VIGITRON
Video-Power-Data CCTV Product Installation Manual
Vi1053VPD, Vi1204VPD, Vi1216VPD, Vi1304VPD, Vi1316VPD

The Vigitron VPD series are designed to combine video, PTZ data, and camera power over a single 4-pair UTP cable to simplify CCTV instalations in a structured wiring environment. They support up to 16 cameras. These units receive low-voltage camera power from any third-party multi-output Class 2 power supply. Each camera power output (excluding Vi1053) is equipped with a self-resetting fuse for extra protection.

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 (304m)

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

Safety Warnings

- 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.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Vi1053VPD - Vi1053VPD Application
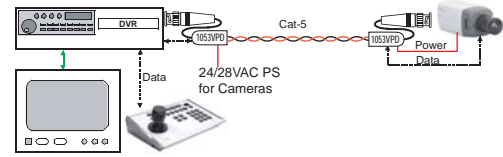
Application Diagram

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.
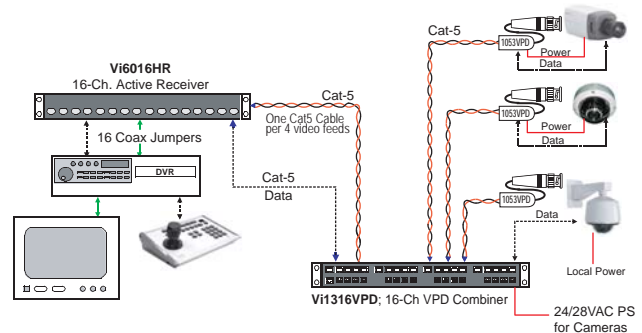
Vi1053VPD: Control End Connection
Video: Connect the baseband Video signal output (BNC pigtail) of the Vi1053VPD to the BNC input of a video receiver unit such as a DVR.
Power: Connect the Power UTP pigtail (Black/Red) of the Vi1053VPD to the power connector of the a Class-II power supply.
Data: Connect the Data UTP pigtail (Black/White) of the Vi1053VPD to the data connector of the PTZ controller output.
Cat-5 Cable: Connect the RJ-45 connector attached to the control 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.

Vi1053VPD - Vi1304VPD/ Vi1316VPD Application

Application Diagram

Vi1304VPD or Vi1316VPD: Control End Connection
Video: Use a cat-5 cable with RJ-45 connectors on both ends to connect the RJ-45 video output of the Vi1304VPD or Vi1316VPD to a Vigitron active or passive receiver HUB.
Power: Connect one isolated fused power supply output to each power input of Vi1304VPD or Vi1316VPD. Make sure that the power supply is class 2 and can handle the required current and voltage.
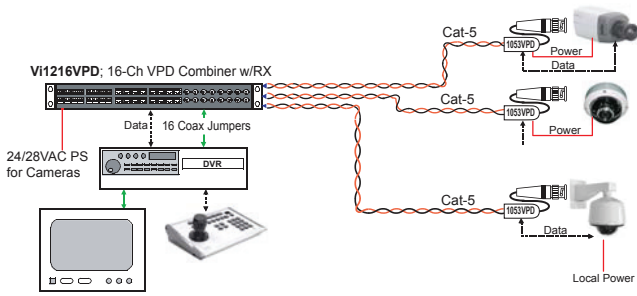**Data:** Connect the Data connector of the Vi1304VPD or Vi1316VPD to the PTZ controlling unit such as DVR .
Cat-5 Cable: Connect the RJ-45 connector of each Cat-5 cable coming from cameras to the appropriate RJ-45 jack on Vi1304VPD or Vi1316VPD. Make sure that the pin-out of the RJ-45 connector matches the following color code of the Cat-5 wires.
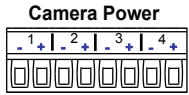For short runs place the Vi1304VPD or Vi1316VPD and power supply close to the control end.
For long runs place the Vi1304VPD or Vi1316VPD and power supply at a mid span point close to the camera end to minimize the loss of voltage over Twisted pair.

Application Diagram

Vi1204VPD or Vi1216VPD: Connecting the Control End

Video: Use a Coax jump cable with BNCs on both ends connect the BNC video output of the Vi1204VPD or Vi1216VPD to the video input of your video receiving unit such as a DVR.

Power: Connect one isolated fused power supply output to each power input of Vi1204VPD or Vi1216VPD. Make sure that the power supply is class 2 and can handle the required current and voltage.

Data: Connect the Data connector of the Vi1204VPD or Vi1216VPD to the PTZ controlling unit such as DVR .

Cat-5 Cable: Connect the RJ-45 connector of each Cat-5 cable coming from cameras to the appropriate RJ-45 jack on Vi1204VPD or Vi1216VPD. Make sure that the pin-out of the RJ-45 connector matches the following color code of the Cat-5 wires**.**

Video, Data and UTP Connections

Camera Connections:
Vi1053VPD, Vi1204VPD, Vi1216VPD, Vi1304VPD, Vi1316VPD

Pin#	Video/Power/Data
1	Video +
2	Video –
3	Data +
4	Power–
5	Power+
6	Data –
7	Power+
8	Power–

Control Room Data Connections:
Vi1216VPD, Vi1316VPD

Pin#	Camera 1-4	Camera 5-8	Camera 9-12	Camera 13-16
1	Data-1 +	Data-5 +	Data-9 +	Data-13+
2	Data-1 -	Data-5 -	Data-9 -	Data-13 -
3	Data-2 +	Data-6 +	Data-10+	Data-14 +
4	Data-3 -	Data-7 -	Data-11 -	Data-15 -
5	Data-3 +	Data-7 +	Data-11+	Data-15+
6	Data-2 -	Data-6 -	Data-10-	Data-14 -
7	Data-4 +	Data-8 +	Data-12+	Data-16+
8	Data-4 -	Data-8 -	Data-12 -	Data-16 -

Control Room Video Connections:
Vi1304VPD, Vi1316VPD

Pin#	Video Group	Related Cameras
1	Video-A +	Camera 1, 5, 9, 13
2	Video-A -	
3	Video-B +	Camera 2, 6, 10, 14
4	Video- C -	
5	Video- C+	Camera 3, 7, 11, 15
6	Video-B -	
7	Video-D+	Camera 4, 8, 12, 16
8	Video-D -	

Control Room Data Connections:
Vi1304VPD

Pin#	Signal	Related Cameras
1	Data +	Camera 1
2	Data –	Camera 1
3	Data +	Camera 2
4	Data –	Camera 3
5	Data +	Camera 3
6	Data –	Camera 2
7	Data +	Camera 4
8	Data –	Camera 4

Control Room Power Connections:
Vi1204VPD

Camera Power

Limited Lifetime Warranty

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