

VIGITRON Video-Power-Data CCTV Product Installation Manual

Vi1051VP, Vi1053VPD, Vi1054VPD, Vi1508VPD, Vi1516VPD, Vi1408VPD, Vi1416VPD

The Vigitron powered VPD series are designed to combine video, PTZ data, and camera power over a single 4-pair UTP cable to simplify CCTV installations in a structured wiring environment. They support up to 16 cameras. These units receive 110/220 VAC power and provide up to 16 ports of 24/28 VAC isolated power to the cameras. Each port is individually equipped with a 2 A glass fuse that is easily accessible from front.

Vi1051VP - Vi1053VPD - Vi1054VPD Application

Technical Wiring Notes

1. Use point-to-point Unshielded Twisted Pair wire, 24-16 AWG (0.5-1.3mm), stranded or solid, Category 2 or better.
2. The Video signal may co-exist in the same wire bundle as other Video, telephone, Data, control signals, or low-voltage Power. It is also OK to run Vigitron Video signals in or near electromagnetic fields (in accordance with National Electrical Code, local, or other local safety requirements).
3. Measure the wire distance.
4. DO NOT USE SHIELDED TWISTED PAIR WIRE. Multi-pair (6 pair or more) wires with an overall shield are fine.
5. DO NOT USE UN-TWISTED WIRE.
6. DO NOT place a transmit and a receive signal in the same wire bundle. It may cause interference.
7. DO NOT send "Up-the-Coax" Pan/Tilt/Zoom signals through active (amplified) Vigitron transmitters or receivers. Passive Vigitron transceivers can transmit "Up-the-Coax" P/T/Z control signals up to 750ft (225m).
8. Vigitron recommends the use of 18AWG solid wires for power connections. Verify wire distance, camera current requirement and wire resistance limit for the maximum distance that Power can travel. Use "Power Distance Chart" to verify the wire distance.

Power Distance Chart


Power Supply Voltage		12 VDC	24 VAC	28 VAC
Voltage at the camera		11.5 VDC	21 VAC	21 VAC
100 mA Camera	Dual 24 AWG	175 ft	1,000 ft	2,500 ft
	Dual 22 AWG	300 ft	1,500 ft	4,000 ft
300 mA Camera	Dual 24 AWG	50 ft	350 ft	850 ft
	Dual 22 AWG	100 ft	600 ft	1,400 ft
1 Amp Camera	Dual 24 AWG	15 ft	100 ft	250 ft
	Dual 22 AWG	30 ft	150 ft	400 ft

Loop Resistance per 1,000ft (305 m)

AWG	24AWG	22AWG	20AWG	19AWG	18AWG	16AWG
mm	0.5mm	0.6mm	0.7mm	0.8mm	1.0mm	1.3mm
Ohm	52	32	20	16	13	8.2


Important Safety Warning

- This installation should be made by a qualified service person and should conform to all local codes
- Never put Vigitron signals in the same conduit as high-voltage wiring.
- To reduce a risk of fire or electrical shock, do not expose this product to rain or moisture
- The Vigitron equipment shall not be exposed to Dripping or splashing.
- No objects filled with liquids, such as vases, shall be placed on Vigitron equipment.
- The Main 110VAC fuse is 5A. Each camera power fuse is 2A and can be accessed by removing the front panel. Fuses may be replaced by a qualified service person only when the unit is off and AC power cord is



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Vi1053VPD: Camera End Connection

Video: Connect the baseband Video signal output of the camera to the BNC pigtail on the Vi1053VPD.

Power: Connect the Power UTP pigtail (Black/Red) of the Vi1053VPD to the power connector of the camera.

Data: Connect the Data UTP pigtail (Black/White) of the Vi1053VPD to the data connector of the camera.

Cat-5 Cable: Connect the RJ-45 connector attached to the camera end of Cat-5 cable to the RJ-45 Jack of Vi1053VPD. Make sure that the pin-out of the RJ-45 connector matches the Vigitron color code of the Cat-5 wires.

Vi1051VP: Camera End Connection

Video: Connect the baseband Video signal output of the camera to the BNC pigtail on the Vi1051VP.

Power: Connect the Power UTP pigtail (Black/Red) of the Vi1051VP to the power connector of the camera.

Data: There is no data connection on Vi1051VP.

Cat-5 Cable: Same as Vi1053VPD.

Vi1054VPD: Camera End Connection

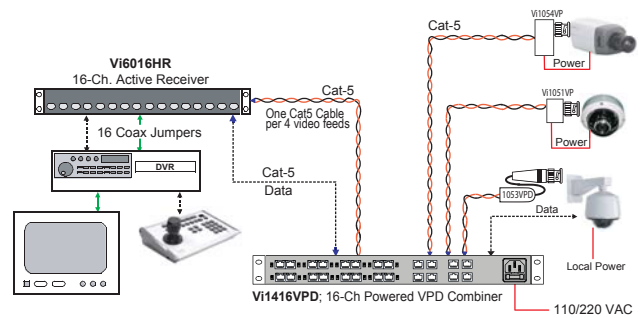
Video: Connect the baseband Video signal output of the camera to the BNC pigtail on the Vi1054VPD.

Power: Connect the Power UTP pigtail (Black/Red) of the Vi1054VP to the power connector of the camera. The output of Vi1054VP is regulated 12 VDC at 600 mA max.

Data: There is no data connection on Vi1054VPD.

Cat-5 Cable: Same as Vi1053VPD.

Vi1408VPD - Vi1416VPD Application



Application Diagram

Vi1408VPD or Vi1416VPD: Connecting the Control End

Video: Use a cat-5 cable with RJ-45 connectors on both ends to connect the RJ-45 video output of the Vi1408VPD or Vi1416VPD to a Vigitron active or passive receiver HUB.

Power: Connect the AC power cord to the unit and AC power outlet. Make sure that the power requirement is in the recommended range.

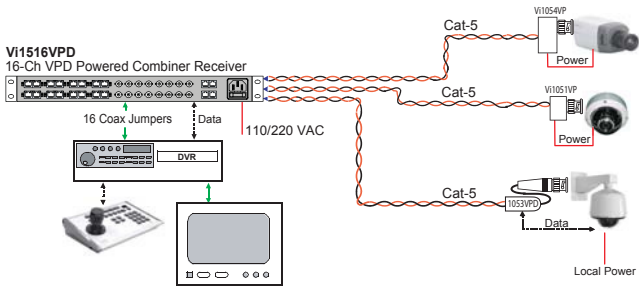
Important Note: Do not overload the power supply.

Data: Connect the Data connector of the Vi1408VPD or Vi1416VPD to the PTZ controlling unit such as DVR.

Camera Cable: Connect the RJ-45 connector of each Cat-5 cable coming from cameras to the appropriate RJ-45 jack on Vi1408VPD or Vi1416VPD. Make sure that the pin-out of the RJ-45 connector matches the color code of the Cat-5 wires.

For short runs place the Vi1408VPD or Vi1416VPD close to the video receiver unit at control end. For long runs place the Vi1408VPD or Vi1416VPD at a mid span point close to the camera end to minimize the loss of voltage over twisted pair.

Vi508VPD - Vi1516VPD Application



Application Diagram

Vi1508VPD or Vi1516VPD: Connecting the Control Red

Video: Use provided Coax jump cables to connect the BNC video output of the Vi1508VPD or Vi1516VPD to the video input of your video receiving unit such as a DVR or Matrix Switch.

Power: Connect the AC power cord to the unit and AC power outlet. Make sure that the power requirement is in the recommended range.

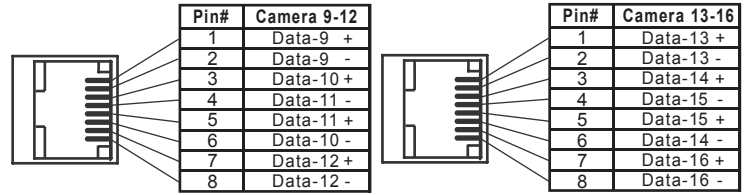
Important Note: Do not overload the power supply.

Data: Connect the Data connector of the Vi1508VPD or Vi1516VPD to the PTZ controlling unit such as DVR.

Camera Cable: Connect the RJ-45 connector of each Cat-5 cable coming from cameras to the appropriate RJ-45 jack on Vi1508VPD or Vi1516VPD. Make sure that the pin-out of the RJ-45 connector matches the following color code of the Cat-5 wires

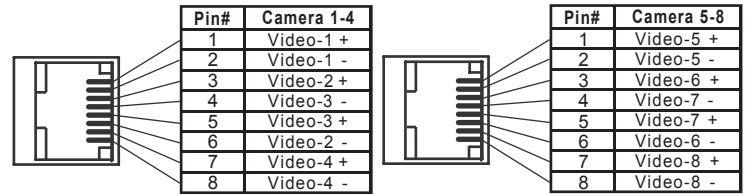
Control Room Data Connections:

Vi1516VPD, Vi1416VPD

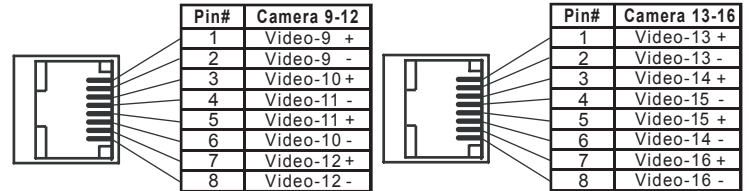


Control Room Video Connections:

Vi1408VPD, Vi1416VPD (Camera 1-8)



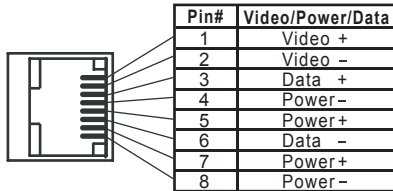
Vi1516VPD, Vi1416VPD (Camera 9-16)



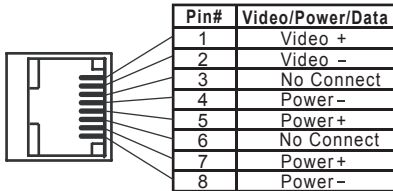
Video, Data and UTP Connections

Camera Connections:

Vi1053VPD, Vi1508VPD, Vi1516VPD, Vi1408VPD, Vi1416VPD

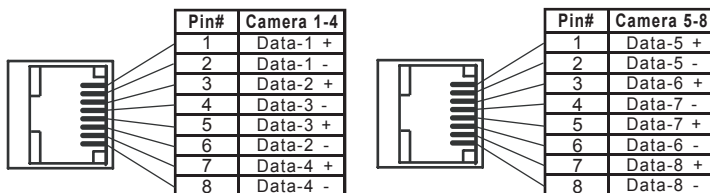


Vi1051VP, Vi1054VPD



Control Room Data Connections:

Vi1408VPD, Vi1416VPD, Vi1508VPD, Vi1516VPD



Limited Lifetime Warranty

Vigtron, Inc. warrants that all Vigtron products ("Product"), if used in accordance with these instructions, will be free of defects in material and workmanship for as long as the original end user purchaser owns the product. At Vigtron's option, defective product will be repaired, replaced or substituted with a product of equal value. This warranty does not apply if, in the judgment of Vigtron, Inc., the Product fails due to damage from shipment, handling, storage, accident, abuse or misuse, or if it has been used or maintained not conforming to Product manual instructions, has been modified, or serial number removed or defaced. Repair by anyone other than Vigtron, Inc. or an approved agent will void this warranty. Vigtron, Inc. shall not under any circumstances be liable to any person for any incidental, indirect or consequential damages, including damages resulting from use or malfunction of the product, loss of profits or revenues or costs of replacement goods. The maximum liability of Vigtron, Inc. under this warranty is limited to the original purchase price of the Product.

Prior to returning any defective Product, the end customer or the reseller from whom the end customer originally purchased the Product must obtain a Return Materials Authorization (RMA) number from Vigtron, Inc. All defective Products should be returned to Vigtron, Inc. with shipping charges prepaid. No collect shipments will be accepted.



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