

OP7000V2 System Installation

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This section provides a description of the hardware included with the basic simulation system (with the OP7000V2 at its core) and how to connect the various cables between devices.

Before beginning to install your system, verify that all the standard (and optional) components are present.

Connecting the Ground Screw

You must connect a grounding cable from the OP7000 ground screw to the rack where it is installed to ensure that the OP7000V2 terminates securely in a ground. Proper grounding helps prevent electric shocks, protects the OP7000V2 from voltage spikes (from a variety of causes, including lightning strikes), and provides increased immunity from EMI by lowering noise levels and emissions.

- Select a flat braided grounding strap of adequate length (as short as possible, yet that provides the best protection), with ring terminals on each end
- Attach one ring terminal to the ground screw on the OP7000V2, as shown on the [OP7000V2 Rear Interface](#), section E
- Attach the other ring terminal to the rack using a nut and lock washer

Power up Procedure

The following sequences must be respected to ensure that the system functions properly:

PCIe configuration:

1. Ensure that power cables of the OP7000V2 and the simulator are connected to grounded, protected power plugs (see red label on the power cable).
2. Connect the PCIe cable between the back of the OP7000V2 chassis and the real-time simulator
3. Connect the real-time computer network cable to the Ethernet
4. Turn the OP7000V2 ON, using both the back and front ON/OFF switches of the chassis
5. Turn the real-time computer ON

MuSE central configuration

1. Ensure that power cables of the MuSE remote chassis, the OP7000V2 and the real-time simulator are connected to grounded, protected power plugs (see red label on the power cable).
2. Connect the PCIe cable between the back of the OP7000V2 chassis and the real-time simulator
3. Connect the MuSE remote nodes to the SFP sockets of the OP7000V2 Primary FPGA (OP7170-1) via LC-LC multi-mode optical fibers and SFP transceivers
4. Connect the real-time computer network cable to the Ethernet
5. Turn the MuSE remote nodes ON,
6. Turn the OP7000V2 ON, using both the back and front ON/OFF switches of the chassis
7. Turn the real-time computer ON

MuSE remote configuration

1. Ensure that power cables of the OP7000V2, the MuSE central chassis and/or the real-time simulator are connected to grounded, protected power plugs (see red label on the power cable).
2. Connect the SFP sockets of the OP7000V2 Primary FPGA (OP7170-1) via LC-LC multi-mode optical fibers and SFP transceivers to the MuSE central chassis.
3. Connect the real-time computer network cable to the Ethernet
4. Turn the OP7000V2 ON, using both the back and front ON/OFF switches of the chassis
5. Turn the MuSE central chassis and/or the real-time simulator ON