



## Legacy Camera Integration Advisory

Category: Hardware Installation  
Audience: System Integrators, SCA Project Officers, A&E Design Consultants, Authorized Installers, Electrical Contractors  
Topic: Legacy Camera Integration

### **Purpose of this Advisory**

This bulletin is being issued to communicate recommended practices and equipment when migrating legacy cameras and cabling onto the IPDVS platform. The primary goal of this advisory is to create a stable and readily supportable structured cabling system for the legacy equipment. This advisory assumes the decision for legacy migration has already occurred based on the assessment guidelines issued by Alex Iskander/SCA.

### **General Guidelines**

A Legacy Integration Worksheet will be filled out for each site where legacy cameras are absorbed into the IPDVS design. This document must be returned by the System Integrator along with the completed Network As-Built prior to Substantial Completion being determined. The following general guidelines are recommended.

1. The coaxial cabling is not to be split prior to termination onto the BNC patch panel (*Figure 1*) in the cabinet where the integration will occur.
  - a. No legacy DVRs, VCRs, Sequencers, or Multiplexers are to remain in use once the cameras are integrated onto the IPDVS platform. All such legacy recording and viewing equipment is to be disconnected and returned to the Division of School Facilities. Legacy viewing and recording equipment is not supported under the current program.
  - b. When found, rack mounted passive or active UTP converters (*Figure 8*) may be incorporated into the design if the legacy camera video is being transported by UTP cable. In these cases a BNC patch panel will not be necessary.
  - c. Legacy PTZ control wires can be connected in parallel and attached to encoder as wired in (*Figure 9*).
2. All options should be pursued to pull back and terminate legacy cabling to a cabinet in the MDF or an IDF. This is the preferred cabinet location rather placing a wall mounted cabinet in an office to house VPUs outside of a secure MDF/IDF area.
  - a. It is understood that it will not always be possible to terminate in an MDF/IDF as some legacy camera cabling was never routed through the MDF/IDF. Under these circumstances a wall mounted cabinet may be used provided it is in a secure location.
  - b. There are two cabinet options listed below, for eight cameras or less the vertically oriented cabinet may be less obtrusive. (*Figure 2 & Figure 3*)
  - c. All cabinets when installed are to use the common "M11" key and lock core if a Mid-Atlantic cabinet is used. If other cabinets are used, key requirements must be coordinated in advance with IPDVS support team and two sets of keys provided with tags that specify the Site ID and cabinet location.

During the support transition assessment, specific attention will be paid to these items:

1. Cable Management. (Cable trimmed to appropriate lengths, neatly grouped, hook & loop secured, suspended where appropriate, enclosed in conduit or wiremold in exposed areas).
  - a. Extensive amounts of legacy cabling are not to be coiled onto floors, ladder racks, or plenum spaces, the cabling should be terminated at lengths appropriate to the installation. A short service loop should be left to allow for routine maintenance and disconnection of cameras and patch panels.
2. Quality of cable terminations.
  - a. Coax cable terminations should be crimp, not twist type and are to use the correct connectors for the cable type (i.e. RG-6, vs. RG-59, etc).
3. Accuracy of labeling. (Labels must match As-Built design and actual camera connections exactly).
4. Thoroughness of labeling. (Video, Power, Control wiring and patch panel ports to be checked for labeling).



### **Power Supplies**

All power supplies MUST be accounted for during any legacy integration. Cameras are typically powered from a central multi-tap power supply or distributed from individual power supplies located near each camera.

Record the following data for ALL (PTZ and Fixed) Legacy Cameras:

1. For every camera record the following:
  - a. Room number of the cameras power supply
    - i. Use the PTZ Power Supply Room Number" cell of the As-Built/Design document (Do this even when the legacy cameras are not PTZs. The power supply room number must be recorded for every legacy camera, PTZ or Fixed).
  - b. Wall number of the cameras power supply
    - i. Use the PTZ Power Supply Wall Number" cell of the As-Built/Design document (Do this even when the legacy cameras are not PTZs. The power supply wall number must be recorded for every legacy camera, PTZ or Fixed).
    - ii. See Figure 7 for standardized wall numbers.
  - c. Identify powering circuit for each power supply.
    - i. Document the power panel for the circuit that powers each legacy camera.
    - ii. Document the circuit breaker for the circuit that powers each legacy camera.
  - d. Place breaker locks on all circuit breakers that power legacy cameras included in the integration.

### **PTZ Cameras**

Record the following additional data for PTZ Cameras:

1. For every PTZ camera, record the following:
  - a. PTZ ID Number
  - b. VPU IP address for VPU that is providing the control signal.
  - c. Protocol (i.e. Pelco-D, Phillips)
  - d. Serial Standard (i.e. RS-485, RS-232)
  - e. Wires (2-wire or 4-wire)
  - f. Baud Rate (i.e. 9600kbps)
  - g. Power Supply Location (Room Number and Wall Number)



**Labeling [Camera Side]**

1. [CAMERA] Apply a label to the outside of the camera body.
2. [VIDEO] Apply a self laminating cable wrap label to the coax cable within twelve inches of the cable termination at the camera.

121A05 – CB-01

This camera's cabling terminates in Room# 121, onto coax patch panel A, Port 05.

This camera is number CB-01 on the As-Built

3. [POWER] Apply a self laminating cable wrap label to the pair of camera power cables within twelve inches of where the cables terminate onto the camera's power terminals.
4. [CONTROL] If this is a PTZ camera, apply a self laminating cable wrap label to the pair of camera control cables within twelve inches of where the cables terminate onto the camera's control terminals.

121 – CB-01

This camera's power and/or cabling terminates in Room# 121. The A05 (Panel Identifier) Port Identifier) Portion of the label is not necessary on the power and control pair labels.

This camera is number CB-01 on the As-Built

**Labeling [MDF/IDF Side]**

1. [VIDEO] Apply a self laminating cable wrap label to the permanent link coax cable segment within twelve inches of the cable termination onto the rear of the coax BNC patch panel.

121A05 – CB-01

2. [POWER] Apply a self laminating cable wrap label to the pair of camera power cables within twelve inches of where the cables terminate on a power supply.
3. [CONTROL] If this is a PTZ camera, apply a self laminating cable wrap label to the pair of camera control cables within twelve inches of where the cables terminate onto a DVR, PTZ controller or terminal block.

121 – CB-01

4. [PATCH PANEL PORT] Apply an appropriate label to the front of the coax BNC patch panel port identifying which camera the port is connected to.

CB-01

When labeling patch panel ports, only the Camera Number is required.

5. [PATCH PANEL IDENTIFIER] Apply an appropriate label to the front of the coax BNC patch panel, Panel "PANEL-A" will always be the first panel. Subsequent Panels would be labeled, "PANEL-B", "PANEL-C", etc.

PANEL-A

Note: The labeling of individual BNC-BNC or RJ45 –RJ45 patch cables is not required or desired.



The parts listed below are displayed as recommendations / references. A&E approved equivalents are acceptable.



Figure 1  
 Manufacturer: Thor Labs  
 Part#: RK5004  
<http://www.thorlabs.com/thorProduct.cfm?partNumber=RK5004>  
 Note: Equivalents are to have space for labeling the port.

Figure 2  
 Manufacturer: Mid-Atlantic  
 Part#: WRS-4, WRS-6 or WRS-8  
<http://www.middleatlantic.com/enclosure/wall/wrs.htm>  
 Note: Use when space constrained if legacy cabling terminates in an office.

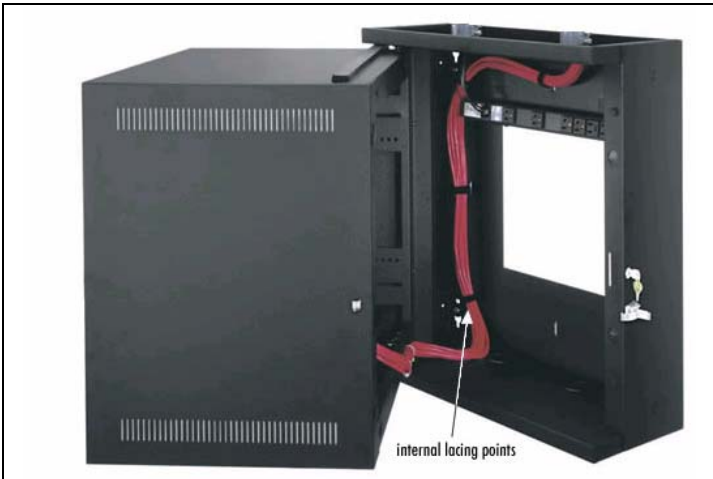
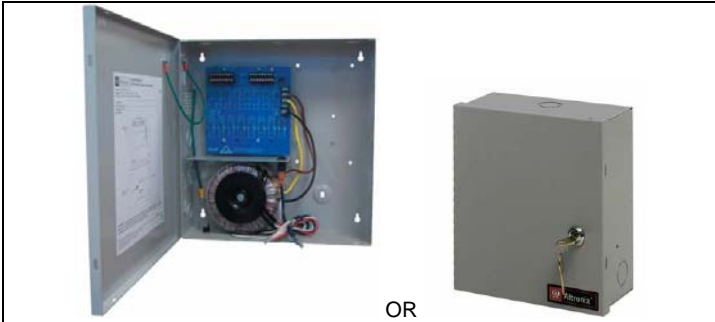


Figure 3  
 Manufacturer: Mid-Atlantic  
 Part#: DWR-12-26 (larger available also).  
<http://www.middleatlantic.com/enclosure/wall/dwr.htm>  
 Note: Standard wall mount cabinet for use in legacy integrations in MDF or IDF or exposed areas if a vertically oriented cabinet is too small.

Figure 4  
 Manufacturer: Altronix  
 Part#: R248UL  
[http://www.altronix.com/p\\_data/DSR248UL.pdf](http://www.altronix.com/p_data/DSR248UL.pdf)  
 Note: If multiple individual power supplies power the legacy cameras it is recommended when possible they be consolidated onto a single new power supply.



OR

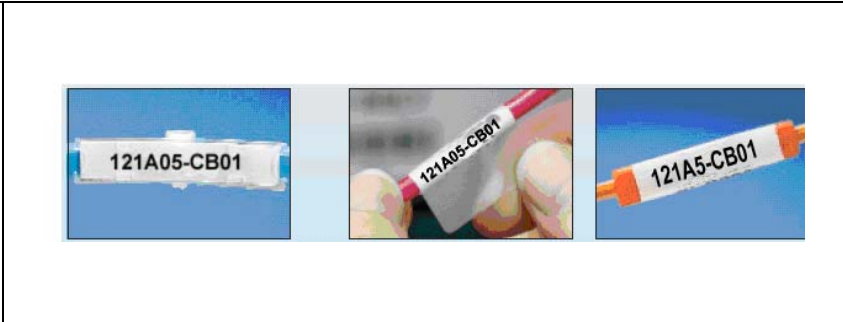


Figure 5  
 Manufacturer: Altronix  
 Part#: ALTV2416300UL or ALTV2416300ULM  
[http://www.altronix.com/index.php?pid=2&model\\_num=ALTV2416300UL](http://www.altronix.com/index.php?pid=2&model_num=ALTV2416300UL)  
 Note: If multiple individual power supplies power the legacy cameras it is recommended when possible they be consolidated onto a single new power supply.

Figure 6  
 Manufacturer: Panduit  
 Part#: UILJ2+UICBM1M, S100X150YAJ, S100X150YAJ+NWSLC-3Y  
<http://www.panduit.com/products/brochures/083446.pdf>  
 Note: While self laminating wrap labels are mentioned specifically any of these types of cable identification labels are acceptable.

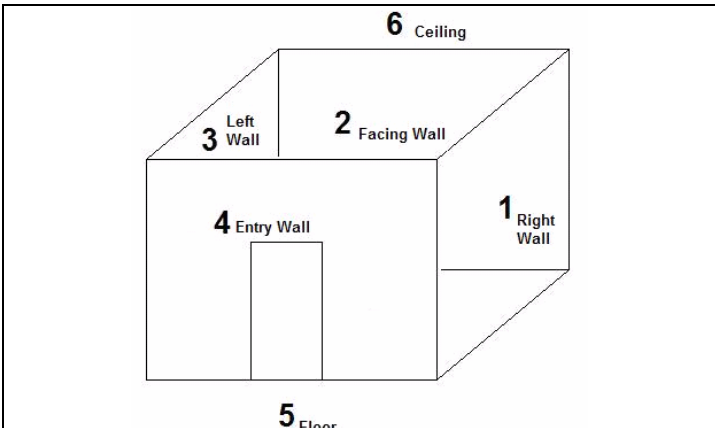


Figure 7  
 Wall Numbering (From Entry Door)  
 1= Right. 2= Opposite from Entry Door. 3= Left. 4= Entry Wall.  
 5= Floor. 6=Ceiling (or in ceiling / plenum).

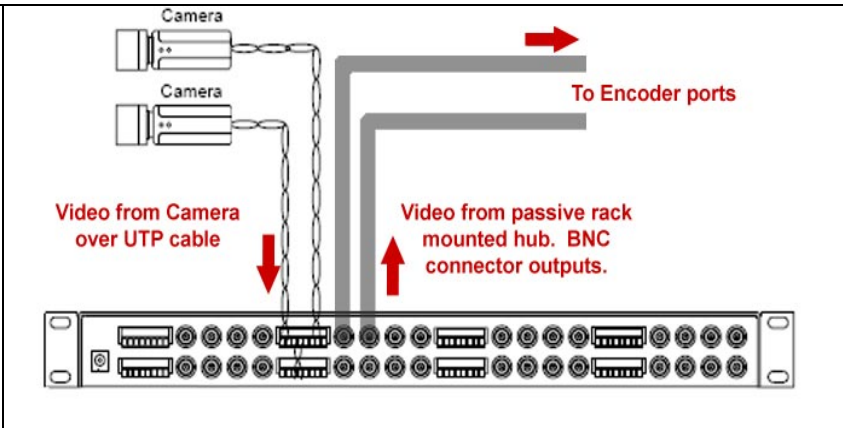


Figure 8  
 Passive transceiver hub that allows transmission of video over Unshielded Twisted-Pair (UTP) cable.

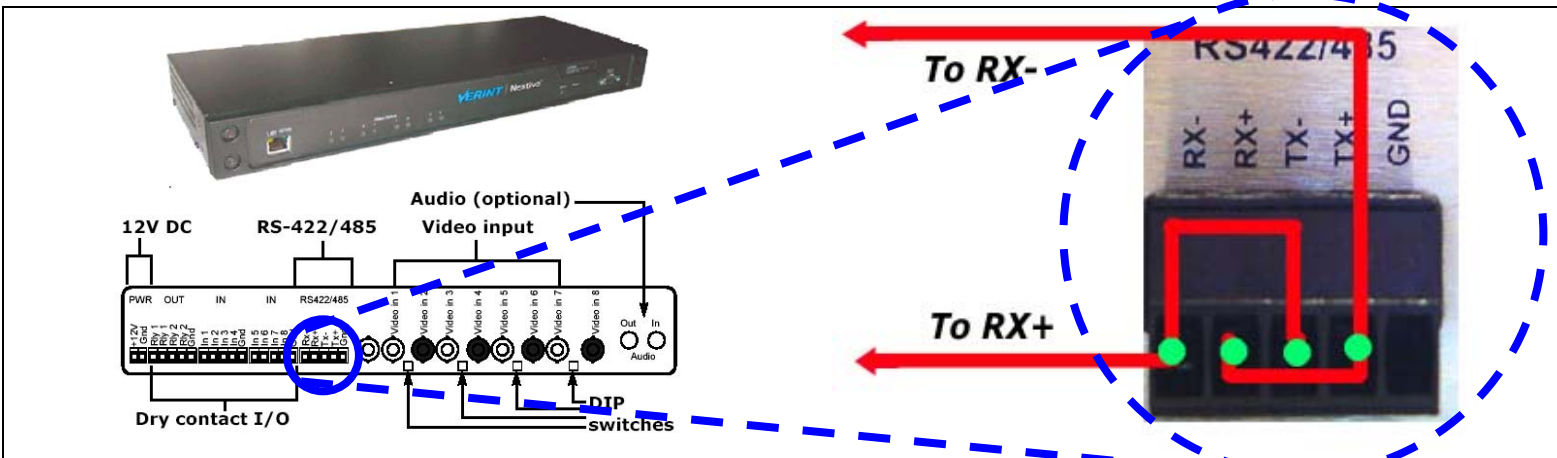


Figure 9  
 VPU PTZ Connections