

# ABOUT THE DOCKS

Use this chapter to learn about the available docks for the VM3A.

## About the Docks

The Thor computer assembly consists of two parts: the VM3A computer and the dock. The computer contains an internal UPS battery that, once fully charged, powers the computer for approximately 30 minutes when the unit is not mounted in the dock.

There are three available vehicle-mount docks:

- [VM1D Standard Dock](#)
- [VM3D Enhanced Dock](#)
- [Enhanced Dock with Thor VX8/VX9 Screen Blanking](#)

Additionally an off-vehicle dock is available for the computer for use in environment such as an office where AC power is available:

- [VMXD Enhanced Dock for Off-Vehicle Use](#)

All docks provide:

- A mount for the computer. The dock attaches to a vehicle via a RAM or U bracket mount or to a RAM table stand for use in an office environment.
- Conditioned power for the VM3A. The vehicle-mount docks accept 10-60VDC power input directly or 50-150VDC power input with a DC/DC converter. The off-vehicle dock requires an AC/DC power supply.
- Mobility of the VM3A, since the dock remains attached to the vehicle the computer can easily be moved from one vehicle equipped with a dock to another.
- I/O ports.
- Strain relief provisions for cables.
- Headset connection via an adapter cable. When a headset is not attached, the microphone and speakers are active.

# Dock Overview

## VM1D Standard Dock



**Caution: In order to comply with US power efficiency requirements this dock should not be used in the US for AC power applications.**

SKUs	VM1001VMCRADLE (with power cable) VM1002VMCRADLE (with RAM ball) VM1003VMCRADLE
Serial Ports	COM1 and COM2 by means of DB9 male connectors
USB Ports	USB port provides host connection via an adapter cable
Ethernet	N/A
Audio	Headset connection via an adapter cable
Screen Blanking	Supported via COM1 and COM2 connectors
Ignition Control	Supported

## VM3D Enhanced Dock



**Caution: In order to comply with US power efficiency requirements this dock should not be used in the US for AC power applications.**

SKUs	VM3001VMCRADLE
Serial Ports	COM1 and COM2 by means of DB9 male connectors
USB Ports	USB1 port provides host connection via an adapter cable USB2 port provides two USB host ports via an adapter cable Direct USB host type A connection
Ethernet	RJ-45 Ethernet connection on top of dock
Audio	Headset connection via an adapter cable
Screen Blanking	Supported via COM1 and COM2 connectors
Ignition Control	Supported

## Enhanced Dock with Thor VX8/VX9 Screen Blanking

This dock is designed for use when the Thor VM3A is replacing a Thor VX8 or Thor VX9. This dock utilizes the existing vehicle wiring from the earlier computer and supports screen blanking through that wiring.

SKUs	VMX004VMCRADLE
Power Connection	Direct or DC/DC power supply
Serial Ports	COM1 and COM2 by means of DB9 male connectors (See note below)
USB Ports	USB1 port provides host connection via an adapter cable USB2 port provides two USB host ports via an adapter cable Direct USB host type A connection
Ethernet	RJ-45 Ethernet connection on top of dock
Audio	Headset connection via an adapter cable
Screen Blanking	Supported via COM1 and COM2 connectors
Ignition Control	Not supported

**Note:** For the VMX Enhanced Dock: COM1 is used for screen blanking (via the power cable connector) and is unavailable when the screen blanking box is attached. When a screen blanking box is attached, any external serial device, such as a scanner, must be connected to the COM2 port on the dock. If a screen blanking box is not connected via the power cable, the COM1 port on the dock is available for a serial device.

## VMXD Enhanced Dock for Off-Vehicle Use

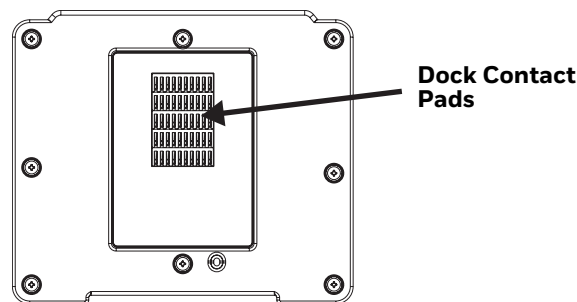


**Caution: This dock is designed for AC power (non vehicle-mounted) applications only.**

SKUs	VMX005VMCRADLE
Power Connection	AC/DC adapter
Serial Ports	COM1 and COM2 by means of DB9 male connectors
USB Ports	USB1 port provides host connection via an adapter cable USB2 port provides two USB host ports via an adapter cable Direct USB host type A connection
Ethernet	RJ-45 Ethernet connection on top of dock
Audio	Headset connection via an adapter cable
Screen Blanking	Not supported
Ignition Control	Not supported

# Features of the Dock

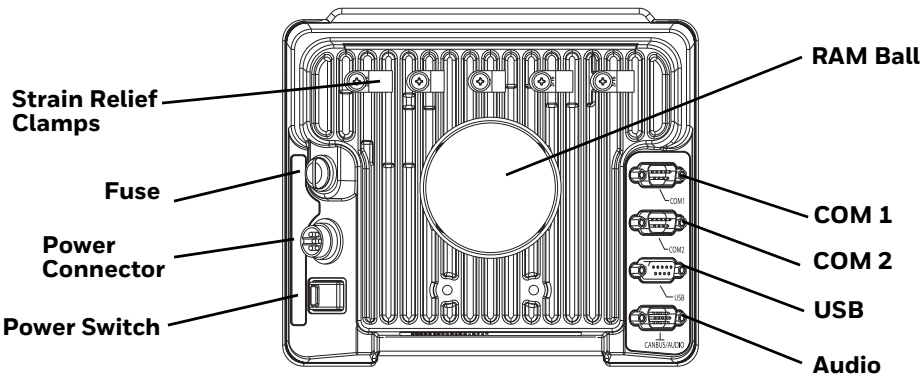
## Front View - Dock



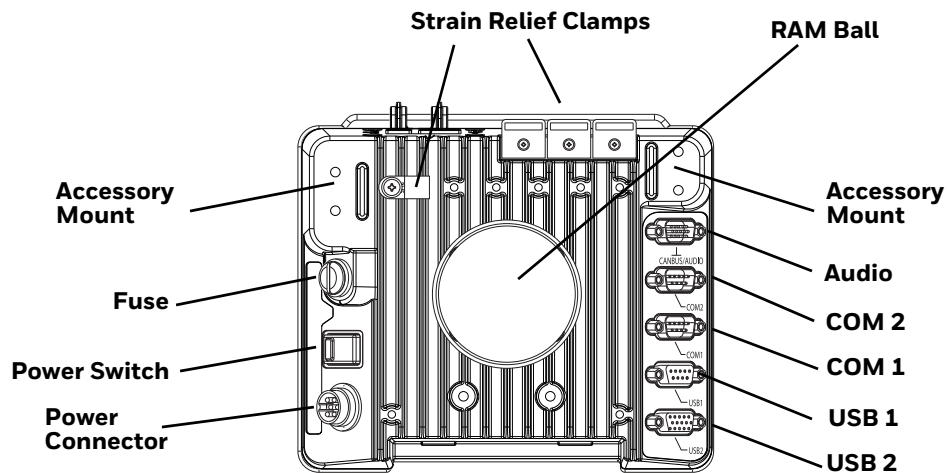
## Back View - Dock

The connectors on the back of the dock vary by dock model.

### Standard Dock



## Enhanced Dock

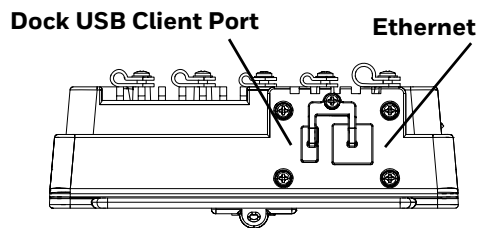


**Note:** For the VMX Enhanced Dock: COM1 is used for screen blanking (via the power cable connector) and is unavailable when the screen blanking box is attached. When a screen blanking box is attached, any external serial device, such as a scanner, must be connected to the COM2 port on the dock. If a screen blanking box is not connected via the power cable, the COM1 port on the dock is available for a serial device.

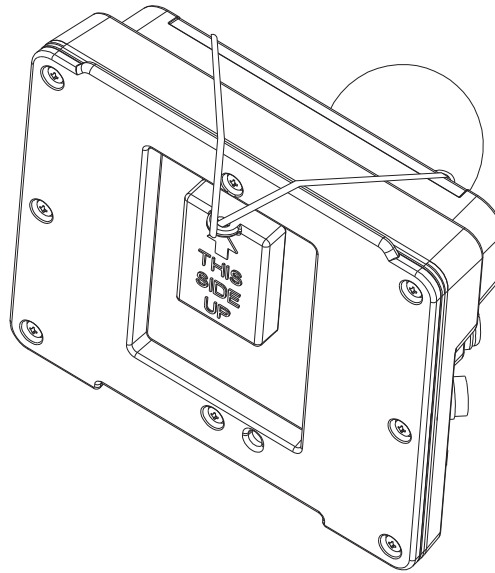
## Top View - Enhanced Dock

Only the Enhanced Dock has these connectors on the top. The connectors are located behind the dust plugs.

**Note:** Dock USB Client Port is not supported with VM3A computers.

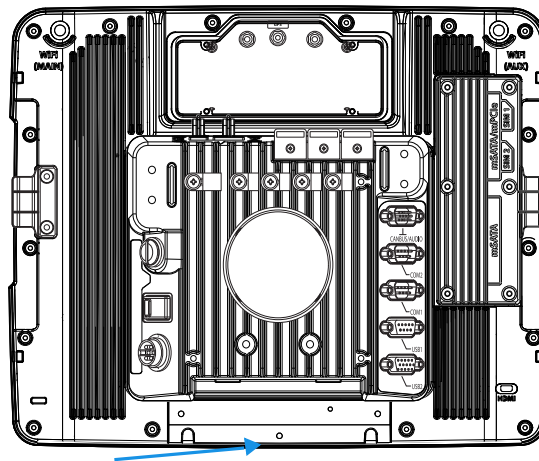


## Dock I/O Pin Cover



- When the computer is not installed in the dock, use the I/O Pin Cover to protect the pins on the dock, as shown.
- When the computer is installed in the dock, the I/O Pin Cover can be placed out of the way behind the dock.

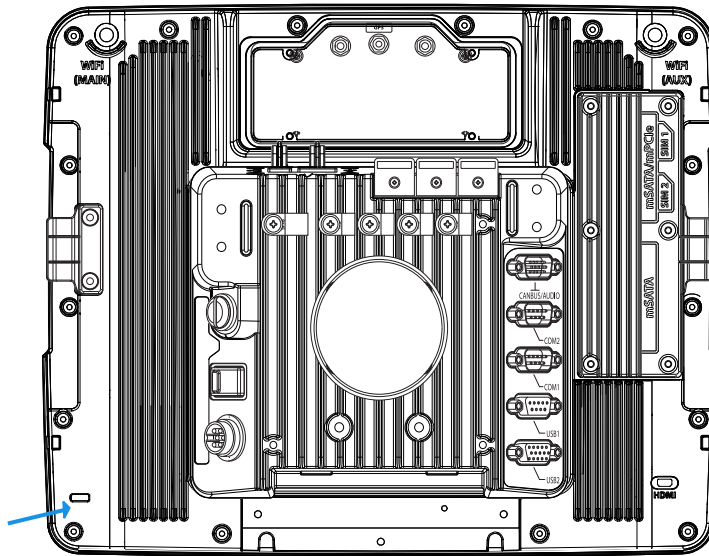
## Padlock



It may be desirable to secure the VM3A in the dock so it cannot be removed from the dock. The quick release handle on the computer is notched to allow a user supplied small padlock to be placed through a hole in the bracket on the back of the computer in the location shown below. Once the padlock is installed, the release handle cannot be moved so the VM3A cannot be removed from the dock. The padlock shackle must be smaller than 3/16" (4.76mm).

A cable tie wrap can be used instead of a padlock, if desired.

# Laptop Security Cable

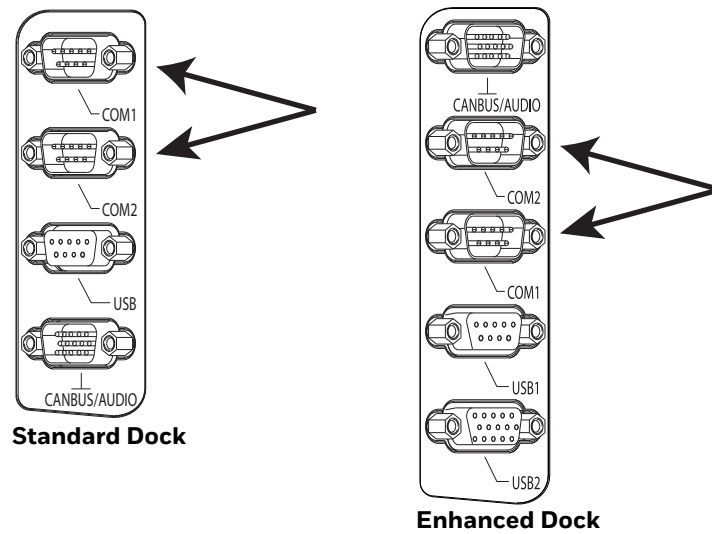


The VM3A can be secured with a standard laptop security cable using the slot on the back.

## External Connectors Overview

- Power the VM3A Off before attaching a cable to any port (serial, USB, Audio, etc.).
- The external I/O connectors for the computer are located on the right side of the dock (when viewed from the back).
- The [Power Supply Connector](#) is on the left side of the dock (when viewed from the back).
- Antenna connectors are located on the top rear of the computer.

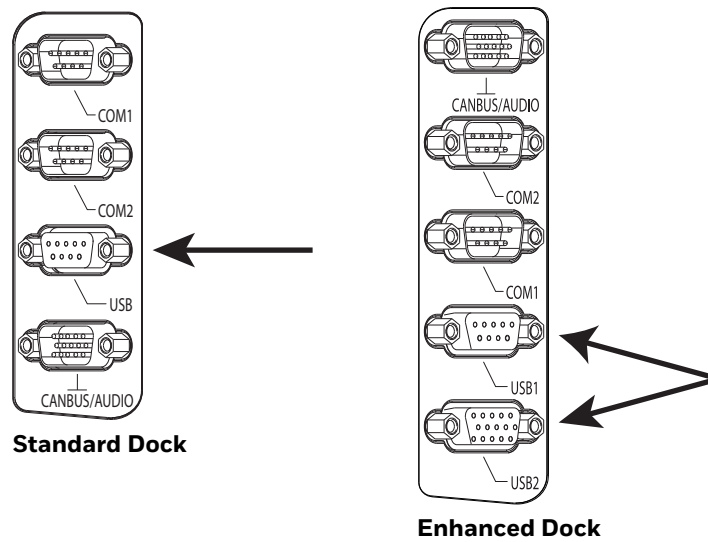
## Serial Connector (COM1 and COM2)



- The COM1 and COM2 connectors are D-9 male connectors located on the back of the dock.
- Power the VM3A Off before attaching a cable to any port (serial, USB, Audio, etc.).
- The serial connectors are industry standard RS-232, PC/AT standard 9-pin “D” male connector. See [COM1 and COM2 Connector](#) for connector pinout detail.
- Pin 9 is configured to provide +5V, 500mA for an external bar code scanner.
- See [Connect Serial Device](#) for more information.
- If a COM port is not being used for a peripheral, it can be used for [Screen Blanking Installation](#) when the vehicle is in motion.



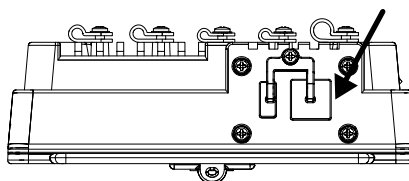
## USB Connector(s)



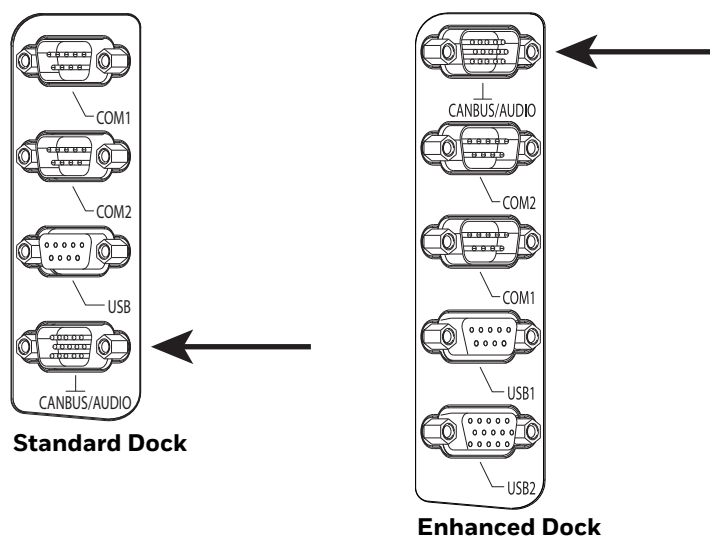
- The USB or USB1 connector is a D-9 female connector located on the back of the dock. See [USB and USB1 Connector](#) for connector pinout detail.
- See [Connect USB Host](#) for more information.
- The USB-2 connector is a D-15 female connector located on the back of the dock. See [USB2 Connector](#) for connector pinout detail.
- Power the VM3A Off before attaching a cable to any port (serial, USB, Audio, etc.).

## Ethernet Connector

An Ethernet port is located on the top of the Enhanced Dock. Lift the cover to access the Ethernet port.

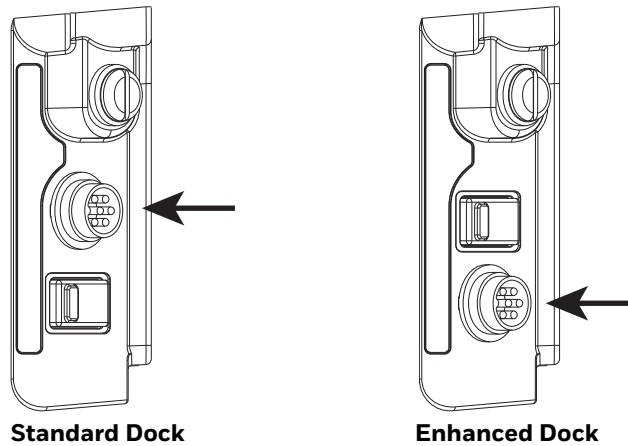


## Audio Connector



- The Audio connector is a D-15 male connector located on the back of the dock.
- See [Audio Connector](#) for connector pin-out detail.
- A headset cable attaches to the Audio connector and provides a quick connect connection for a headset. See [Connect Headset Cable](#) for more information.

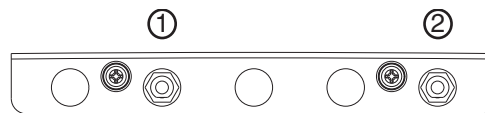
## Power Supply Connector



- Power is supplied to the VM3A through the power connector. Additionally, this assembly provides a connection point for the vehicle's chassis ground to be connected internally to the conductive chassis of the computer.
- The computer's internal power supply can accept DC input voltages in the range of 10 to 60 Volts DC when using the VM1D standard dock or VM3D enhanced dock. The VMXD dock DC input voltage is 13.2VDC from the AC/DC power supply.
- See [Power Supply Connector](#) for connector pin-out detail. See [Connect Power](#) for more information on connecting power to the VM3A.

## Antenna Connections

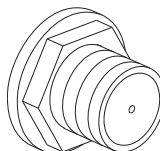
The VM3A is equipped with an 802.11 WLAN radio and can be ordered with internal antennas or configured to support external antennas. When the computer is ordered with internal antennas, the external antenna connectors are not used.



1. WI-FI (MAIN) (Red label) 802.11 Main External SMA Antenna Connector
2. WI-FI (AUX) (Yellow label) 802.11 Auxiliary External SMA Antenna Connector

## External Antenna Connector

When the VM3A is ordered with the internal antenna option, the 802.11 antenna connectors on the back are not connected to the 802.11 radio. Instead the internal antenna connector is connected to the 802.11 radio.



Remove the rubber cap, if present, from the antenna connector before connecting an external antenna.

## Internal 802.11 Antennas

If the internal 802.11 antenna option is ordered, antennas are mounted inside the computer. The internal antennas are not user accessible.

## External Antennas

The external antennas can be remotely mounted on the vehicle (VM1277ANTENNA) or connected directly to the SMA connectors on the VM3A (VM2276ANTENNA). See [Mount the 802.11 Remote Antenna](#) for instructions.