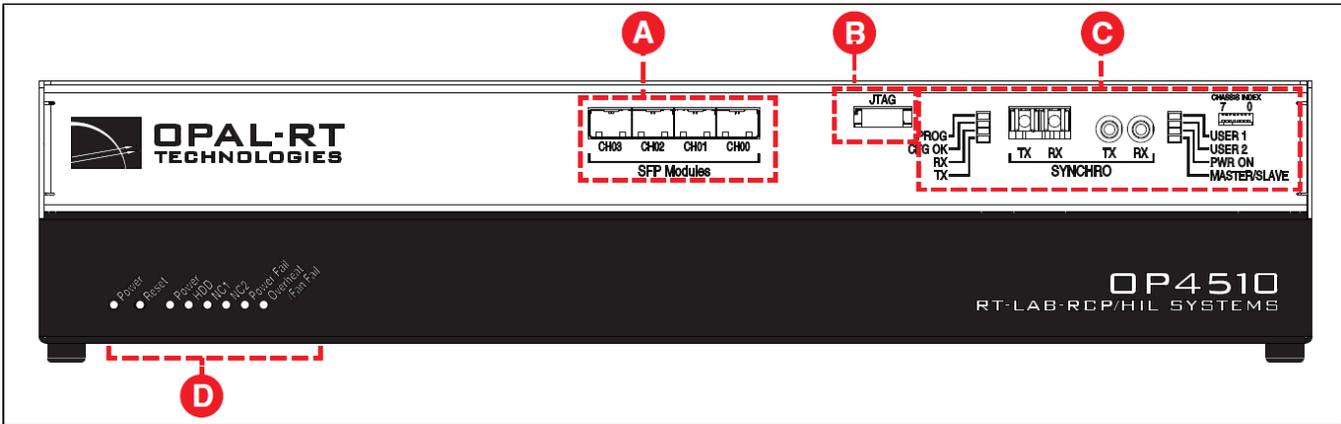


# OP4510 V2 Front Interface



- **A** Small form-factor pluggable (SFP) module connectors provide four high-speed communication links between other FPGA simulators or third-party devices. Each socket controls one communication link. SFP transceivers and fiber optic cables must be selected (and purchased separately) according to the type and speed of the communication protocol.

**Note:** MuSE link requires specific SFP transceivers and optical fiber cables:

- SFP: Avago AFBR-57R5APZ
- Cable: LC-LC multimode 850nm optical fiber

- **B** JTAG connector (for OPAL-RT technicians' use only).



**JTAG connector is highly sensitive to ESD.** Always leave plastic plug in place when not in use. Wear anti-static wrist strap at all times when using this connector.

- **C** Synchronization connectors status, and user-configurable LEDs

LED Label	Description
<b>PROG/CFG OK</b>	<b>CFG OK</b> steady on green and PROG off indicates the FPGA is functioning normally <b>CFG OK</b> off and PROG steady on yellow indicates the FPGA has stopped and is no longer functioning
<b>RX</b>	Green when receiving synchronization
<b>TX</b>	Green when transmitting synchronization
<b>USER 1</b>	Green LED controlled (configured by the user using Simulink blocks)
<b>USER 2</b>	Green LED controlled (configured by the user using Simulink blocks)
<b>PWR ON</b>	Green indicates OP4510 V2 power is functioning

<b>MASTER /SLAVE</b>	Green indicates MASTER mode. Yellow indicates SLAVE mode. Flashing green and yellow indicates a SAFE bitstream in the FPGA
<b>CHASSIS INDEX</b>	8-pin DIP switch that allows users to set the device's network chassis index. It can be set from 00 to FF (in HEX) for a maximum of 256 addresses

<b>Synchro Label</b>	<b>Description</b>
<b>TX/RX</b>	Fiber optic connector. Compatible with OP4500, OP5607, OP7000 and OP7020. Synchronizes time steps between systems and includes high-speed FPGA pulses.
<b>TX/RX</b>	Stereo jack. Compatible with all OPAL-RT products (except OP4200).

- **D** Target computer monitoring interface. Two pushbuttons and six LED indicators:

<b>Name</b>	<b>Interface</b>	<b>Status</b>	<b>Description</b>
<b>Power</b>	Pushbutton		Power on or shut down the target computer
<b>Reset</b>	Pushbutton		Resets the target computer
<b>Power</b>	LED	Green	On indicates that the unit is powered up.
<b>HDD</b>	LED	Green	On indicates that the hard disk drive is operating.
<b>NIC1</b>	LED	Green	On indicates that network port 1 is in use.
<b>NIC2</b>	LED	Green	On indicates that network port 2 is in use.
<b>Power Fail</b>	LED	Red	On indicates a power fault.
<b>Overheat/Fan Fail</b>	LED	Red	On indicates either that unit has overheated or a fan fault.