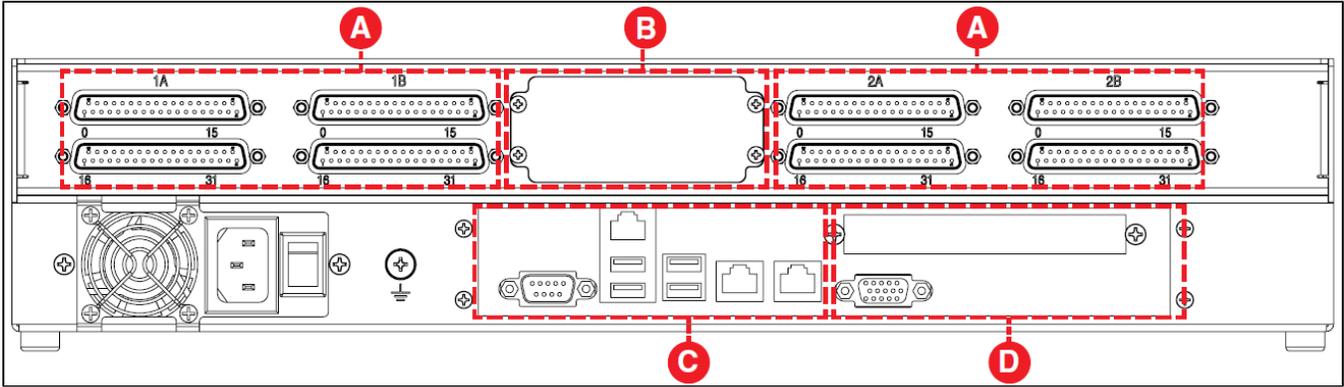


OP4510 V2 Rear Interface

- [OP4510 V2 Standard Configuration](#)
- [OP4510 V2 I/O Expansion Options](#)
- [OP4510 V2 PCIe Options](#)

OP4510 V2 Standard Configuration



A: DB37 connectors for digital or analog inputs and outputs.

B: In the standard OP4510 V2 standard configuration, this section contains a blank plate, however, several options are available. See [OP4510 V2 I/O Expansion Options](#) for detailed information on available configuration options.

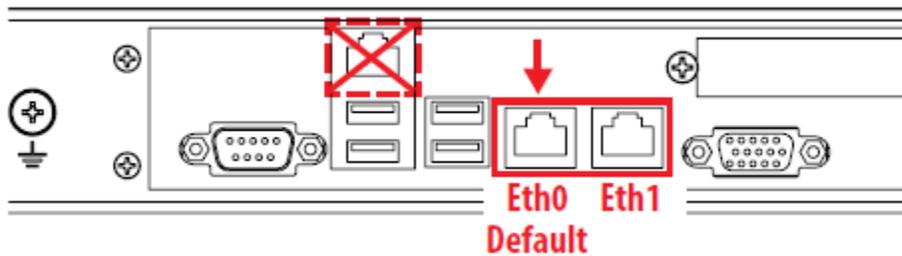
C: Standard computer connectors (left to right): Serial (COM) port, IPMI, USB ports*, network ports**, monitor (VGA).

Note

USB ports are configured to detect keyboard only. All other USB connected devices are not compatible with this unit.

Note

Only one network port is required for network connection. The image below shows the default Ethernet port.



D: Connector availability depends on the expansion option (if any) selected. This default configuration contains a blank plate in this section. See [OP4510 V2 PCIe Options](#) for details.

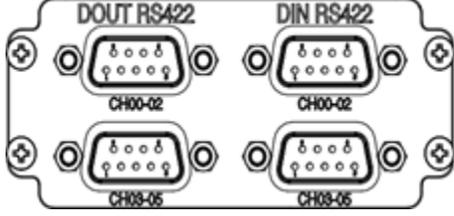
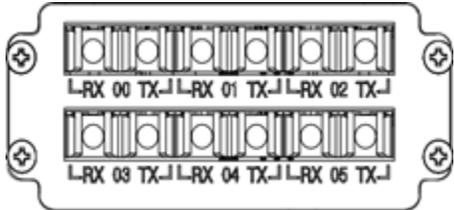
OP4510 V2 I/O Expansion Options

The OP4510 V2 comes with an **RS-422 Connector Kit (OP5969-1)** factory installed by default.

The **optional Fiber-Optic Connector Kit (OP5969-2)** can also be installed. It will replace the default connector kit, since **only ONE of these connector kits can be installed in an OP4510 V2 at a time.**

The **optional connector kit must be selected at the time of purchase and factory-installed.**

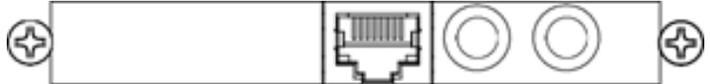
If the **OP3811** or the **OP3812 GPS Synchronization Connectors PCIe I/O cards** are ordered, **none of the following expansion options can be installed** because the I/O cards also require a connector plate to be installed in the same location.

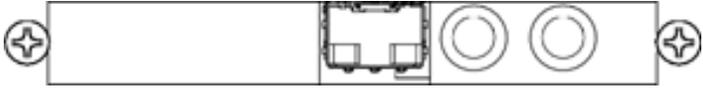
<p>RS422 Connector kit (OP5969-1)</p>		<p>DEFAULT connector kit installed The DB9 connectors for RS422 signals are typically used to transmit differential encoder inputs and outputs. Refer to the OP5969-1 User Manual for specifications and pin assignment.</p>
<p>Fiber-Optic Connector kit (OP5969-2)</p>		<p>Optional connector kit Fiber-optic connector kit provides 6 RX and 6 TX channels. These channels can be used as digital I/Os or for low-speed communication protocols. The ORION protocol, developed by OPAL-RT, is compatible with these channels and available in custom bitstreams. Refer to the OP5969-2 User Manual for specifications and pin assignment.</p>

OP4510 V2 PCIe Options

There are several PCIe options available for the OP4510 V2.

 Only **ONE** of the I/O cards may be installed in an OP4510 V2 at a time.
The PCIe optional I/O card must be selected at the time of purchase and factory-installed.

<p>OP5451 Copper cable</p>		<p>Passive/active PCIe expansion with standard PCIe iPass x4 connector interface. This option is used to connect the OP4510 V2 to an OPAL-RT expansion I/O chassis. The option comes as a kit, including a copper cable.</p> <table border="1" data-bbox="990 1171 1484 1436"> <thead> <tr> <th>Option</th> <th>Platform</th> <th>Type of cable</th> </tr> </thead> <tbody> <tr> <td>OP5451</td> <td>OP4510 V2 to OP4520 OP4510 V2 to OP5607 OP4510 V2 to OP5705-IO OP4510 V2 to OP5707-IO</td> <td>Copper cable, 2 m (6 ft)</td> </tr> </tbody> </table>	Option	Platform	Type of cable	OP5451	OP4510 V2 to OP4520 OP4510 V2 to OP5607 OP4510 V2 to OP5705-IO OP4510 V2 to OP5707-IO	Copper cable, 2 m (6 ft)
Option	Platform	Type of cable						
OP5451	OP4510 V2 to OP4520 OP4510 V2 to OP5607 OP4510 V2 to OP5705-IO OP4510 V2 to OP5707-IO	Copper cable, 2 m (6 ft)						
<p>OP3411</p>		<p>CANbus protocol expansion board with a CANbus standard 25-pin connector interface.</p>						
<p>OP3811</p>	<p>PCIe I/O Card</p>  <p>Connector plate</p>	<p>The GPS time synchronization (IEEE 1588) with RJ45 connector interface comes in 2 parts: the PCIe card and the connector plate with an external synchronization input connector and fiber-optic synchronization output.</p> <p>If this option is selected, none of the I/O Expansion Options (OP5969-1, OP5969-2) could be installed because the connector plate needs to be installed at the same place.</p>						

<p>OP3812</p>	<p>PCIe I/O Card</p>  <p>Connector plate</p>	<p>GPS time synchronization (IEEE 1588) with SFP connector interface comes in 2 parts: the PCIe card and the connector plate with an external synchronization input connector and fiber-optic synchronization output.</p> <p>If this option is purchased, none of the I/O Expansion Options (OP5969-1, OP5969-2) could be installed because the connector plate needs to be installed at the same place.</p>
<p>OP3821</p>		<p>Dual-port PCIe x1 Gigabit Ethernet interface.</p>