

TECHNICAL DOCUMENT

QUICK-START GUIDE: PATHPILOT CONTROLLER

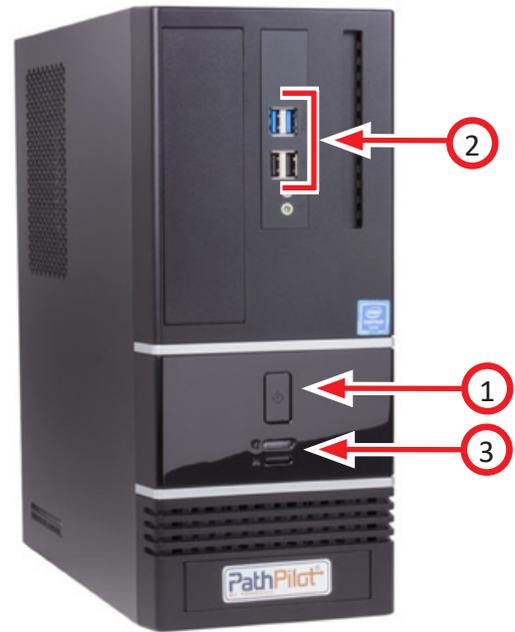
Product Identification: PathPilot Controller (PN 35286)

Purpose: This document gives instructions to set up the PathPilot controller for a PCNC 1100 mill, a PCNC 770 mill, a PCNC 440 mill, or a 15L Slant-PRO lathe.

PathPilot Controller (PN 35286)

Item #	Connection or Component
1	Power/Reset with LED
2	USB Ports (4)
3	Internal Drive LED
4	PS/2 Connector
5	USB Ports (2)
6	DVI Connector
7	VGA Connector
8	DP*
9	HDMI*
10	Blue USB Ports (4)
11	Ethernet Connector
12	Audio Connections*
13	Machine Interface Port
14	Voltage Setting Switch
15	PCI Expansion Slot
16	AC Power Connector

***NOTE:** Do not use these controller features.



Positioning the Controller

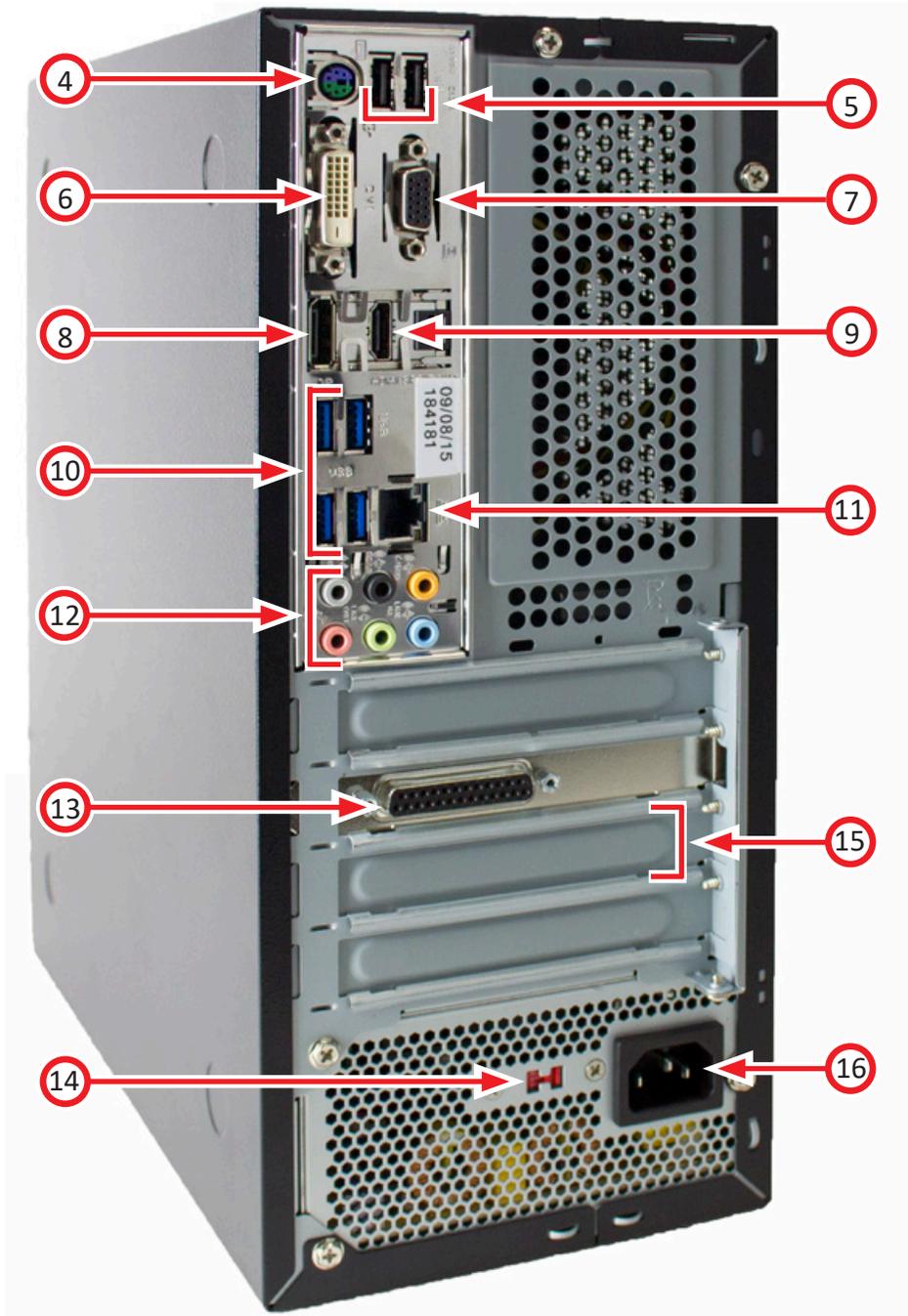
Put the PathPilot controller inside the machine stand cabinet. This storage area is large enough to provide adequate cooling without the need for additional fans. If you can't put the controller in the machine stand cabinet, put it in a location where it will remain clean and dry, and that provides similar protection from coolant, chips, etc.



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Making Controller Connections

Route cables to avoid creating trip hazards and to protect them from damage; use extension cables where necessary. Wrap all extension cable connections with electrical tape.



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Power Connections

Verify that the voltage setting switch is set to the proper voltage for the geographic location before connecting power.

Plug the controller's power cord into the AC power connector. Depending on your machine, connect the other end of controller power cord:

- **PCNC 1100, PCNC 770, 15L Slant-PRO:** Plug into the outlet marked *Controller* on the power connection panel (below the electrical cabinet).
- **PCNC 440:** Plug into a power strip (not included).

Monitor Connections

Connect the monitor cable to either the DVI connector or the VGA connector. Depending on your machine, connect the other end of the monitor power cord:

- **PCNC 1100, PCNC 770, 15L Slant-PRO:** Plug into the outlet marked *Monitor* on the power connection panel (below the electrical cabinet).
- **PCNC 440:** Plug into a power strip (not included).

DB-25 Interface Connections

Plug the ferrite end of the DB-25 interface cable into the machine interface port on the controller. Depending on your machine, connect opposite end of cable:

- **PCNC 1100, PCNC 770, 15L Slant-PRO:** Plug into the DB-25 outlet on the power connection panel (below the electrical cabinet).
- **PCNC 440:** Plug into the DB-25 outlet (on the side of the mill, above the Main Disconnect switch).

(Optional) Jog Shuttle, Keyboard, Automatic Tool Changer (ATC), USB I/O Connections

Connect the jog shuttle, keyboard, ATC, and USB I/O board into the blue USB port.

(Optional) Other USB Connections

PathPilot supports USB or PS/2 style mouse and keyboard connections. Connect other USB devices directly into USB port.

IMPORTANT! Do not use a wireless keyboard or mouse. We do not recommend active and passive USB hubs.

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Powering On the Controller

Follow the machine-specific power off/on procedure detailed below:

PCNC 1100, PCNC 770, 15L Slant-PRO Power Off/On Procedure

 **WARNING! Electrical Shock Hazard:** Be sure to power off machine before making any electrical modifications. Failure to do so may result in serious injury or death.

Power Off/On Procedure

Power Off	1. Push in the red Emergency Stop button.	
	2. Click <i>Exit</i> on screen; when prompted, click <i>OK</i> to power off.	
	3. Turn the Main Disconnect to the off position (see image at right).	
Power On	1. Turn the Main Disconnect to the on position (see image at right).	
	2. After PathPilot loads, turn the red Emergency Stop button clockwise to release.	
	3. Press the green Start button.	
	4. Click <i>Reset</i> on screen.	

PCNC 440 Power Off/On Procedure

 **WARNING! Electrical Shock Hazard:** Be sure to power off machine before making any electrical modifications. Failure to do so may result in serious injury or death.

Power Off/On Procedure

Power Off	1. Push in the red Emergency Stop button.	
	2. Click <i>Exit</i> on screen; when prompted click <i>OK</i> to power off.	
	3. Turn the PathPilot controller power strip off.	
	4. Turn the Main Disconnect to the off position (see image).	
Power On	1. Turn the PathPilot controller power strip on.	
	2. After PathPilot loads, turn the Main Disconnect to the on position (see image).	
	3. Turn the red Emergency Stop button clockwise to release.	
	4. Press the green Start button.	
	5. Click <i>Reset</i> on screen.	

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Initial Configuration

1. Power on the controller according to the “Power Off/On Procedure” (earlier in this document).
2. When the end-user license agreement appears, review and select **Agree** to continue.
3. Select the machine-specific controller configuration option from the menu choices.

NOTE: Depending on the machine configuration you selected, Step 4 and Step 5 may not appear on screen.

4. An informational window appears requiring Mesa card interface reprogramming; select **OK** to continue. After reprogramming is complete, press any key on the keyboard to close.
5. The software prompts for restart; select **OK**. This allows the controller to safely power off.
6. Power on the controller again. The PathPilot interface launches.

Checking for Software Updates

Before using PathPilot, make sure that the controller’s software is up-to-date with the latest release.

NOTE: Updates do not need to be applied sequentially.

1. From tormach.com/updates, download the most recent PathPilot update file (vX.X).
2. Transfer the file to a USB drive and plug the USB drive into the PathPilot controller.
3. Make sure that the PathPilot controller is powered on.
4. From the PathPilot interface, on the **Status** tab, select **Update** (see **Figure 1**).
5. Navigate to the most recent PathPilot update file (vX.X) file on the USB drive.
6. Select **Update**.
7. When prompted, push in the red Emergency Stop button.
8. Select **OK**.

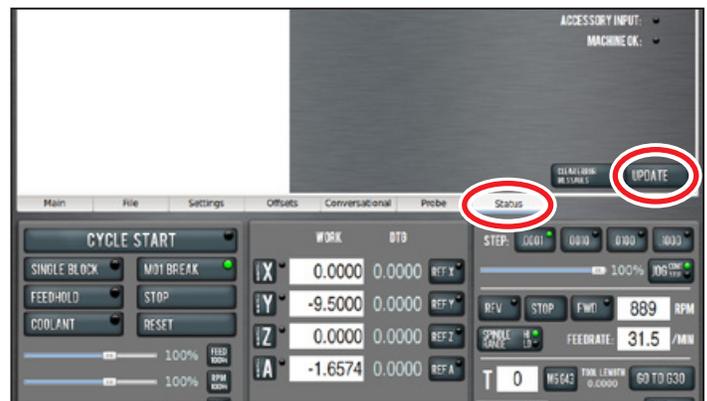


Figure 1