to the right side of the large work table in the front of the room. The box should have an outdoor enclosure to protect the connections from the enormous amount of dust that circulates in this room. The box should be located next to the existing 2-gang hanging quad electric.

   Custom 2-gang "wall" plate including the following:

   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
   3.5mm {(f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo to data projector wall plate ("Audio 2 in")

   Note: This plate will NOT need an electric connection/feed as with the other rooms.

5. Mount audio speakers to wall and connect from amp. No less than 16-gauge speaker cable to be used. 3 speakers will cover the lab and one speaker will be mounted in the prep room.
6. Remove existing wall screen and mount new one. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 on wall between the window and the rack in prep room.
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Mount computer monitor swing arm and HACC-provided monitor on the side of the equipment rack in the prep room.
11. Connect cat5e cable between Netgear hub and Extron MLC 104. Netgear hub will be located inside wall rack.
12. Connect cat5e cable feed (already in place from HACC IT to data projector ('LAN In')
13. Connect cat5e cable between PC and data wall plate * Note: Vendor shall fit data cables and power into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location # 5 Midtown 2 Room 227

This room is a general classroom. Surface mount raceway may not be used. Conduit should be inside wall; prepared by the contractor as specified by HACC. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a floating ceiling (9'6" high). As specified in the guidelines section, cables running from the wall to above the floating ceiling shall enclose in light colored (beige) cloth cable wrap with velcro enclosure.

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Ventilated Rack Shelf (for PC)	Raxxess	UTVS-3	1
Data Projector	Sanyo	PLC-XK3010	1
Speakers	Tannoy	CVS6	4
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	DaLite	Number 6 ?	1 Pair
Projector Mount	Chief	RPA-279	1
Rack-mounted power strip for Spectrum and Inspiration Lectern	TrippLite	PDU1220	1
Rack Shelf	Raxxess	UTS-2	1
Rack Drawer	Raxxess	SDR-2	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2xi VGA Distribution amp	Extron	60-506-03	1
Surface Mount Box	Extron	60-640-02	1
Rear rack rails	Penn Elcom	R0828/14	1 Pair
Hub	Netgear	FS105NA	1
12' Flexible VGA Cable	Extron	26-567-03	1
EWB 102 Wall Box (for MLC 104) **	Extron	60-1162-02	1
EWB 102 Wall Box (for wall plate) **	Extron	60-1162-02	1
Flip-up Slide Shelf	Spectrum	55402FM	1
Mini Amp	Kramer	900XL	1

* HACC will provide custom metal plate to cover opening cutout in wood furniture. Cover shall include 1.5" opening for cables

** Note: Please flush-mount Extron 104 controller if possible (not use wall box) EWB boxes may or may not be needed

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
2-gang desktop plate for Extron surface mount box	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1
Suspended projector ceiling plate	Peerless	CMJ500	1

Installation shall include:

1. Mounting data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off.
2. Install rear rack rails in and side shelf on instructor furniture.
3. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC to Extron P/2 DA2xi
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to 2-gang wall plate ('VGA 2')
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to VGA monitor
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   RCA {2-RCA (m to m)} from empty Raxxess shelf to 2-gang wall plate. Possible VCR in the future.
   Composite video {RCA (m)} from empty Raxxess shelf to BNC (m) on 2-gang wall plate. Possible VCR in the future.
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

4. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.

5. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in")
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
   Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in")
   3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
   3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
   Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
   Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).

Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through raceway and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside box through raceway to projector. Leave 4' service loop at projector.

6. Custom 2-gang desktop plate including the following:

   VGA {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) 12' Extron Flex VGA cable provided by HACC} from desktop plate (inside) to wall plate ("VGA 1 in")
   3.5mm {(f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo to wall plate ("VGA 1 audio in")
   Computer-type power plug (feed-thru) from desktop plate (inside) to wall power

7. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
8. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
9. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
10. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
11. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
12. Connect cat5e cable in the ceiling provided by HACC ITS coming from data closet to Netgear hub
13. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
14. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
15. Install and connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location # 6 Midtown 2 Room 102

This room is a plumbing lab. Surface mount raceway may not be used. There is no conduit inside the wall however there is a pole that is a drywall-enclosed which should have plenty of open space to fee cables. Cables should still be hidden as much as possible. Cloth “snakeskin” shall be used for exposed cables between wall plate and instructor station – there is no equipment rack. The instructor station is rack-able furniture.

The wall screen is a new 96” x 96” electric screen (see diagram) to be mounted on the header above the window. The audio speakers are to be wall mounted spaced for best sound. The instructor station will be located in the front of the room between the filing cabinet and the existing desk. There is an open ceiling in this room exposed beams (13’ high); with no floating ceiling or drop ceiling. Please use beams to run cables.

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Ventilated Rack Shelf (for PC)	Raxxess	UTVS-3	1
Data Projector	Panasonic	PT-FW430U	1
Speakers	JBL	Control 25	2
Instructor Station (34”)	Spectrum	Inspiration Lectern	1
96” x 96” Electric Wall Screen	DaLite	Cosmopolitan 40801L	1
Projector Mount	Chief	RPA-191	1
PMK 250 Low Profile Pole Mount Kit	Extron	70-526-03	1
Rack-mounted power strip for instructor station	TrippLite	PDU1220	1
Rack Shelf	Raxxess	UTS-2	1
Rack Drawer	Raxxess	SDR-2	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2xi VGA Distribution amp	Extron	60-506-03	1
Surface Mount Box	Extron	60-640-02	1
Hub	Netgear	FS105NA	1
12’ Flexible VGA Cable	Extron	26-567-03	1
EWB 102 Wall Box (for MLC 104) **	Extron	60-1162-02	1
EWB 102 Wall Box (for wall plate) **	Extron	60-1162-02	1
IPA T RLY4 IP Link Relay box	Extron	60-545-03	1
Mini Amp	Kramer	900XL	1

* HACC will provide custom metal plate to cover opening cutout in wood furniture. Cover shall include 1.5” opening for cables

** Note: Please flush-mount Extron 104 controller if possible (not use wall box). EWB boxes should not be needed

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
2-gang wall box (for connection plate)	??	??	1
2-gang desktop plate for Extron surface mount box	Custom Made	??	1

Installation shall include:

1. Mounting data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Mount Extron low profile mounting plate to pipe.
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC to Extron P/2 DA2xi
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to 2-gang wall plate ('VGA 2')
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to VGA monitor
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   RCA {2-RCA (m to m)} from empty Raxxess shelf to 2-gang wall plate. Possible VCR in the future.
   Composite video {RCA (m)} from empty Raxxess shelf to BNC (m) on 2-gang wall plate. Possible VCR in the future.
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ('DVI in") Use VGA/DVI adapter
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer in")
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
   Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in")
   3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")

3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

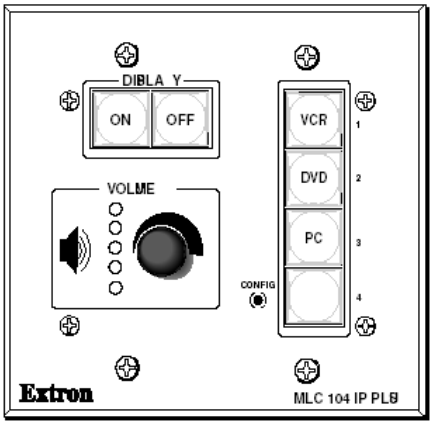
The computer and video cables will run directly from the instructor station to 2-gang wall plate, through raceway and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside box through raceway to projector. Leave 4' service loop at projector.

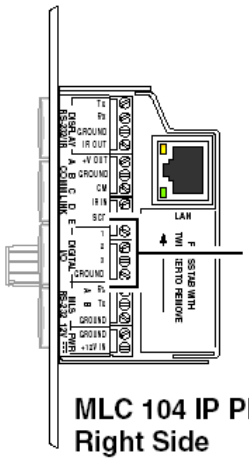
5. Custom 2-gang desktop plate including the following:

   VGA {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) 12' Extron Flex VGA cable provided by HACC} from desktop plate (inside) to wall plate ("VGA 1 in")
   3.5mm {(f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo to wall plate ("VGA 1 audio in")
   Computer-type power plug (feed-thru) from desktop plate (inside) to wall power

6. Mount audio speakers to wall and connect from amp. No less than 16-gauge speaker cable to be used
7. Mount electric screen to header above window. Electric has already been provided to the left side. Screen includes low voltage interface. Connect with MLC 104 and IP Link Relay box to provide screen up/down commands to coincide with projector on/off.
8. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same conduit/cavity if possible). Create opening in wall and conduit use the same low-voltage cable run.
9. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
10. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
11. Connect cat5e cable between Netgear hub and Extron MLC 104 inside wall.
12. Connect cat5e cable between Netgear hub and data projector ('LAN In') *
13. Connect cat5e cable between PC and data wall plate.* All cables in cloth wrap shall run from student side of instructor table to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

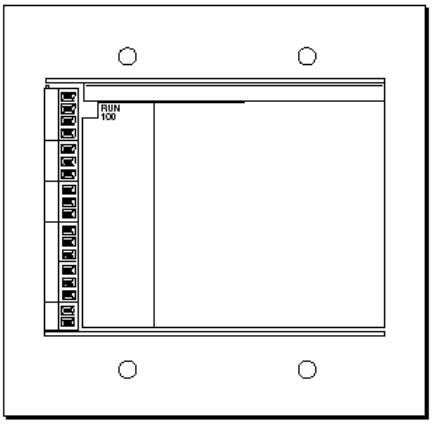


MLC 104 IP Plus Front

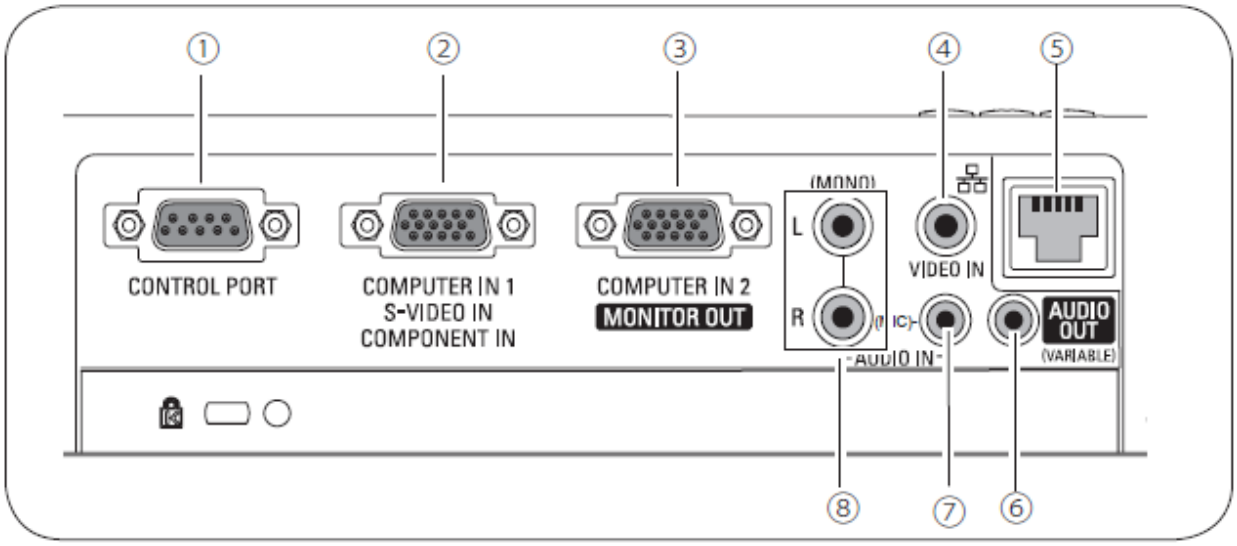


MLC 104 IP Plus Right Side
(rotated)

Rear Panel



Sanyo PLC-XK3010 Connection Terminals



① **CONTROL PORT**

② **COMPUTER IN 1 /S-VIDEO IN / COMPONENT IN**

③ **COMPUTER IN 2 / MONITOR OUT**

④ **VIDEO IN**

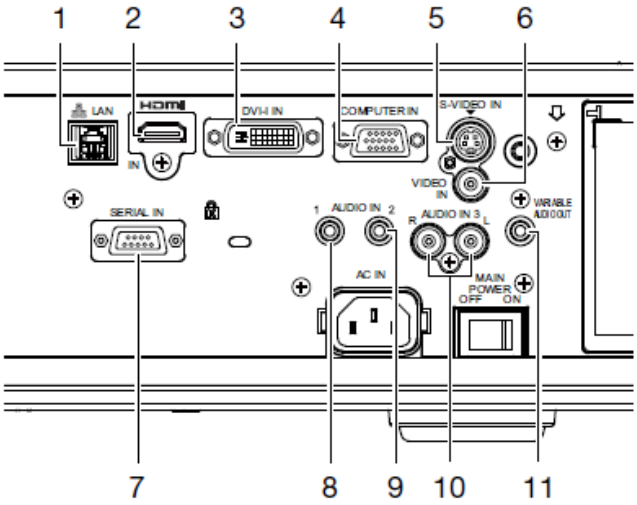
⑤ **LAN Connection Terminal**

⑥ **AUDIO OUT (VARIABLE)**

⑦ **AUDIO IN (PC/MIC)**

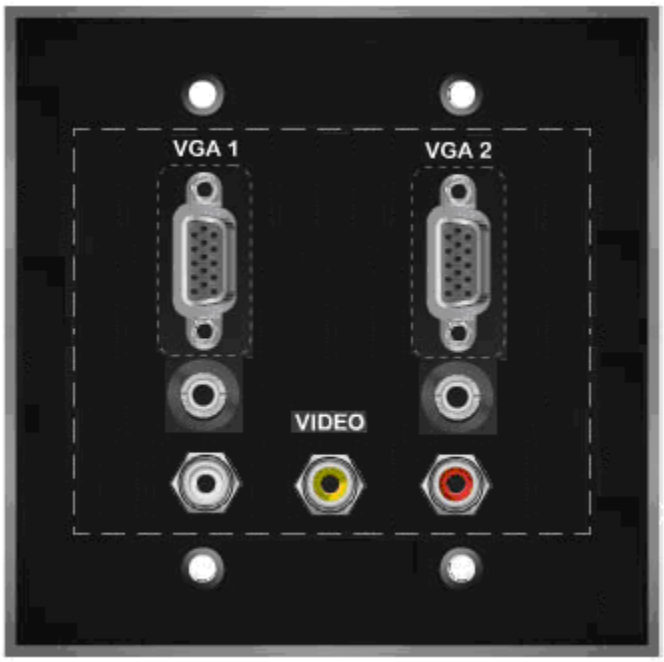
⑧ **AUDIO IN (L/R)**

Panasonic PT-FW430U Connection Terminals



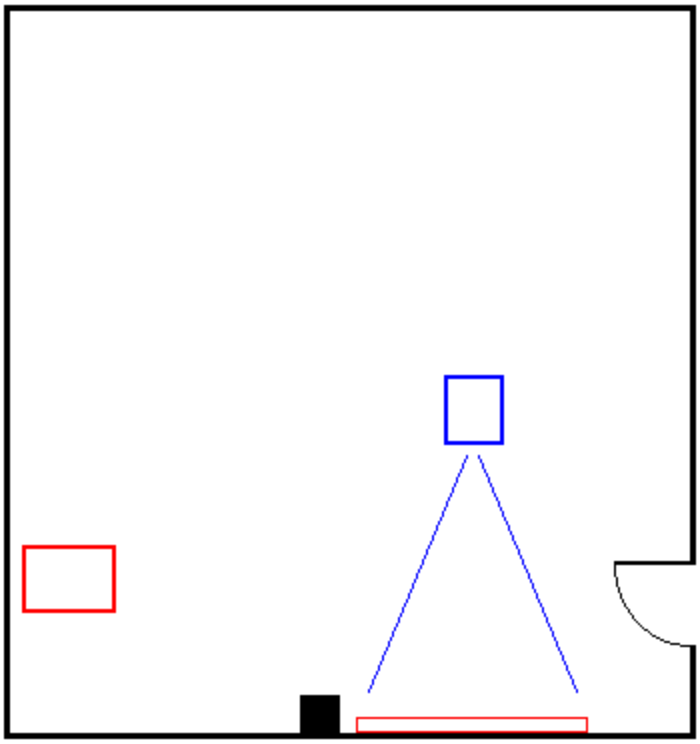
1 LAN connector
2 HDMI input
3 DVI-I input
4 Computer input
5 S-Video input
6 Video input
7 Serial input
8 Audio input 1
9 Audio input 2
10 Audio input 3
11 Audio output

2-gang Wall Plate

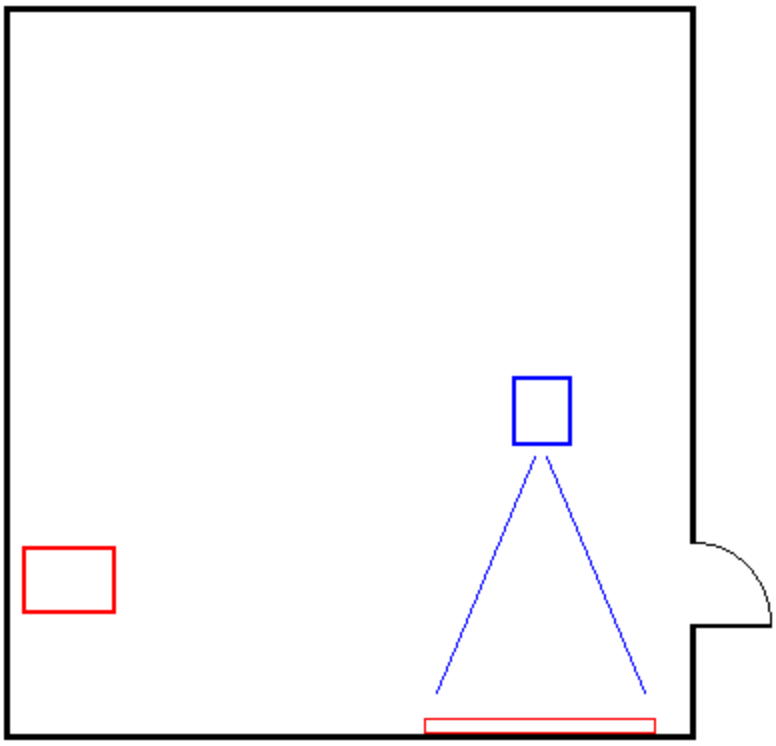


2-gang Desktop Plate

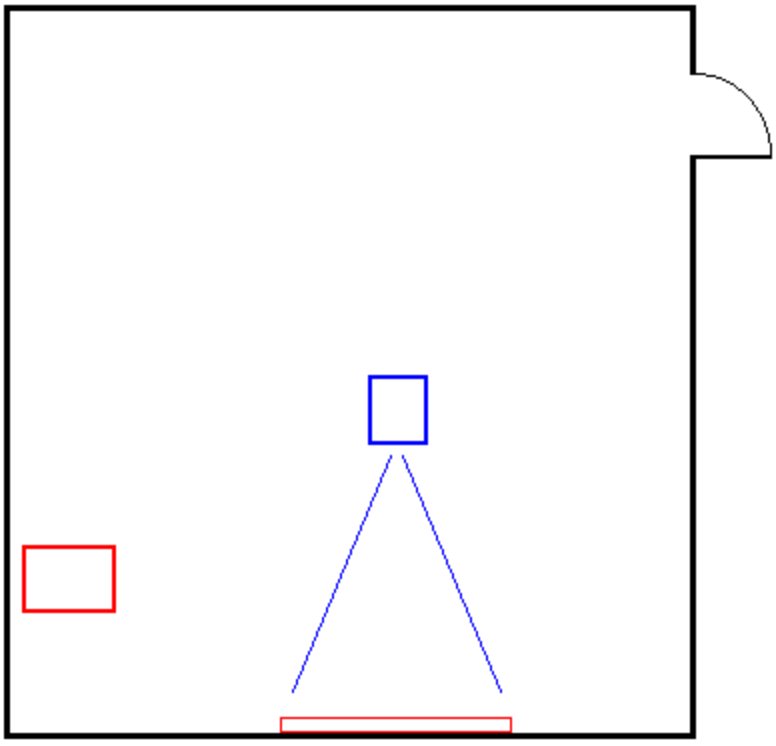
2-gang Connection Plate – A-125



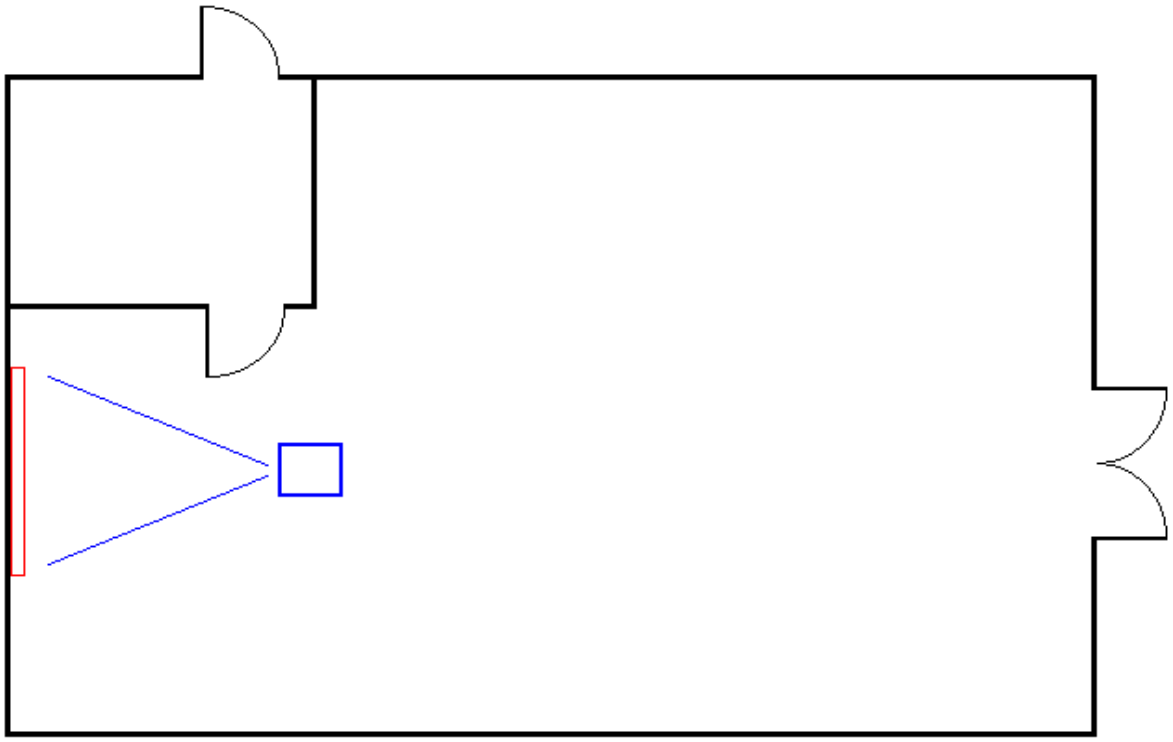
Projection Classroom W-125F



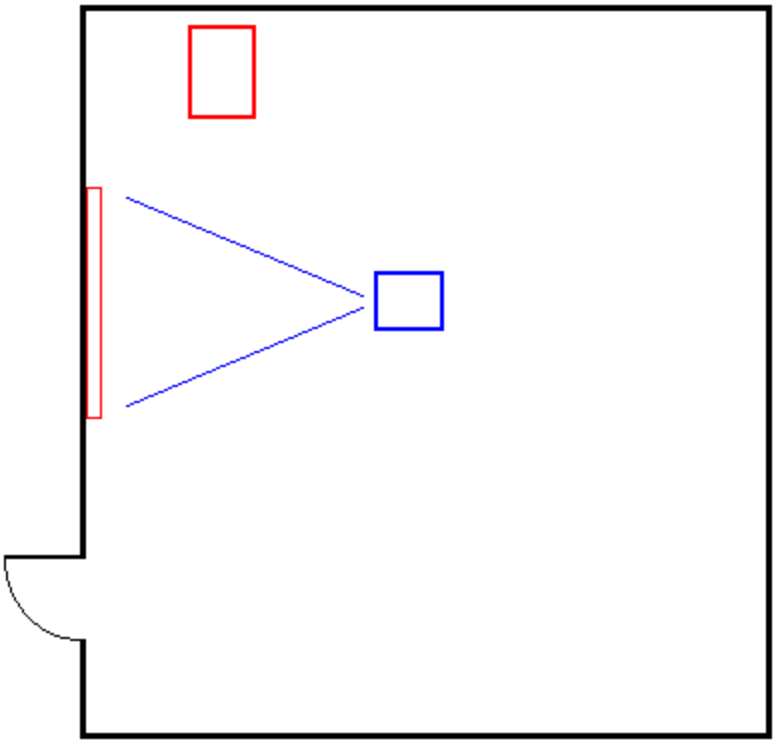
Projection Classroom B-136



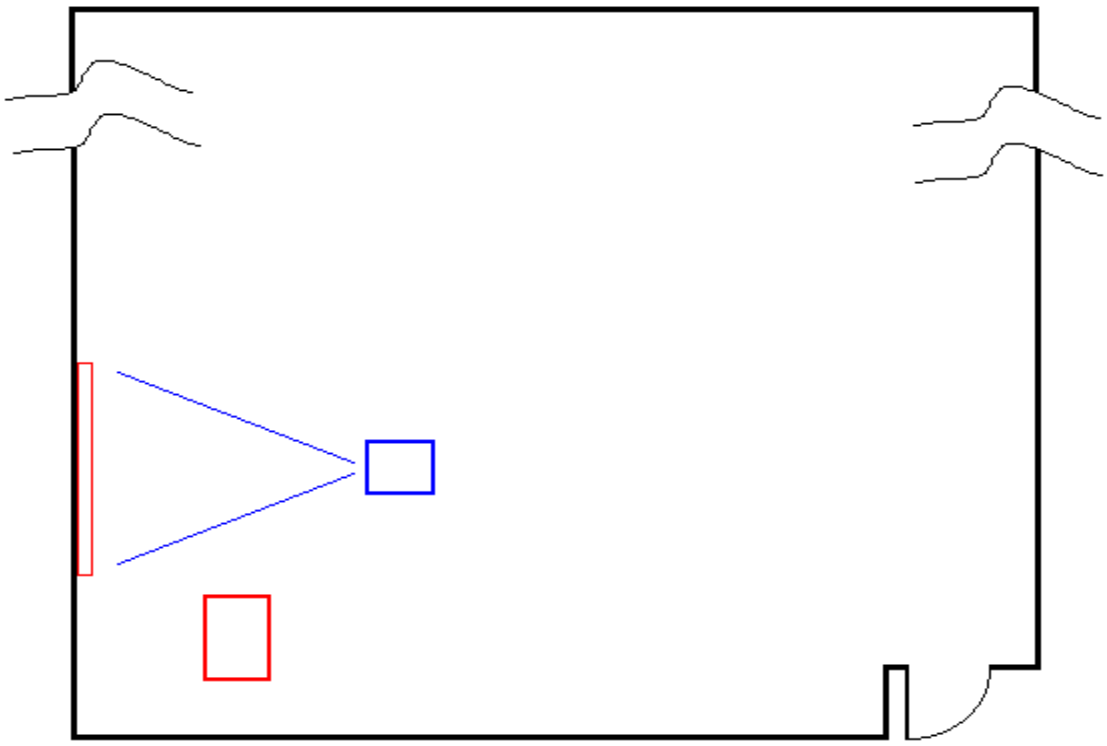
Projection Classroom A210



Projection Classroom A-125



Projection Classroom Midtown 2 227



Projection Classroom Midtown 2 102

Projection Classroom Upgrades – Lebanon Campus

(Exhibit B)

Location #1 Room 202

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Document Camera	Avervision	Aver 300AF+	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC document camera "switcher" (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from document camera "switcher" to Extron P/2 DA2 Plus (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')

VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (ALREADY EXISTS)
PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs directly from the document camera "switcher" through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling provided by HACC Lebanon ITS coming from data closet to Netgear hub
11. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
12. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
13. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #2 Room 204

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Document Camera	Avervision	Aver 300AF+	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC document camera "switcher" (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from document camera "switcher" to Extron P/2 DA2 Plus (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')

VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (ALREADY EXISTS)
PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs directly from the document camera "switcher" through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling provided by HACC Lebanon ITS coming from data closet to Netgear hub
11. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
12. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
13. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #3 Room 206

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Document Camera	Avervision	Aver 300AF+	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC document camera "switcher" (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from document camera "switcher" to Extron P/2 DA2 Plus (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')

VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (ALREADY EXISTS)
PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs directly from the document camera "switcher" through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling provided by HACC Lebanon ITS coming from data closet to Netgear hub
11. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
12. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
13. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #4 Room 208

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV342	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Document Camera	Avervision	Aver 300AF+	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC document camera "switcher" (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from document camera "switcher" to Extron P/2 DA2 Plus (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')

VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (ALREADY EXISTS)
PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs directly from the document camera "switcher" through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Remove existing wall screen and replace with a new identical screen. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling provided by HACC Lebanon ITS coming from data closet to Netgear hub
11. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
12. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
13. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #5 Room 210

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV342	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Document Camera	Avervision	Aver 300AF+	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC document camera "switcher" (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from document camera "switcher" to Extron P/2 DA2 Plus (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')

VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (ALREADY EXISTS)
PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs directly from the document camera "switcher" through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Remove existing wall screen and replace with a new identical screen. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling provided by HACC Lebanon ITS coming from data closet to Netgear hub
11. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
12. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
13. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #6 Room 212

This room is a general classroom. The wall is drywall, however surface mount raceway may be used. In fact this room already has surface mount raceway and a wall box in place from a previous installation. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are already in place. The instructor station will be located in the front of the room just inside the room against the adjacent classroom wall. There is a full drop ceiling (9'6" high).

The equipment exists on a simple table. Vendor shall disconnect all equipment in integrate it back into the HACC-supplied furniture *

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-D3500U	1
Speakers	JBL	Control 26	4
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-570	1
DVD/VHS VCR	Zenith	XBV613	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Document Camera	Avervision	Aver 300AF+	1
Suspended projector ceiling plate **	Peerless ??	CMJ500 ??	1
2-gang wall plate ***	Custom Made	??	1
Mini Amp ****	Extron	??	1
Mini Amp	Kramer	900XL	1

* Furniture to be used is not already in the room. Vendor will determine if furniture preparation for this room shall be done on or off site

** Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

*** Replace 2-gang wall plate and discard existing on so the room will be standard with all other rooms on this project. Raceway and wall box may remain in place to re-used

**** Replace amp and modify cabling so that the room is standard with all other rooms on this project. Old amp shall be given to Lori Swoyer upon removal as a spare

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Projector is already in place and should remain. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such

that the image could be wide format and would fill the screen. Ceiling cloud is already in place

2. Cables needed to connect the equipment at the instructor station to the data projector including:

    VGA {HD 15 (m to m)} from PC document camera "switcher" (ALREADY EXISTS)
    VGA {HD 15 (m to m)} from document camera "switcher" to Extron P/2 DA2 Plus (ALREADY EXISTS)
    VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
    VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (ALREADY EXISTS)
    PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
    Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
    RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
    3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
    5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

    VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("RGB 1 in") *
    VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("RGB 2 in") Use HD15 (f) to 5-BNC (m) breakout cable.
    RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
    Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") **
    3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
    3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
    Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
    Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
    Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

    * One VGA cable already exists and runs directly from the document camera "switcher" through the raceway to the projector. If the cable is already terminated and useable, then simply re-use it.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall box to projector. Leave 4' service loop at projector.

5. Audio speakers are already in place in ceiling tile. Connect with new amp and re-wire as necessary. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling provided by HACC Lebanon ITS coming from data closet to Netgear hub
11. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
12. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
13. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #7 Room 214

This room is a general classroom. Wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. Enclosed building support cavity shall be used for all cables running to

the projector. Existing low voltage cables are currently running through front (adjacent classroom) wall and should be relocated or replaced. There is a full drop ceiling (9'6" high).

The equipment exists on a simple table. Vendor shall disconnect all equipment in integrate it back into the HACC-supplied furniture *

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV342	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Document Camera	Avervision	Aver 300AF+	1
Suspended projector ceiling plate **	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Furniture to be used is not already in the room. Vendor will determine if furniture preparation for this room shall be done on or off site

** Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

    VGA {HD 15 (m to m)} from PC document camera "switcher" (ALREADY EXISTS)
    VGA {HD 15 (m to m)} from document camera "switcher" to Extron P/2 DA2 Plus (ALREADY EXISTS)
    VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
    VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (ALREADY EXISTS)
    PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
    Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
    RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
    3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
    5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

    VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") *
    VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
    RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
    Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") **
    3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
    3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
    Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
    Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
    Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs directly from the document camera "switcher" through the wall to the projector. If the cable is already terminated and re-termination is possible, then simply pull it out of the front wall and relocate it to the run through the pillar cavity and coil excess above the ceiling as a service loop. If the cable is terminated and not re-usable, then please remove and discard and provide new cable through pillar cavity.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and re-termination is possible, then simply pull it out of the front wall and relocate it to the run through the pillar cavity and coil excess above the ceiling as a service loop. If the cable is terminated and not re-usable, then please remove and discard and provide new cable through pillar cavity.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through pillar cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. Vendor shall run un-terminated from tight coil inside pillar cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling provided by HACC Lebanon ITS coming from data closet to Netgear hub
11. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
12. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
13. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

    * HACC will provide short Blue Cat5e cables

Location #8 Room 216

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be

used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The equipment exists on a simple table. Vendor shall disconnect all equipment in integrate it back into the HACC-supplied furniture *

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	4
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Document Camera	Avervision	Aver 300AF+	1
Suspended projector ceiling plate **	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Furniture to be used is not already in the room. Vendor will determine if furniture preparation for this room shall be done on or off site

** Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC document camera "switcher" (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from document camera "switcher" to Extron P/2 DA2 Plus (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (ALREADY EXISTS)
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
   RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") *
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
   Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") **
   3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
   3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
   Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
   Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).

Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs directly from the document camera "switcher" through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Remove 6' wall screen. Install new screen brackets for 8' screen. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted. Screen shall be given to Lori Swoyer upon removal as a spare.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling provided by HACC Lebanon ITS coming from data closet to Netgear hub
11. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
12. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
13. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #9 Room 218

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is rack-able furniture.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The equipment exists on a simple table. Vendor shall disconnect all equipment in integrate it back into the HACC-supplied furniture *

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42") *	Custom Made	??	1
96" x 96" Wall Screen	DaLite	Model B	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV342	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Document Camera	Avervision	Aver 300AF+	1
Suspended projector ceiling plate **	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Furniture to be used is not already in the room. Vendor will determine if furniture preparation for this room shall be done on or off site

** Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC document camera "switcher" (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from document camera "switcher" to Extron P/2 DA2 Plus (ALREADY EXISTS)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (ALREADY EXISTS)
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
   RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") *
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
   Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") **
   3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")

3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")

Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).

Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).

Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs directly from the document camera "switcher" through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and useable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

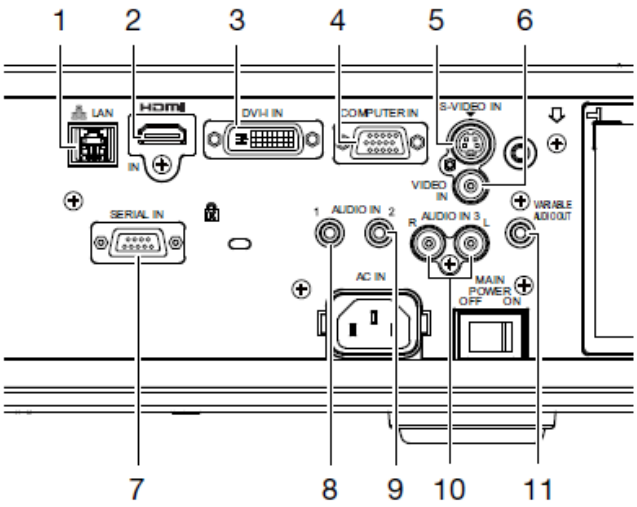
5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling provided by HACC Lebanon ITS coming from data closet to Netgear hub
11. Install and connect cat5e cable between Netgear hub and Extron MLC 104 inside wall or wall box.
12. Install and connect cat5e cable between Netgear hub and data projector ('LAN In'). *
13. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate.

Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

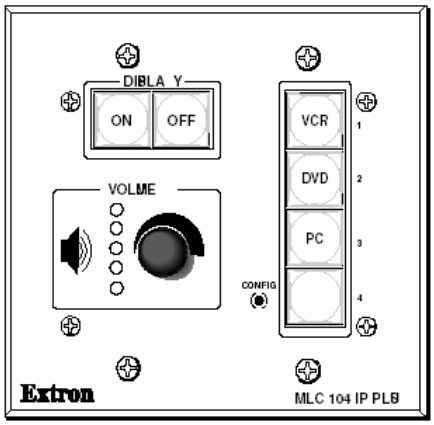
* HACC will provide short Blue Cat5e cables

Panasonic PT-D3500U Connection Terminals

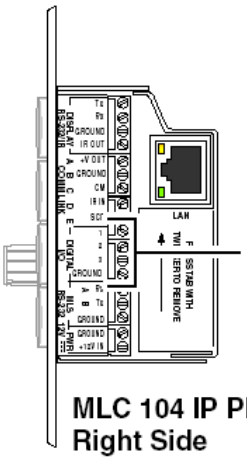
Panasonic PT-FW430U Connection Terminals



1 LAN connector
2 HDMI input
3 DVI-I input
4 Computer input
5 S-Video input
6 Video input
7 Serial input
8 Audio input 1
9 Audio input 2
10 Audio input 3
11 Audio output

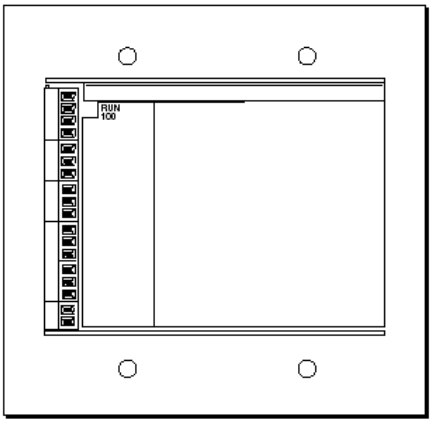


MLC 104 IP Plus Front

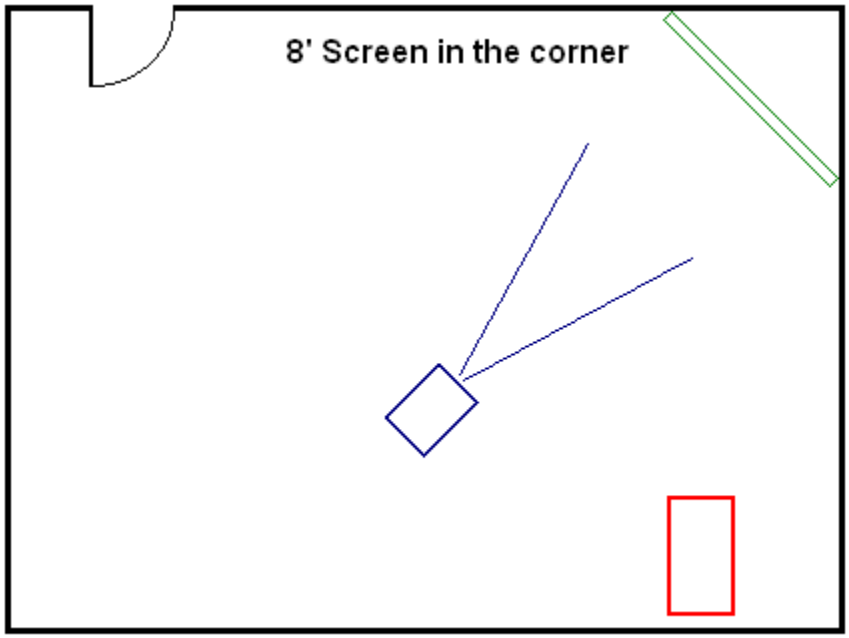


MLC 104 IP Plus
Right Side
(rotated)

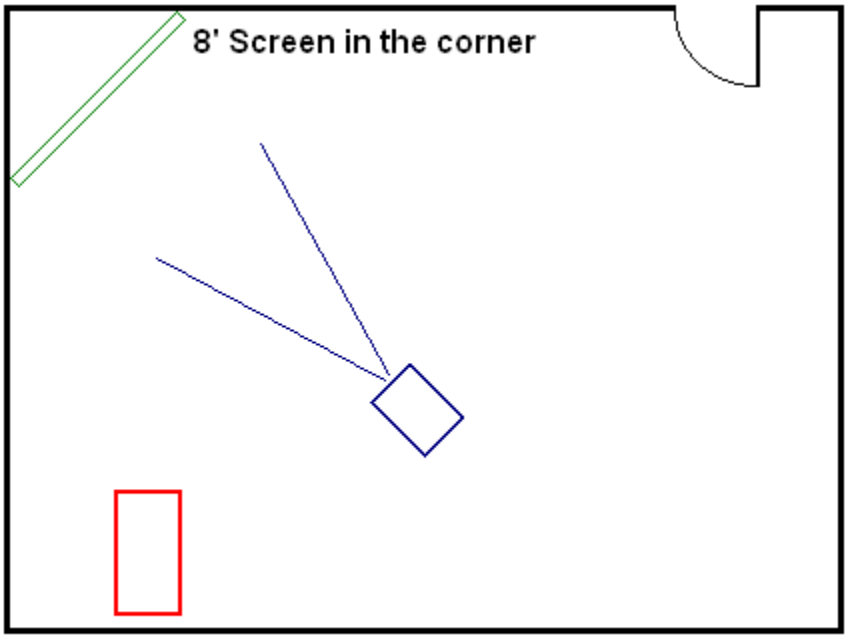
Rear Panel



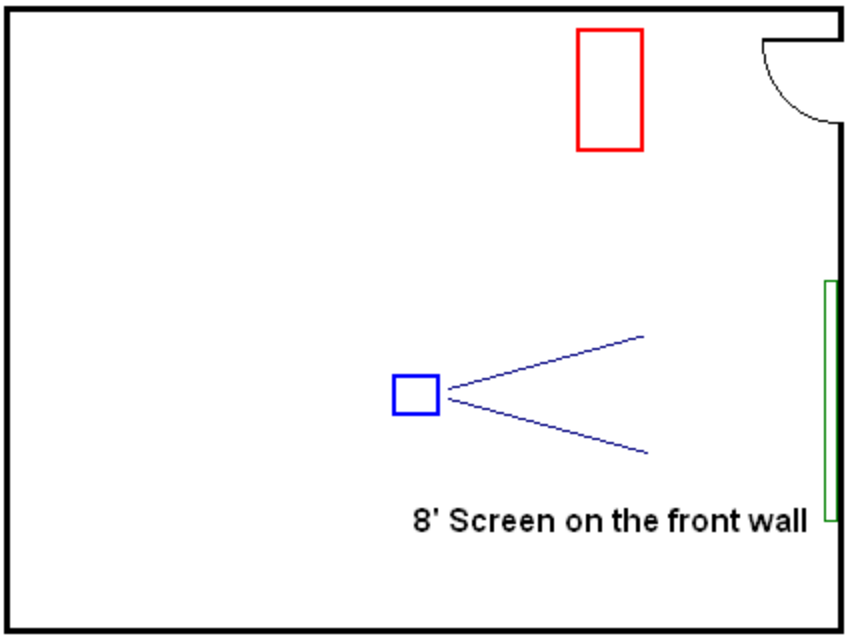
2-gang Wall Plate



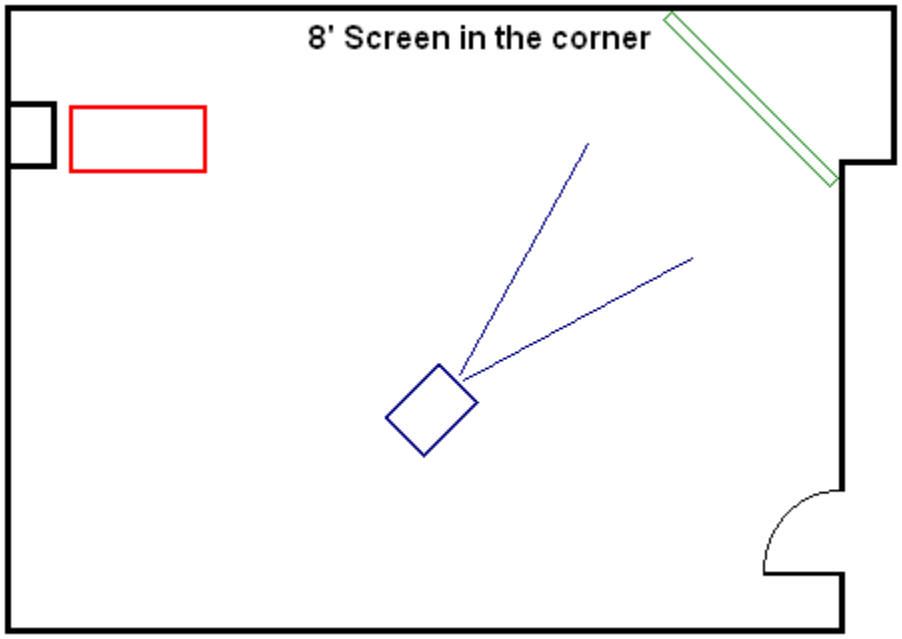
Lebanon 202



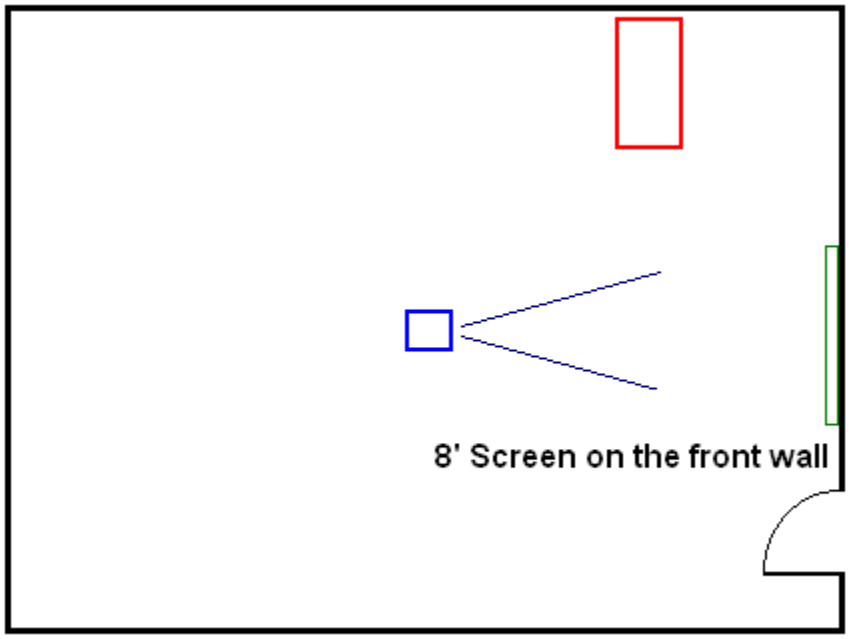
Lebanon 204, 206, 208, 210



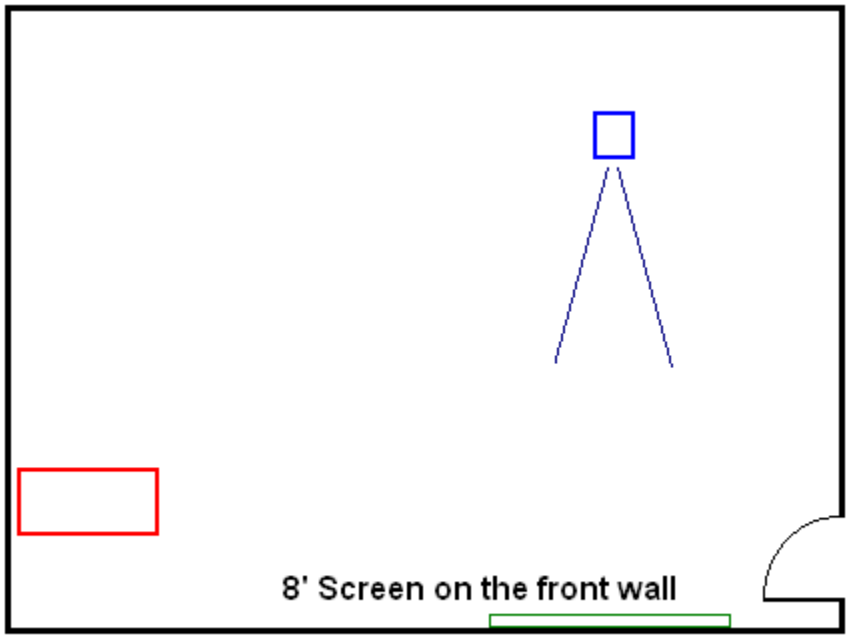
Lebanon 212



Lebanon 214



Lebanon 216



Lebanon 218

New Projection Classrooms – Lancaster Campus

(Exhibit C)

Location #1 Main 309

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42")	Versa	CTL-4824-GM	1
96" x 96" Wall Screen	DaLite	Model C	1
Wall Screen Brackets	DaLite	Number 6	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Toshiba	SD-V296	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2xi VGA Distribution amp	Extron	60-506-03	1
Mini Amp	Kramer	900XL	1

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1
Suspended projector ceiling plate	Peerless	CMJ500	1

Installation shall include:

1. Mounting data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'.
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC to Extron P/2 DA2xi
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to 2-gang wall plate ('VGA 1')
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to VGA monitor
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
   RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in")
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
   Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in")
   3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")

3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box or wall cavity, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Location #2 Main 316

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96” x 96” screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9’6” high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42”)	Versa	CTL-4824-GM	1
96” x 96” Wall Screen	DaLite	Model C	1
Wall Screen Brackets	DaLite	Number 6	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Toshiba	SD-V296	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2xi VGA Distribution amp	Extron	60-506-03	1
Mini Amp	Kramer	900XL	1

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1
Suspended projector ceiling plate	Peerless	CMJ500	1

Installation shall include:

1. Mounting data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning ‘off’.
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from PC to Extron P/2 DA2xi
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to 2-gang wall plate (‘VGA 1’)
   VGA {HD 15 (m to m)} from Extron P/2 DA2xi to VGA monitor

PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in")
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in")
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in")
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in")
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box or wall cavity, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).

8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

* HACC will provide short Blue Cat5e cables

Projection Classroom Upgrades – Lancaster Campus

Location #3 East Room 210

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42")	Smith System	Acrobat	1
96" x 96" Wall Screen	DaLite	Model C	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 1')
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (MAY ALREADY EXIST)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
   RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") (MAY ALREADY EXIST) *
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in") (MAY ALREADY EXIST) *
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in") (MAY ALREADY EXIST)

Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") (MAY ALREADY EXIST) **

3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")

3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")

Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).

Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).

Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs from the P/2 DA2 Plus through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

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** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.

10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

*HACC will provide short Blue Cat5e cables

Location #4 East Room 213

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42")	Smith System	Acrobat	1
96" x 96" Wall Screen	DaLite	Model C	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 1')
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (MAY ALREADY EXIST)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
   RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") (MAY ALREADY EXIST) *
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in") (MAY ALREADY EXIST) *
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in") (MAY ALREADY EXIST)
   Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") (MAY ALREADY EXIST) **
   3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
   3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")

Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).

Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).

Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs from the P/2 DA2 Plus through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

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** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

*HACC will provide short Blue Cat5e cables

Location #5 East Room 302

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42")	Smith System	Acrobat	1
96" x 96" Wall Screen	DaLite	Model C	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

    VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 1')
    VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (MAY ALREADY EXIST)
    VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
    PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
    Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
    RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
    3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
    5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

    VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") (MAY ALREADY EXIST) *
    VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in") (MAY ALREADY EXIST) *
    RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in") (MAY ALREADY EXIST)
    Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") (MAY ALREADY EXIST) **
    3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
    3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
    Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
    Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).

Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs from the P/2 DA2 Plus through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

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** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

*HACC will provide short Blue Cat5e cables

Location #6 East Room 305

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be

used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW300NTU	1
Speakers	Tannoy	CVS6	2
Instructor Station (42")	Smith System	Acrobat	1
96" x 96" Wall Screen	DaLite	Model C	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2' x 2' cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and

would fill the screen. Set projector for closed captioning 'off'. Ceiling cloud is already in place

2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 1')
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (MAY ALREADY EXIST)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
   PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
   Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
   RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
   3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
   5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

   VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") (MAY ALREADY EXIST) *
   VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in") (MAY ALREADY EXIST) *
   RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in") (MAY ALREADY EXIST)
   Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") (MAY ALREADY EXIST) **
   3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
   3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
   Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
   Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
   Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

   * One VGA cable already exists and runs from the P/2 DA2 Plus through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

*HACC will provide short Blue Cat5e cables

Location #7 East Room 306

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42”)	Smith System	Acrobat	1
96” x 96” Wall Screen	DaLite	Model C	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Hub	Netgear	FS105NA	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2’ x 2’ cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning ‘off’. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

    VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate (‘VGA 1’)

VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (MAY ALREADY EXIST)
VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") (MAY ALREADY EXIST) *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in") (MAY ALREADY EXIST) *
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in") (MAY ALREADY EXIST)
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") (MAY ALREADY EXIST) **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs from the P/2 DA2 Plus through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.
.
** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

*HACC will provide short Blue Cat5e cables

Location #8 East Room 309

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42”)	Smith System	Acrobat	1
96” x 96” Wall Screen	DaLite	Model C	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2’ x 2’ cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning ‘off’. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate (‘VGA 1’)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (MAY ALREADY EXIST)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate (‘VGA 2’)

PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") (MAY ALREADY EXIST) *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in") (MAY ALREADY EXIST) *
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in") (MAY ALREADY EXIST)
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") (MAY ALREADY EXIST) **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs from the P/2 DA2 Plus through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.
.
** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

*HACC will provide short Blue Cat5e cables

Location #9 East Room 320

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42”)	Smith System	Acrobat	1
96” x 96” Wall Screen	DaLite	Model C	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2’ x 2’ cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning ‘off’. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate (‘VGA 1’)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (MAY ALREADY EXIST)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate (‘VGA 2’)

PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") (MAY ALREADY EXIST) *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in") (MAY ALREADY EXIST) *
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in") (MAY ALREADY EXIST)
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") (MAY ALREADY EXIST) **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs from the P/2 DA2 Plus through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.
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** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

*HACC will provide short Blue Cat5e cables

Location #10 East Room 324

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW300NTU	1
Speakers	Tannoy	CVS6	2
Instructor Station (42”)	Smith System	Acrobat	1
96” x 96” Wall Screen	DaLite	Model C	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2’ x 2’ cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning ‘off’. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate (‘VGA 1’)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (MAY ALREADY EXIST)

VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate ('VGA 2')
PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") (MAY ALREADY EXIST) *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in") (MAY ALREADY EXIST) *
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in") (MAY ALREADY EXIST)
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") (MAY ALREADY EXIST) **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs from the P/2 DA2 Plus through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

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** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

*HACC will provide short Blue Cat5e cables

Location #11 East Room 342

This room is a general classroom. The wall is drywall, and surface mount raceway may not be used. However cables should still be hidden as much as possible. Cloth "snakeskin" shall be used for exposed cables between wall plate and instructor station – there is no separate equipment rack. The instructor station is just furniture with a CPU holder and a VCR mount underneath.

The wall screen is a 96" x 96" screen (see diagram). The audio speakers are to be ceiling mounted spaced for best sound. The instructor station will be located in the front of the room along the outside wall. There is a full drop ceiling (9'6" high).

The following equipment either already exists in the room or is being purchased separately and supplied by HACC will be the following:

Item	Manufacturer	Model	Quantity
Data Projector	Panasonic	PT-FW430U	1
Speakers	Tannoy	CVS6	2
Instructor Station (42”)	Smith System	Acrobat	1
96” x 96” Wall Screen	DaLite	Model C	1
Wall Screen Brackets	?	?	1 Pair
Projector Mount	Chief	RPA-191	1
DVD/VHS VCR	Zenith	XBV443	1
Power strip for instructor station	TrippLite	6SPDX-15	1
Wireless Keyboard and Mouse Suite	Gyration	GYM1100CKN	1
PC and Desktop VGA Monitor	Lanovo	ThinkCentre	1
MLC 104 IP Plus Controller	Extron	60-818-02	1
P/2 DA2 Plus VGA Distribution amp	Extron	60-046-03	1
Suspended projector ceiling plate *	Peerless ??	CMJ500 ??	1
Mini Amp	Kramer	900XL	1

* Ceiling cloud is already in place. Can Peerless PB-1 be used with a non-Peerless 2’ x 2’ cloud?

The following **specific** equipment will be supplied by the **vendor**:

Item	Manufacturer	Model	Quantity
2-gang wall plate	Custom Made	??	1
Plenum electric box for ceiling plate	Peerless	PB-1	1

Installation shall include:

1. Remove existing projector and replace with new data projector including mounting hardware. Please setup projector for 4:3 1024x768. The image should fill the screen at the current distance. However the hope is in the future, the projector and screen placement should be already such that the image could be wide format and would fill the screen. Set projector for closed captioning ‘off’. Ceiling cloud is already in place
2. Cables needed to connect the equipment at the instructor station to the data projector including:

   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate (‘VGA 1’)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to VGA monitor (MAY ALREADY EXIST)
   VGA {HD 15 (m to m)} from Extron P/2 DA2 Plus to 2-gang wall plate (‘VGA 2’)

PC audio out {3.5mm (m to m) stereo} from PC to 2-gang wall plate
Composite video {RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate ('Video in')
RCA {2-RCA (m to m)} from DVD/VHS combo ('Video Out') to 2-gang wall plate (audio input)
3.5mm (m to m) from data projector ("Audio Out") to Kramer 900XL amp
5mm captive screw connectors from Kramer 900XL amp to ceiling speakers

3. All cables in cloth wrap shall run from outside wall side of instructor table to 2-gang wall plate.
4. Custom 2-gang wall plate including the following:

VGA 1 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m) to from wall plate (inside) to data projector ("Computer 1 in") (MAY ALREADY EXIST) *
VGA 2 {HD 15 (f to f) feed-thru} Connect {HD 15 (m to m)} from wall plate (inside) to data projector ("Computer 2 in") (MAY ALREADY EXIST) *
RCA {R and L RCA (f to f) feed-thru} Connect RCA{R and L (m)} from wall plate (inside) to RCA {R and L (m)} - data projector ("Video <audio> in") (MAY ALREADY EXIST)
Composite video {RCA (f to f) feed-thru} Connect RCA (m to m) from wall plate (inside) to data projector ("Video in") (MAY ALREADY EXIST) **
3.5mm {with VGA 1 (f) stereo to rear solder or feed thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 1 in")
3.5mm {with VGA 2 (f) stereo to rear solder or feed-thru} Connect rear solder or feed thru to 3.5mm (m) stereo - data projector ("Audio 2 in")
Serial cable from wall plate (inside; for future connection) to data projector ("Serial") (Leave 4' coiled service loop for future Smart Classroom conversion).
Speaker wire from wall plate (inside; for future speakon connection) to above drop ceiling (leave 15' – 20' service loop to connect to first speaker - future Smart Classroom conversion).
Cat 5e from wall plate (inside; for future connection) to data projector (leave 4' coiled service loop for future Smart Classroom conversion).

* One VGA cable already exists and runs from the P/2 DA2 Plus through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.
.
** Composite video cable already exists and runs directly from the VCR through the wall to the projector. If the cable is already terminated and usable, then simply pull it back to re-use it and coil excess above the ceiling as a service loop. If the cable is terminated and/or not re-usable, then please remove and discard and provide new cable through wall or conduit.

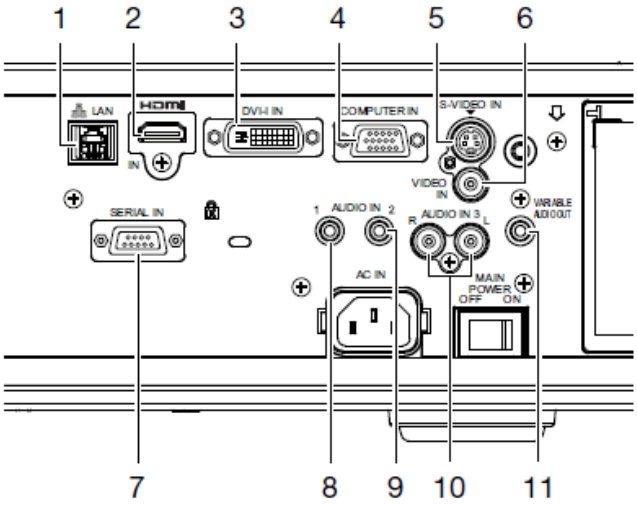
The computer and video cables will run directly from the instructor station to 2-gang wall plate, through wall cavity and terminate at the data projector. The speaker wire will run from the Kramer 900XL amp to the speakers.

Run cables for future Smart Classroom conversion. If there is no room for termination inside box, cables shall run un-terminated from tight coil inside wall cavity to projector. Leave 4' service loop at projector.

5. Mount audio speakers in ceiling tile and connect from amp. No less than 16-gauge speaker cable to be used
6. Wall screen is already in place. Provide and tie heavy string to screen handle so that user can reach from the floor when screen is retracted.
7. Mount Extron MLC 104 directly above 2-gang A/V wall plate (use same raceway if possible).
8. Connect MLC 104 Power Supply (pickup AC near projector) to 12V+ and Ground on MLC 104 unit. Connect 'DISPLAY/RS-232/IR' from MLC 104 to data projector serial in. Connect 'MLS RS-232' from MLC 104 to Kramer 900XL.
9. Verify programming for all buttons, Power OFF/ON and volume control. HACC will provide file.
10. Connect cat5e cable in the ceiling (provided by HACC Lancaster IT Staff in a 10' coil) coming from data closet to Extron MLC 104 inside wall or wall box.
11. Install and Connect cat5e cable between PC and data wall plate * All cables in cloth wrap shall run from student side of instructor table under-side to data wall plate. Note: Vendor shall fit all A/V cables and data cables into a single cloth wrap if possible.

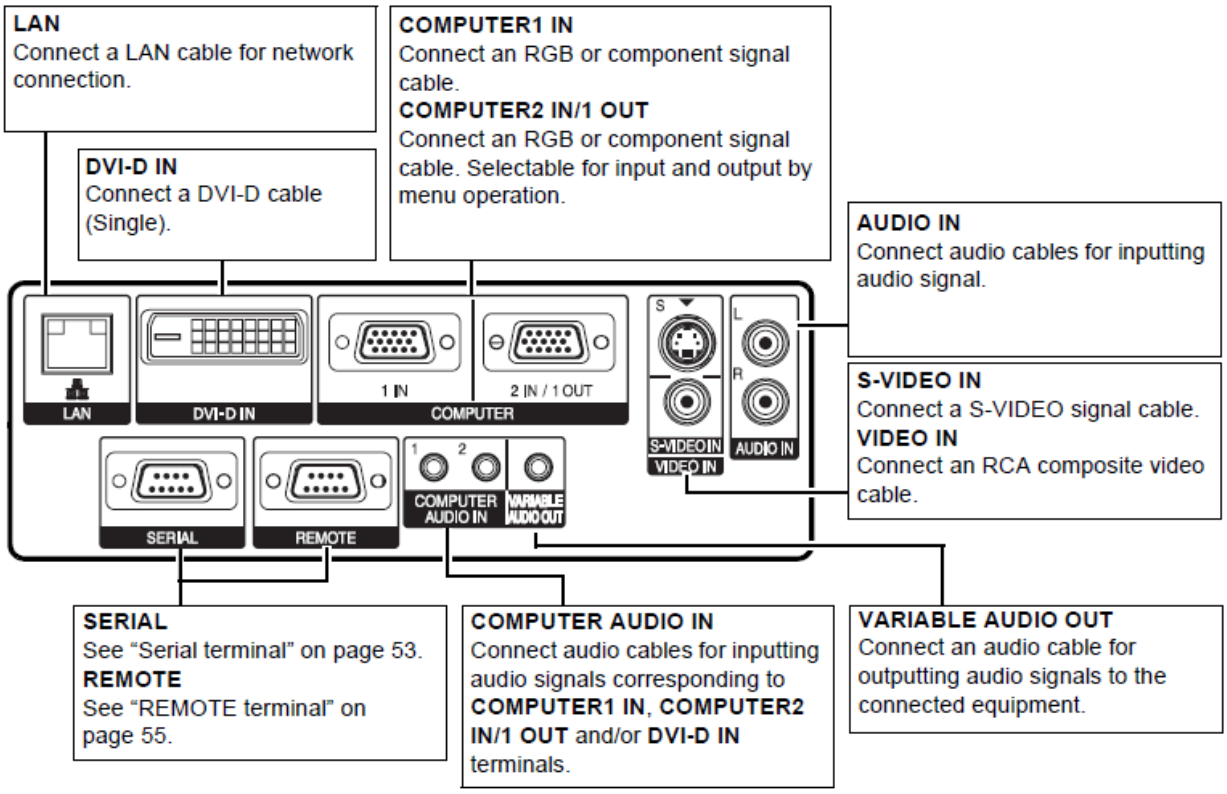
*HACC will provide short Blue Cat5e cables

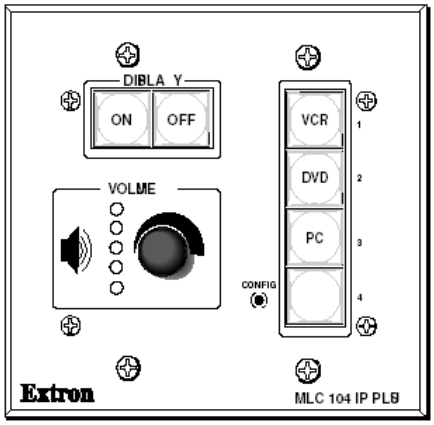
Panasonic PT-FW430U Connection Terminals



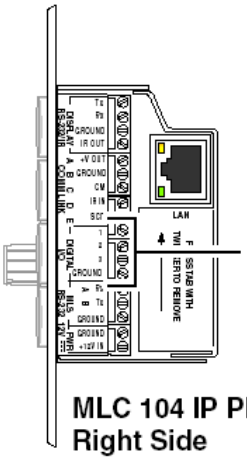
1 LAN connector
2 HDMI input
3 DVI-I input
4 Computer input
5 S-Video input
6 Video input
7 Serial input
8 Audio input 1
9 Audio input 2
10 Audio input 3
11 Audio output

Panasonic PT-FW300NTU Connection Terminals



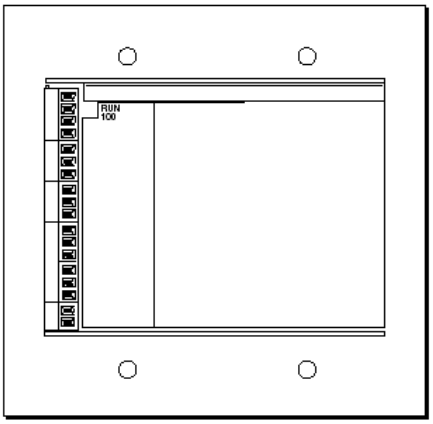


MLC 104 IP Plus Front

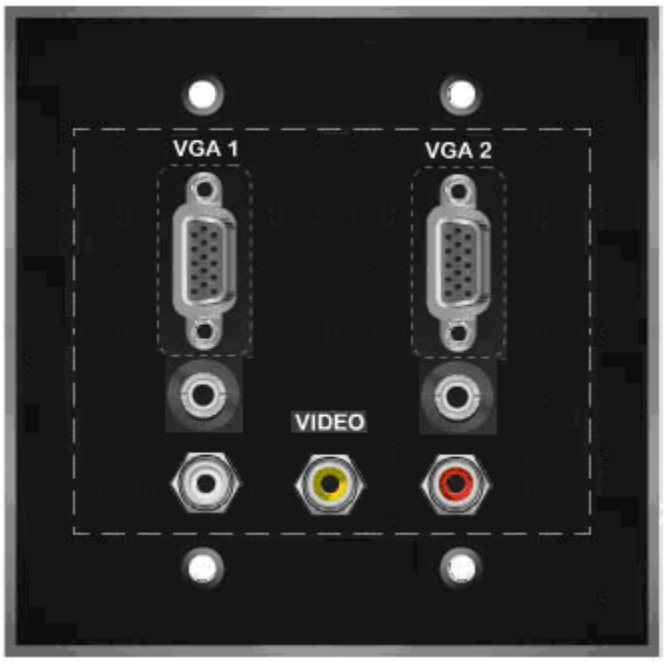


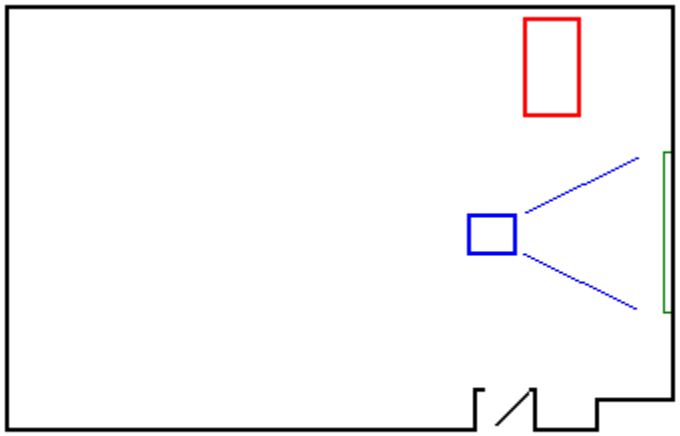
MLC 104 IP Plus
Right Side
(rotated)

Rear Panel

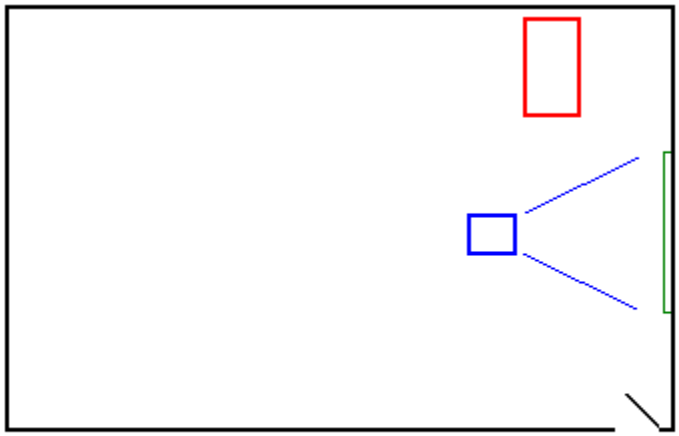


2-gang Wall Plate

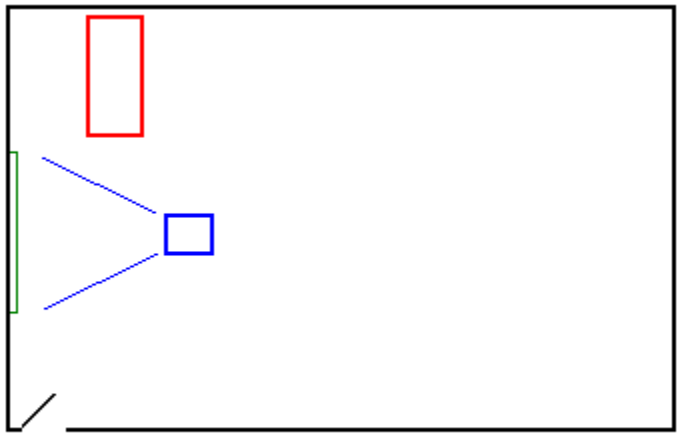




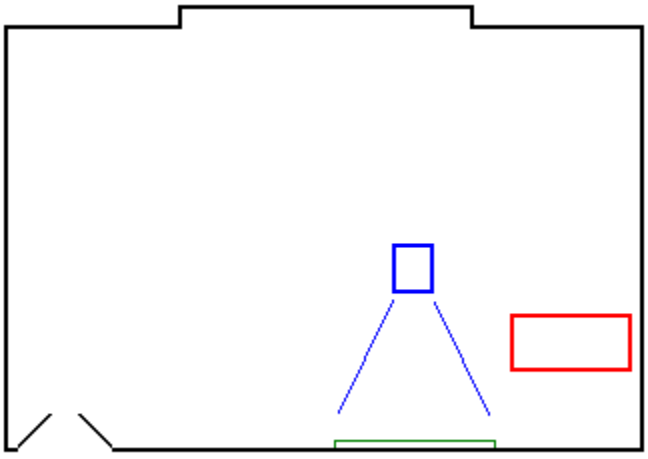
Main 309



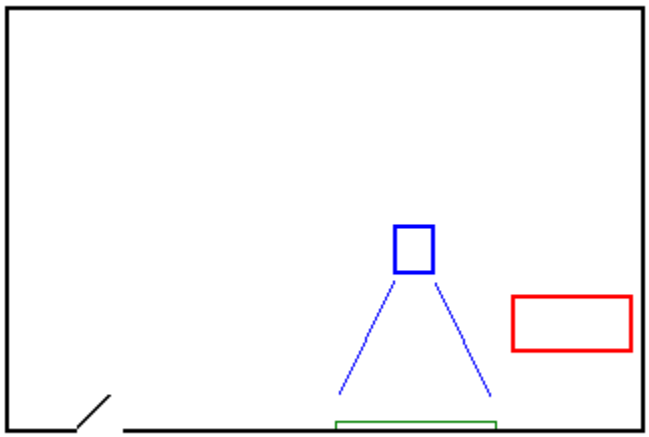
Main 316, East 306, 320, 324,



East 210, 213, 309, 342



East 302



END OF BID SCOPE OF WORK

HACC - Central Pennsylvania's Community College

REQUEST FOR BID
RFB13-06
AUDIO VISUAL INSTALLATIONS

BID FORM

A) AUDIO VISUAL INSTALLATIONS:

CAMPUS	LOCATION	HALL	ROOM NUMBER	TOTAL BID FOR ROOM
Harrisburg Campus	1	Whitaker	125F	
Harrisburg Campus	2	Blocker	136	
Harrisburg Campus	3	Arts	210	
Harrisburg Campus	4	Arts	125	
Harrisburg Campus	5	Midtown 2	227	
Harrisburg Campus	6	Midtown 2	102	
	TOTAL BID FOR HARRISBURG CAMPUS			

CAMPUS	LOCATION	HALL	ROOM NUMBER	TOTAL BID FOR ROOM
Lebanon Campus	1		202	
Lebanon Campus	2		204	
Lebanon Campus	3		206	
Lebanon Campus	4		208	
Lebanon Campus	5		210	
Lebanon Campus	6		212	
Lebanon Campus	7		214	
Lebanon Campus	8		216	
Lebanon Campus	9		218	
	TOTAL BID FOR LEBANON CAMPUS			

CAMPUS	LOCATION	HALL	ROOM NUMBER	TOTAL BID FOR ROOM
Lancaster Campus	1	Main	309	
Lancaster Campus	2	Main	316	
Lancaster Campus	3	East	210	
Lancaster Campus	4	East	213	
Lancaster Campus	5	East	302	
Lancaster Campus	6	East	305	
Lancaster Campus	7	East	306	
Lancaster Campus	8	East	309	

Lancaster Campus	9	East	320	
Lancaster Campus	10	East	324	
Lancaster Campus	11	East	342	
	TOTAL BID FOR LANCASTER CAMPUS:			

TOTAL BASE BID PRICE FOR ALL THREE CAMPUSES:

B) Bid Deadline

To be considered for selection, Bids shall arrive at HACC's Procurement and Business Services Office, 349 Wiconisco Street, Room PC223, Harrisburg, PA, 17110, by 1:30PM on or before October 12, 2012. Bids must be in a sealed container, clearly marked "RFB13-06, AUDIO VISUAL INSTALLATIONS." Allow time for normal mail delivery to ensure timely receipt of Bids by HACC's Procurement and Business Services Office. Bids arriving after the deadline will not be considered. All Bids become the property of the College.

C) Number of Copies and Mailing of Bid

Two (2) copies of the Bid will be submitted in a sealed container clearly marked with the name of the Bid and labeled "RFB13-06, AUDIO VISUAL INSTALLATIONS." One (1) of the copies shall be marked "Master Copy" and will contain original signatures. The other copy does not require original signatures.

The Bids must be addressed as follows:

Harrisburg Area Community College
349 Wiconisco Street, Room PC223
Harrisburg PA 17110
ATTN: Garry Crider, Procurement Services Manager
RFB13-06 Audio Visual Installations

E) HACC, Central Pennsylvania's Community College is a member of the following:

1) Educational & Institutional Cooperative Service, Inc.
2) Provista
3) Amerinet
4) US Communities
5) Keystone Purchasing Network (KPN)

G) Vendor Registration: To all Proposers: Please register your firms information on HACC's website – go to www.hacc.edu – "Business & Community" – "Purchasing" – "Vendor Purchasing System Login" – then following instructions.

NAME_____

SIGNATURE_____

FIRM NAME_____

ADDRESS_____

_____

TELEPHONE_____ **EMAIL ADDRESS**_____

END OF BID FORM