VIA Ethernet Switches
PWVIA RM P12 Models

Installation Guide

OVERVIEW

VIA™ Gigabit Ethernet Switches are designed for live entertainment Ethernet systems, including audio, video and DMX-over-Ethernet networks. This guide covers models PWVIA RM P12 RJ45EC NONPOE, PWVIA RM P12 RJ45EC POE, PWVIA RM P12 DUO POE and PWVIA RM P12 QUAD POE.

VIA Ethernet Switches are intended specifically for signal routing between Pathport DMX-over-Ethernet gateways, or similar equipment, and Ethernet-aware lighting and audio control products, such as consoles and controllers and end equipment. A VIA is a routing device and is not a source of the control protocols or the data being passed. Switches only provide management control over the data path.

The PWVIA RM P12 family is easily configured and upgraded using the freely available software tool, **Pathscape**. They are also configurable using the Front Panel UI, which consists of the LCD and rotary pushbutton encoder.

CONNECTIONS

POWER
Connect the switch to an AC input between 100 and 240VAC, either 50 or 60 Hz, with included IEC power cable (models PWVIA RM P12 RJ45EC NONPOE and PWVIA RM P12 RJ45EC POE) or powerCON cable (models PWVIA RM P12 DUO POE and PWVIA RM P12 QUAD POE).

Models PWVIA RM P12 DUO POE and PWVIA RM P12 QUAD POE have an additional powerCON THRU connector to simplify mains power connections in a rack. DO NOT EXCEED 10A DRAW ON THE FIRST SWITCH. The powerCON THRU jumper cable is not provided.

ETHERNET
Connect Ethernet devices to the RJ45 etherCON ports on the device.

All network wiring should follow standard Ethernet rules and be installed by a qualified person. As part of the installation, all wiring should be certified under the TIA/EIA-568 standard.

Pathway recommends the use of manufactured rather than hand-terminated cables.

POWER-OVER-ETHERNET (PoE)
VIA model PWVIA RM P12 RJ45EC NONPOE does not provide hardware support for IEEE 802.3af Power-over-Ethernet (PoE). It does not provide a way to connect an external PoE supply.

VIA models PWVIA RM P12 RJ45EC POE, PWVIA RM P12 DUO POE and PWVIA RM P12 QUAD POE feature an integrated 100W PoE supply for powering compatible external devices.

If you connect PoE-enabled devices to a PWVIA RM P12 RJ45EC NONPOE they will not receive power.

SFP+ PORTS
Models PWVIA RM P12 RJ45EC NONPOE and PWVIA RM P12 RJ45EC POE have two SFP+ compatible ports on the rear of the device. These require the user to provide an SFP or SFP+ fiber transceiver to allow connection to fiber networks.

opticalCON PORTS
Models PWVIA RM P12 DUO POE and PWVIA RM P12 QUAD POE have opticalCON DUO and opticalCON QUAD ports, respectively, for multimode fiber cables installed instead of SFP+ ports. Additional SFP+ transceivers are not required.

STATUS INDICATORS

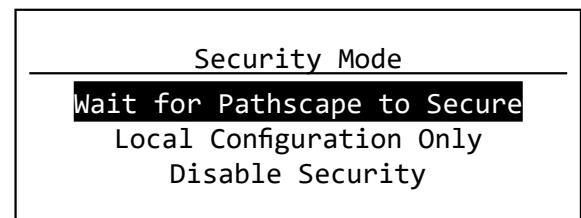|	
PoE	After boot up, solid green indicates PoE is enabled on the Port. Off indicates PoE is disabled.
Link/Act	Amber. Intermittent blinking indicates valid link to other device. Off indicates link is down.
Fiber Port LEDS (rear)	Green. Intermittent blinking indicates valid link to other device. Solid red indicates incompatible fiber transceiver.
LCD Backlight	Will light up when using the front encoder knob. When set to Identify mode using Pathscape, the backlight will flash.

INSTALLATION

Disconnect all power before proceeding with installation.

Securely mount device to rack unit, if applicable. Connect the AC input. The VIA will boot up, which may take 15-20 seconds.

Attach required network cables to RJ45 ports. Connect the fiber module(s), if used.

Choose the Security Mode from the front panel using the encoder knob.

```
                Security Mode
        Wait for Pathscape to Secure
          Local Configuration Only
              Disable Security
```

If adding to a Security Domain in Pathscape, no input here is needed. Open **Pathscape** on a PC on the same network as the VIA and add the switch to a **Security Domain**.

If using the VIA from the front panel only, select **Local Configuration Only** (Read-Only) mode. The device will only be configurable from the Front Panel, configuration from Pathscape is disabled.

If opting out of Security features, select **Disable Security**. The device will be configurable using Pathscape from any PC on the network, even unauthorized parties.

The system is now ready for configuration and testing.

CONFIGURATION

For detailed instructions on operation of VIA switches, please see the VIA manual available at the Pathway website.

All field configuration of VIA switches is recommended to be done with **Pathscape** software.

Download the software from **www.pathwayconnect.com** and install.

Before configuring and using the VIA, you must select a **Security Mode** as described above. To use Pathscape software to configure your devices, they must be added to a Security Domain. Alternately, you can lock out remote changes by selecting Local Configuration Only; all changes must then be made physically from the front panel of the device.

You can also opt out completely of the security features by selecting Disable Security. **This mode of operation is not a recommended practice**. However, if the production is on a dark network with a known crew, risk assessment may be weighed against convenience. In this mode the switch will behave like a legacy device in Pathscape; **all properties are Read/Writable from any PC on the network, even unauthorized users.**

If using Pathscape, set the computer's IP to a static address in the 10.x.x.x range, with a subnet mask of 255.0.0.0 and default gateway of 10.0.0.1. No configuration of the computer's DNS settings should be required. Plug into the VIA and launch the software. Discovery will be automatic.

Refer to the VIA and Pathscape manuals for description of configuration options.

DEFAULT SETTINGS

IP Address	Static, set at 10.x.x.x (where x is a number between 0 and 254)	QoS	Off
Subnet Mask	255.0.0.0	Port Link	Auto-negotiate
Default Gateway	10.0.0.1	DHCP	Disabled
VLANs	Disabled (all ports run as untagged on VLAN ID #1)	IGMP	Disabled
Mgmt VLAN	VLAN ID#1	Art-Net Trap & Convert	Disabled
Port PoE	Enabled (not applicable on model PWVIA RM P12 RJ45EC NONPOE)	Art-Net Alternate Mapping	Enabled (only applies when above feature is enabled)

ELECTRICAL INFORMATION

PWVIA RM P12 RJ45EC NONPOE:
- Power input: 100-240VAC, 50/60Hz
- 25W maximum power consumption

PWVIA RM P12 RJ45EC POE:
- Power input: 100-240VAC, 50/60Hz
- 125W maximum power consumption (25W for switch, 100W distributed to connected PoE devices)
- Integrated PoE supply: 100W; Class 3 PoE (15.4W maximum per port)

PWVIA RM P12 DUO POE, PWVIA RM P12 QUAD POE:
- Power input: 100-240VAC, 50/60Hz
- 125W maximum power consumption (25W for switch, 100W distributed to connected PoE devices); plus 10A maximum if using powerCON AC Thru. **Do not connect more than 6 switches together using thru connector on one ac input. Do not exceed 10a draw through the first switch.**
- Integrated PoE supply: 100W; Class 3 PoE (15.4W maximum per port)

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STANDARDS COMPLIANCE

- ANSI E1.31 sACN - Streaming ACN
- IEEE 802.3 Ethernet
- IEEE 802.3af Power-over-Ethernet (PoE-enabled models)
- IEEE 802.1AB Link Layer Discovery Protocol
- IEEE 802.1Q VLAN Support
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IETF EAPS - Ethernet Automatic Protection Switching
- IETF IGMPv2 - Internet Group Management Protocol
- Dante QoS - Quality of Service
- California Title 1.81.26, Security of Connected Devices
- CE
- ETL
- RoHS 2011/65/EU + A1 2015/863

WARNING

The AC socket outletshall be installed near the equipment and shall be easily accessible.

This equipment relies on building installation primary overcurrent protection.

Except for the IEC chassis plug marked for AC input, all ports on VIA switches are to receive low voltages only.

Attaching anything other than low voltage sources to the data ports may result in severe equipment damage, and personal injury or death.

PHYSICAL

PPWVIA RM P12 RJ45EC NONPOE
- Weight: 4.7 lbs (2.1 kg)
- Dimensions: 17"W x 1.7"H x 7"D (432mm x 43mm x 178mm)

PPWVIA RM P12 RJ45EC POE
- Weight: 5.2 lbs (2.4 kg)
- Dimensions: 17"W x 1.7"H x 7"D (432mm x 43mm x 178mm)

PPWVIA RM P12 DUO/QUAD POE
- Weight: 5.2 lbs (2.4 kg)
- Dimensions: 17"W x 1.7"H x 12"D (432mm x 43mm x 305mm)

- Operating Conditions: 14°F-122°F (-10°C to 50°C); 5-95% relative humidity, non-condensing

ACCESSORIES

PWACC WMLG	Wall-mount kit (models PWVIA RM P12 RJ45EC [NONPOE/POE] only)
PWACC TMLG	Wall-mount kit (models PWVIA RM P12 RJ45EC [NONPOE/POE] only)
PWACC SFPP	SFP+ 850nm 10GB Ethernet Optical Transceiver
PWACC SFP	SFP 850nm 1GB Ethernet Optical Transceiver

APPLICATION EXAMPLE

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