The Ultrix 5RU and 2RU frames support multiple Carbonite blades. 

Notes:
- The Ultrix 5RU frame can support up to 4 SDPE blades and the Ultrix 2RU frame can support up to 2 SDPE blades.
- An Ultricool may be required, depending on your installation.
- A 1GbE ethernet connection is required for Ultrix.
- The REF B connection is not supported at this time.
- The Ultrix SDI I/O blade is used to provide sources and destinations that the switcher can access.
- All power supplies must be connected to operate the switcher.
- The number of SDPE blades a system can have depends on the size of the Ultrix frame and the other blades that are installed.
- The switcher is made up of a single SDPE blade. Each SDPE blade provides an independent Carbonite switcher.
- The GPI and Tally ports on each SDPE blade are independent of each other.
- There should be a 1-slot gap between SDPE blades in either the 5RU or 2RU router to ensure proper cooling. An Ultricool (optional) may be required in this gap, but two SDPE blades should not be installed next to each other.
- Each SDPE blade is independent of the others. If you upgrade one to a different version of software, that upgrade is not pushed to the other SDPE blades.
- There should be a 1-slot gap between SDPE blades in either the 5RU or 2RU router to ensure proper cooling. An Ultricool (optional) may be required in this gap, but two SDPE blades should not be installed next to each other.
- The GPI and Tally ports on each SDPE blade are independent of each other.

**CAUTION!** Electrical shock hazard. The Power connector (PWR) must always be disconnected when the SDPE blade is not installed in the frame.

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**CAUTION!** Adequate ventilation within a rack frame must be maintained. Ensure side to side ventilation is not compromised. Refer to the Ultrix Installation Guide for more information.

**NOTICE** The Ultrix frame and SDPE blades do not have power switches. Ensure that the Ultripower is not connected to mains power before connecting the power cables from the Ultripower to the other components. If the Ultripower is energized as you connect the power cables to the Ultrix and SDPE, the system could start to power up before it has enough power to operate and could damage the equipment.

**Power and Cabling**

Read the instruction manual for your Ultripower and Ultrix FR5 or Ultrix FR2 before starting work or operating equipment.

**NOTICE** The Ultripower is not connected to mains power before connecting the power cables from the Ultripower to the other components. If the Ultripower is energized as you connect the power cables to the Ultrix and SDPE, the system could start to power up before it has enough power to operate and could damage the equipment.

**Installation and Cabling**

Connect video inputs as needed (sources)
Connect video outputs as needed (destinations)
Connect external reference
Note: Ensure that the end of the power cable with the ferrite bead is connected to the Ultripower.
### Powering Up/Down

#### Ultripower Connection
1. Connect an Ultripower unit to mains power.
   - Important: Do NOT connect them to the SDPE blades.
2. Connect to one of the Ultripower units from DashBoard.
3. Click **Change** in the **Device Power State** to turn the power off.
4. Wait for the **Avg Output (W)** to go to 0.
5. On the **Setup** tab, name the first power supply **Ultrix** and assign all the power supplies to that label.
6. Repeat for the other Ultripower and name it **Carbonite** for each blade.

#### Ultripower - Ultrix Connection
- Connect Ultripower - Ultrix to the SDPE blades.
- Connect Ultripower - Carbonite to the SDPE blades.
- Connect Ultripower - Carbonite to the SDPE blade.
- Connect Ultripower - Ultrix to the SDPE blade.

#### Ultripower - Carbonite Connection
- Connect Ultripower - Carbonite to the SDPE blade.
- Connect Ultripower - Ultrix to the SDPE blade.
- Connect Ultripower - Carbonite to the SDPE blade.
- Connect Ultripower - Ultrix to the SDPE blade.

#### Ultrix Carbonite Power Up
1. Connect to the Ultripower - Carbonite in DashBoard.
2. Click **Change** in the **Device Power State** to turn the power on.
3. Wait for the **Avg Output (W)** to rise and stabilize. It should only take a few seconds.
4. Connect to the Ultripower - Ultrix in DashBoard.
5. Click **Change** in the **Device Power State** to turn the power on.
6. Wait for the **Avg Output (W)** to rise and stabilize. It should only take a few seconds.
7. The Ultrix Carbonite should be booting up safely now.

**Note:** To power down the Ultrix Carbonite, power down the Ultripower - Ultrix first and then the Ultripower - Carbonite.