Quantum Scalar i500: FC I/O Blade Installation

This document describes installing Fibre Channel (FC) I/O blades in your Scalar® i500. The FC I/O blades support connections to LTO-2, LTO-3, LTO-4, LTO-5, and LTO-6 FC drives.
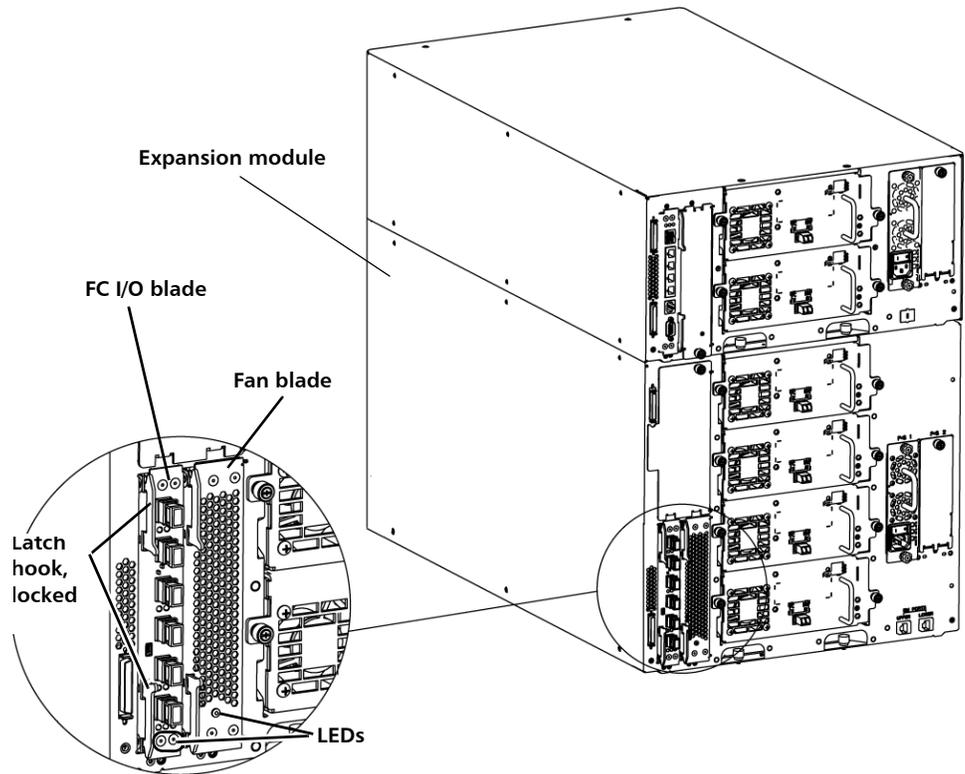
Caution: If you are completely removing an FC I/O blade, see the *Quantum Scalar i500 User's Guide* for additional information. If you do not configure control paths correctly, you will experience communication problems with tape drives and media changer devices (partitions).

To replace the FC I/O blade, refer to the following sections:

-

Figure 1 FC I/O Blade and Fan
Blade Bays in an Expansion
Module

Expansion module

FC I/O blade

Fan blade

Latch
hook,
locked

LEDs

Adding an FC I/O Blade

WARNING: If you are adding a new FC I/O blade, be sure to read "Working With Control Paths" in the *Quantum Scalar i500 User's Guide*. If you do not configure control paths correctly, you will experience communication problems with tape drives and media changer devices (partitions).

Details about FC I/O blades include:

• You must be running 400-level firmware or above in order to use FC I/O blades.

• Each expansion module can support up to two FC I/O blades.

• A maximum of four FC I/O blades can be present in any library configuration.

• A maximum of four FC drives can be connected to one FC I/O blade.

• FC I/O blades cannot be installed in control modules. However, FC tape drives in the control module can be connected to FC I/O blades in an expansion module.

- Each FC I/O blade is accompanied by a fan blade that cools the FC I/O blade. The fan blade is installed to the right of the FC I/O blade in the expansion module. Each expansion module has four bays and can accommodate two FC I/O blades and two fan blades.

- The recommended order of installing the FC I/O blade and fan blade in any expansion module is starting from the bottom two bays and moving up.

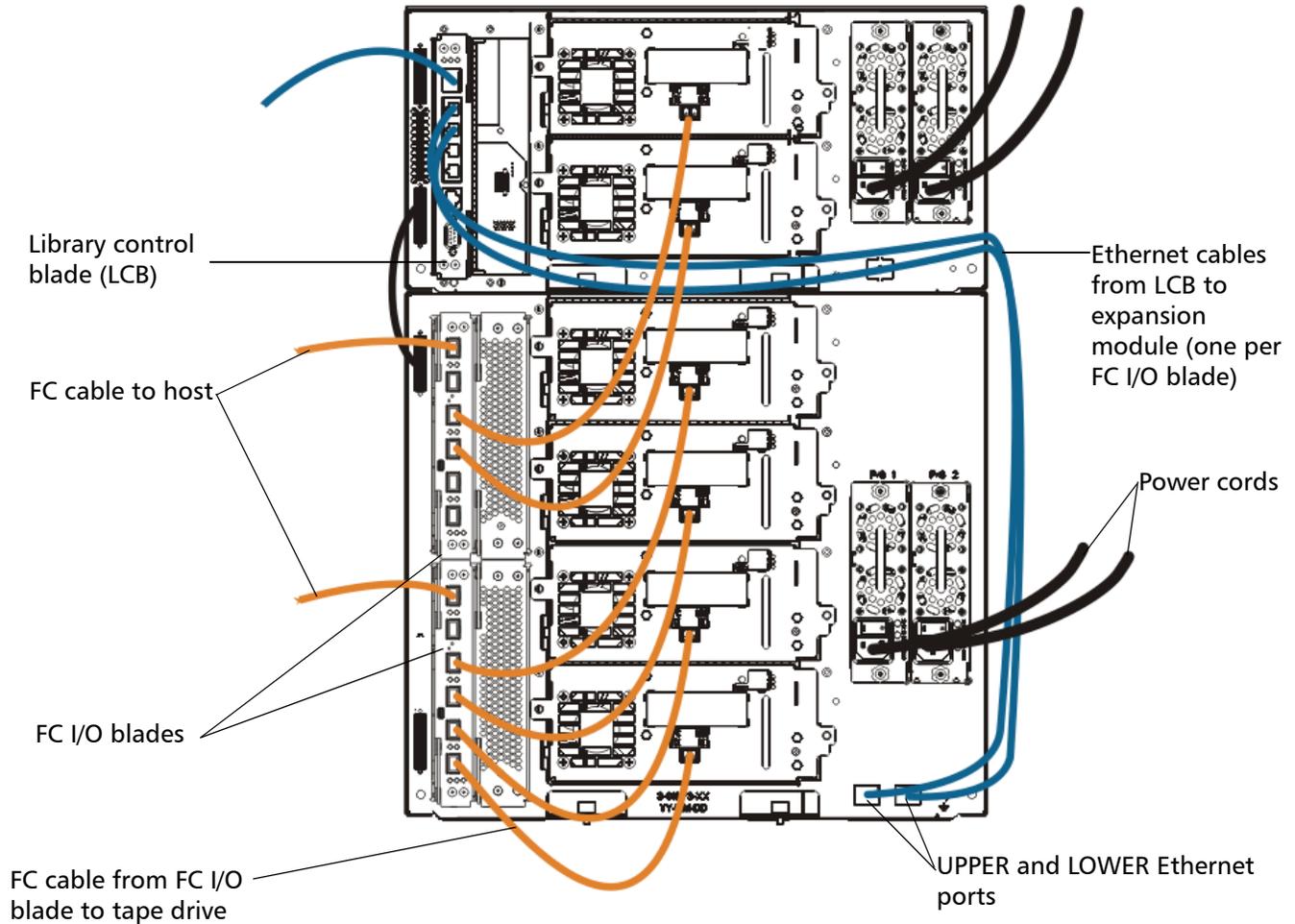**Read This First: Complete Installation Steps**

When installing an FC I/O blade, you must follow the installation steps in this order or communication with the FC I/O blade and tape drives in the library will not work properly.

Caution: If you are adding a new FC I/O blade or completely removing an FC I/O blade, be sure to read "Working With Control Paths" in the *Quantum Scalar i500 User's Guide*. If you do not configure control paths correctly, you will experience communication problems with tape drives and media changer devices (partitions).

You may perform the following steps with the library powered on.

1 Ensure you are running 400-level firmware or above.

2 Save the library configuration:

   a From the Web client, select **Tools > Save/Restore Configuration**.

   b Select **Save System Configuration**, and click **Apply**.

3 Connect the Ethernet cable from the Library Control Blade (LCB) to the expansion module(s). For each FC I/O blade installed in an expansion module, connect the expansion module containing the FC I/O blade(s) to a port in the Ethernet hub on the LCB:

Figure 2 Fibre Channel I/O
blade cabling

Library control
blade (LCB)

FC cable to host

FC I/O blades

FC cable from FC I/O
blade to tape drive

Ethernet cables
from LCB to
expansion
module (one per
FC I/O blade)

Power cords

UPPER and LOWER Ethernet
ports

Caution: If the Ethernet cable between the LCB and the expansion module is
not connected when power is applied to the blade, the blade will
hang in the "Booting" state.

• If the FC I/O blade is installed in the bottom bay of the expansion
module, connect one end of an Ethernet cable to the Ethernet port
labeled **LOWER** in the lower right corner of the expansion module.
Connect the other end of the cable to a port in the Ethernet hub on the
LCB.

• If the FC I/O blade is installed in the upper bay of the expansion module,
connect one end of an Ethernet cable to the Ethernet port labeled
UPPER in the lower right corner of the expansion module. Connect the
other end of the cable to a port in the Ethernet hub on the LCB.

4 Using the Scalar i500 remote interface, remove the control path if a drive
that is currently in use will be attached to the FC I/O blade. You must not
allow an FC tape drive to serve as control path if it is connected to an FC I/O

blade. If you do, the control path will be filtered out by the I/O blade and will not be visible to the host. To remove the control path from a tape drive:

    a Select **Setup > Control Path** from the operator panel or the Web client.

    b If you have more than one partition, select the appropriate partition and click **Next**.

    c Clear the control path selection on any FC tape drive that you plan to connect to an FC I/O blade.

5 Add the fan blade(s) following the instructions in <u>Adding an FC I/O Fan Blade</u> on page 6. The fan blade is required to prevent overheating of the FC I/O blade.

6 Add the FC I/O blade(s) following the instructions in <u>Adding an FC I/O Blade</u> on page 2. If you are installing two FC I/O blades in an expansion module, install the lower one first.

7 Make sure cover plates are installed over any unused bays in the expansion module.

8 Connect the library and tape drive cables to the FC I/O blade as shown in <u>Fibre Channel I/O blade cabling</u> on page 4. See also "Recommended Library Cabling" in the *Quantum Scalar i500 User's Guide*.

9 Configure/reconfigure library partitions if needed (from the Web client, select **Setup > Partitions**). See the *Scalar i500 Online Help*.

10 Configure control paths if needed. The library assigns control paths for new partitions when they are created. Ensure that each partition has only one control path. Ensure that you do not select an FC tape drive as the control path if it is connected to an FC I/O blade. See "Working With Control Paths" in the *Quantum Scalar i500 User's Guide* for more important information about control paths. To modify the control path, select **Setup > Control Path** from the operator panel or Web client.

11 Configure host mapping (optional). If you have more than one FC I/O blade in the library, each FC I/O blade will present each partition that does not have a tape drive as the control path as a target device to the host. Thus the host may see the same partition multiple times. To minimize confusion, you should configure host mapping so that each host sees each device only once. For more information, see "Host Mapping - Overview and Configuring Host Mapping" in the *Quantum Scalar i500 User's Guide*. To configure host mapping:

    a From the operator panel or Web client, select **Setup > FC I/O Blades > FC I/O Blade Control** and enable host mapping on the FC I/O blade.

    b From the operator panel or Web client, select **Setup > FC I/O Blades > Host Management** to define the name and operating system for each host.

    c From the operator panel or Web client, select **Setup > FC I/O Blades > Host Mapping** to define the drive or medium changer for the host.

12 Save the library configuration:

    a From the Web client, select **Tools > Save/Restore Configuration**.

    b Select **Save System Configuration**, and click **Apply**.

Adding an FC I/O Blade

These instructions explain how to add an FC I/O blade to your library. You can add an FC I/O blade while the library is powered on.

Required tools: None

1 Access the back of the expansion module.

Note: The recommended order of installing the FC I/O blade and fan blade in an expansion module is starting from the bottom bay and moving up.

2 Remove the cover plate from the appropriate bay.

3 Press up and out to open the latch hooks on each side of the FC I/O blade.

4 Carefully align the FC I/O blade with the guide slots in the bay. The status LEDs must be at the bottom.

Caution: Forcing the blade into the bay can cause the pins to bend.

5 Evenly apply pressure to both sides of the blade and slide it into the expansion module until the latch hooks begin to move toward the middle of the blade. Push the latch hooks toward the middle of the blade and into the locked position. You will feel the blade pins connect with the expansion module's backplane as the blade locks into place.

Note: The LEDs for the FC I/O blade are on the bottom of the blade when the blade is correctly installed in the expansion module.

6 Remove the necessary number of the black rubber protective covers from the ports on the FC I/O blades when you are ready to cable the blade.

7 Make sure cover plates are installed over any unused bays in the expansion module.

Caution: Bays that are not populated with blades must contain a cover plate. If the cover plate is not installed, FC I/O blade temperature errors will occur.

8 Cable the library as described in and "Cabling Libraries With Fibre Channel Tape Drives Connected to Fibre Channel I/O Blades" in the *Quantum Scalar i500 User's Guide*.

9 Save the library configuration:

   a From the Web client, select **Tools > Save/Restore Configuration**.

   b Select **Save System Configuration**, and click **Apply**.

Adding an FC I/O Fan Blade

These instructions explain how to add an FC I/O fan blade to your library. You can add an FC I/O fan blade while the library is powered on.

Required tools: None

1 Access the back of the expansion module.

2 Remove the cover plate from blade bay to the right of the bay for the FC I/O blade.

Note: The recommended order of installing the FC I/O blade and fan blade in an expansion module is starting from the bottom two bays and moving up.

3 Press up and out to open the latch hooks on each side of the FC I/O fan blade. The LED must be at the bottom of the blade.

Fan blade

Latch hooks, open

LED
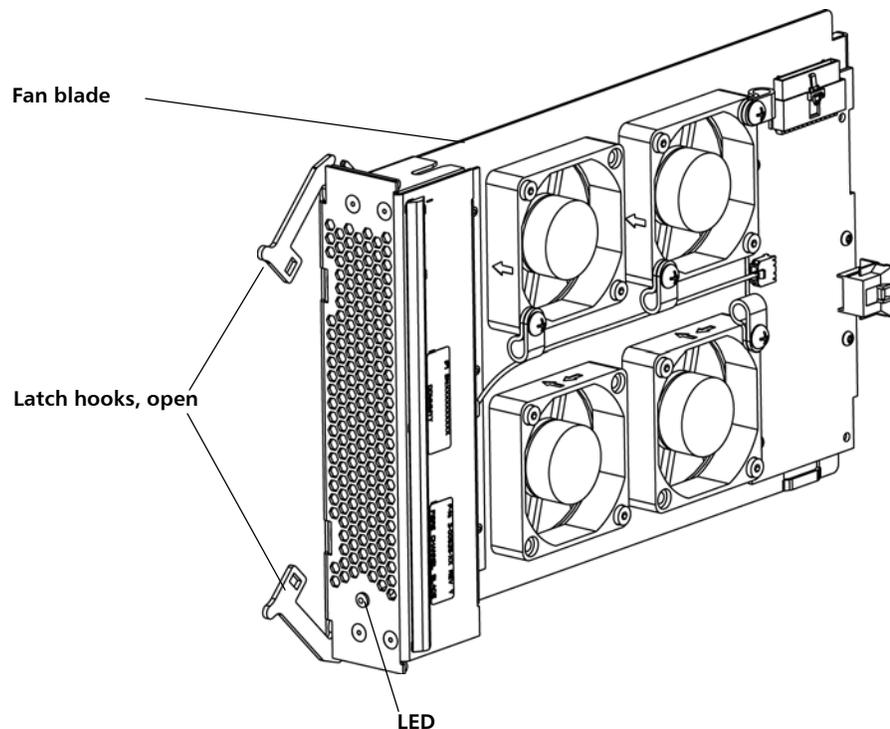
Caution: Forcing the blade into the bay can cause the pins to bend.

4 Evenly apply pressure to both sides of the fan blade and slide it into the expansion module until the latch hooks begin to move towards the middle of the blade. Push the latch hooks towards the middle of the blade and into the locked position. You will feel the blade pins connect with the expansion module's backplane as the blade locks into place.

Note: The LED for the FC I/O fan blade is on the bottom of the blade when the blade is correctly installed in the expansion module

5 Save the library configuration:

a From the Web client, select **Tools > Save/Restore Configuration**.

b Select **Save System Configuration**, and click **Apply**.