

**Installation and  
Operation Manual  
CX452 with  
CHM22/CXM22**

**Note: This installation should be made by a qualified service person and conform with local codes.**



**Reduce risk of fire or electrical shock do not expose this product to rain or moisture.**

**CAUTION: To reduce the risk of electric shock do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.**

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CX452B  
Rev.040810

## ***UTPLinks HEAD-END DISTRIBUTION***

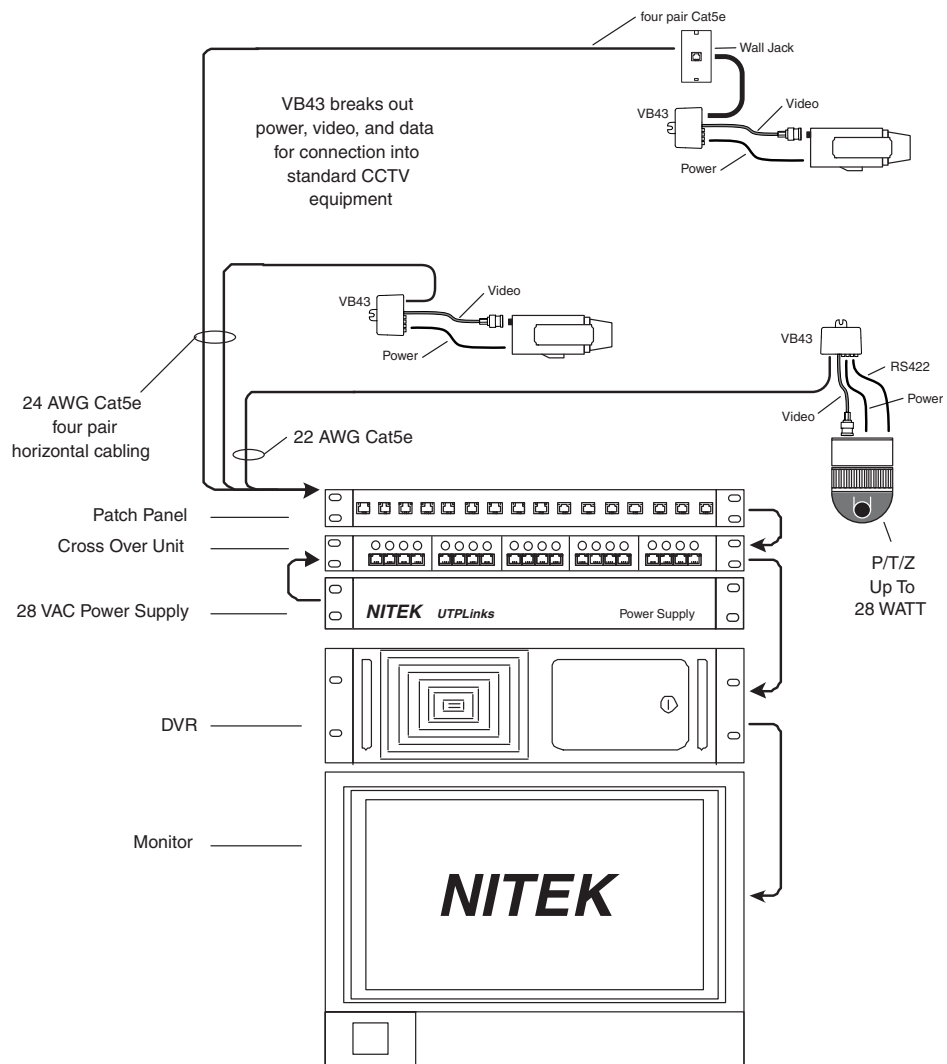
In a head-end system all equipment is located together. There is no backbone copper and all of the horizontal runs are limited to 100 meters (TIA/EIA standards), so passive receivers can be used.

Starting at the camera end, there are several UTPLinks transmitter units available, only one is shown here. This unit allows the video, power and data to be separated out and fed into standard CCTV cameras.

From the transmitter there is a standard 4 pair Category cable running back to a patch panel up to 100 meters away (TIA/EIA standards). Using 24awg patch cables, connections for each camera are sent to the Crossover unit. The Crossover unit provides a central point for the combining of the power, data and video signals. Each camera port is fused and lights on each of the front panel RJ45 jacks show the status of both power and data.

Power for the system is provided by a Power Supply unit mounted under the Crossover unit. It connects to the Crossover unit via snap in jumper cables that can be installed in seconds.

Data for the CX452 is routed through the 2 pin jack on the rear of the CX452 unit. In this system CHM22 cards feed video out the front BNC jacks for connection into standard CCTV equipment. In this example, a DVR is viewed on a monitor. It could have been a matrix, multiplexer or any other equipment needed for your application.



### ***UTPLinks INTERMEDIATE POWER DISTRIBUTION***

In a system, equipment is often spread out over a large facility and the communications backbone of that facility is used for the routing of the video and data signals. Power is inserted at the IDF (Telco closet) located closer to the camera end.

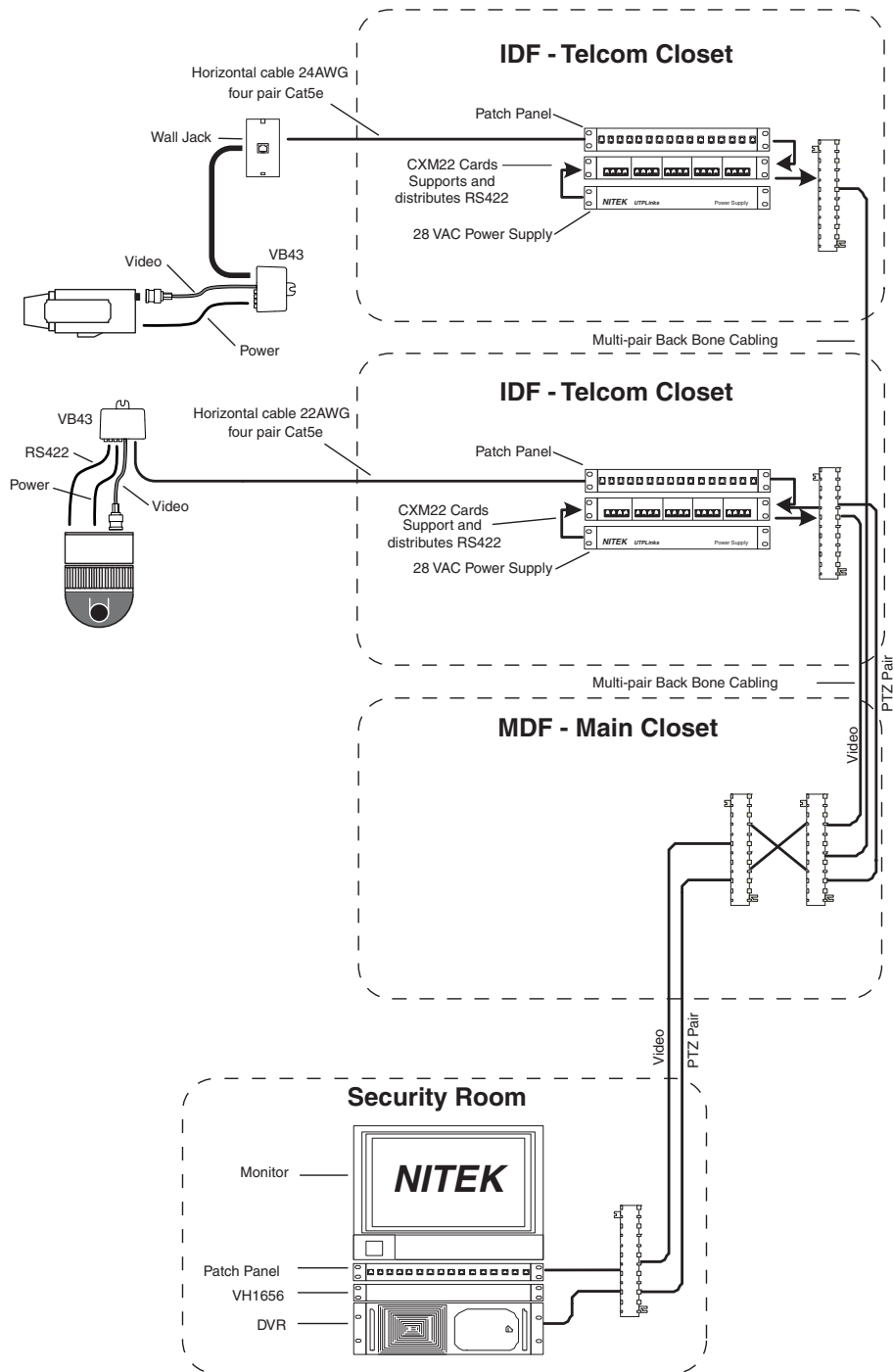
Starting at the camera end, there are several UTPLinks transmitter units available, only one is shown here. These units allow the video, power and data to be separated out and fed into standard CCTV cameras.

From the transmitter there is a standard 4 pair Category cable run back to a patch panel in the IDF, up to 100 meters away (TIA/EIA standards). For fixed cameras 24awg Cat 5 network cabling is fine, but for PTZ cameras 23awg Cat 5 or Cat 6 cable should be used. From the patch panel each camera is sent to the Crossover unit. The Crossover unit provides a central point for the combining of the power, data and video signals. Each camera port is fused and lights on each of the front panel RJ45 jacks show the status of both power and data.

Power for the system is provided by a Power Supply unit mounted near the Crossover unit. It connects to the Crossover unit via snap in jumper cables that can be installed in seconds.

Video from and data to the cameras is routed through the RJ45 jacks on the rear of the CX452 unit. Signals are routed over a facilities backbone communication cable to the MDF (main Telcom center). From the MDF they can be rerouted to the security room.

In the security room these signals are taken back off of the backbone and put into NITEK video receiver units. Once they are decoded in the receiver units these video signals are fed out BNC jacks for connection into standard CCTV equipment. In our current example, a DVR is viewed on a monitor. It could have been a matrix, multiplexer or any other equipment needed for your application.



## INSTALLATION

### General Rules

- All horizontal cable runs from a CX452 unit to cameras must be 100 meters or less to meet TIA/EIA standards
- Fixed camera (10 watts or less) wire must be Cat 5 or better 22awg or 24awg
- All PTZ cameras (10 to 21 watts) must be 23awg Cat 5e or better
- TIA/EIA Category wiring standards should be used
- All cabling should be T568B wiring
- Always disconnect power to the system while working on the wiring

### Step 1) Mount Cards in Card Cage

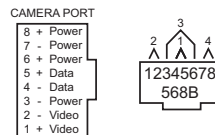
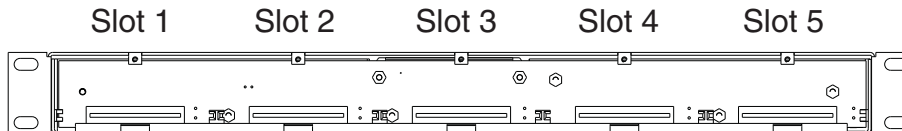
The CX452 Crossover unit has 5 card slots. When installing a card into the CX452 slide it in using the card guides for alignment. Use the #4-40 screw on the top to secure the card in place. Unused card slots can be covered up with blank covers.

RJ45 jacks on the front of the card provide the connection for each camera run. To meet TIA/EIA standards your camera runs should be terminated in a patch panel. Using standard patch cables connect the camera ports to the patch panel. The camera runs should be wired for T568B standard.

### Step 2) Connect Horizontal Runs

Before connecting each camera run to a card verify that it is properly wired using the CAMERA PORT chart below. The maximum output of any camera port is 21 watts. The maximum current output for all 4 camera ports on a card is 80 watts.

### Camera Ports in front of CX452



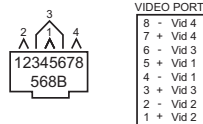
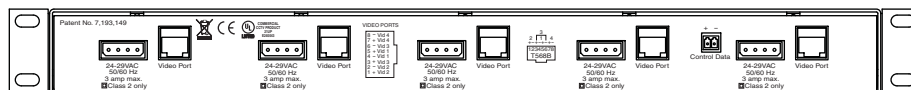
## IF USING CHM22 CARDS

When using a CHM22 card the video for each camera is provided out the front of the card on BNC jacks. This decoded video can be fed into other equipment as needed. Control data for a PTZ can be connected to the 2 pin jack on the rear of the CX452.

## IF USING CXM22 CARDS

When using a CXM22 card the video from each of the four camera runs is routed to a single RJ45 jack on the rear of the CX452 unit. Each card has its own RJ45 jack behind it. Using a standard RJ45 cable you can then route the video signals on the copper backbone of the facility. Refer to the VIDEO PORT chart below for pin assignments. Control data for a PTZ can be connected using the 2 pin jack on the rear of the CX452.

### Video Ports in back of CX452

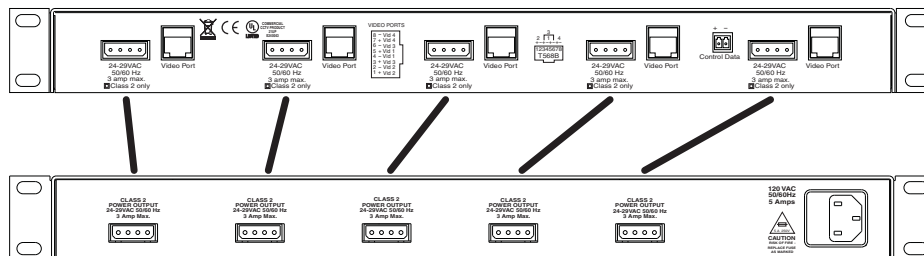


### Step 3) Connect Power Supply

The CX452 should be powered by a PS115 Power Supply. **Overloading ports may cause internal protection circuit to engage. If this happens consider reconfiguring your power requirements and contact NITEK technical support for reset procedures.**

The PS115 has five easy connect jacks for outputting power. Each of the PS115 power outputs can supply up to 80 watts of power. Connect the PS115 power outputs to the CX452, as shown in the diagram below, using the supplied jumper cables.

**PS115 common hookup diagram**



### Step 4) At the Camera End

At the camera end there are several models of Balun Combiner units you can use. The particular model you choose will depend on your installation. For the connection of the Balun Combiner unit refer to the manual for your unit.

### Technical Support

For additional help with problems please call NITEK Technical Assistance at (800) 528-4343. Hours are from 8am to 5pm Central Standard Time, Monday through Friday. We are always ready to help.