

The blade slots inside the ULTRIX-FR12 chassis are cooled with a bank of ten I/O Fan Modules. This document outlines how to replace an I/O Fan Module in the ULTRIX-FR12 chassis.



**Caution** — When servicing or moving equipment, always observe safe handling practices. Follow all safety rules of your workplace.



**ESD Susceptibility** — Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling circuit boards in high static environments such as carpeted areas and when synthetic fiber clothing is worn. Always exercise proper grounding precautions when working on circuit boards and related equipment.

### Required Equipment

You will need:

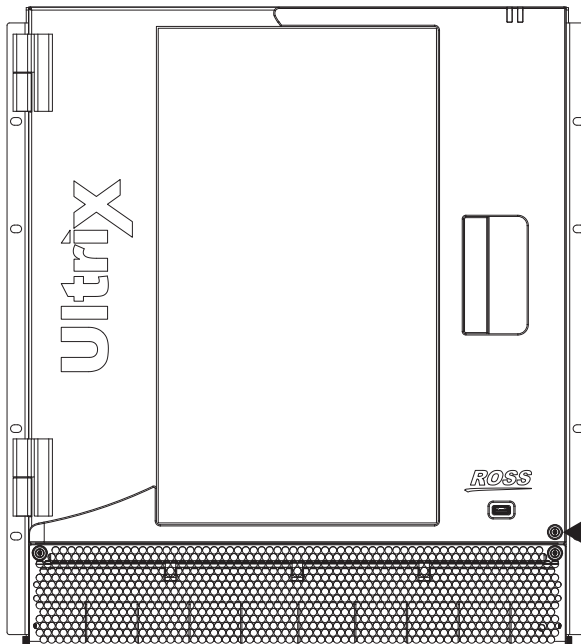
- an Ultrix-FR12-IOFAN Replacement Kit
- a #1 Phillips screwdriver
- a #2 Phillips screwdriver

### Opening the Front Exhaust Grill on the ULTRIX-FR12 Chassis

You must open the front exhaust grill door before you can access the failed I/O Fan Module in the fan tray. The exhaust grill is located below the front panel door and is secured to the ULTRIX-FR12 chassis via a screw in the top corners of the grill. Before opening the exhaust grill, you must first loosen the front door retaining screw.

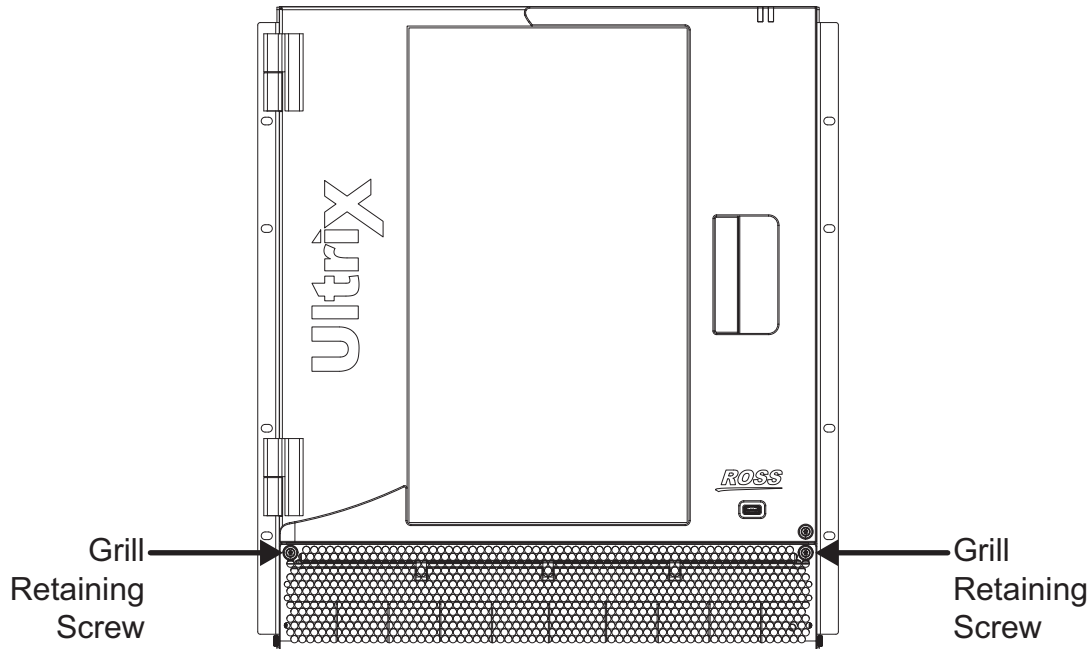
#### To open the front exhaust grill

1. Locate the retaining screw on the bottom of the front panel door.
2. Use a #2 Phillips screwdriver to loosen the door retaining screw.

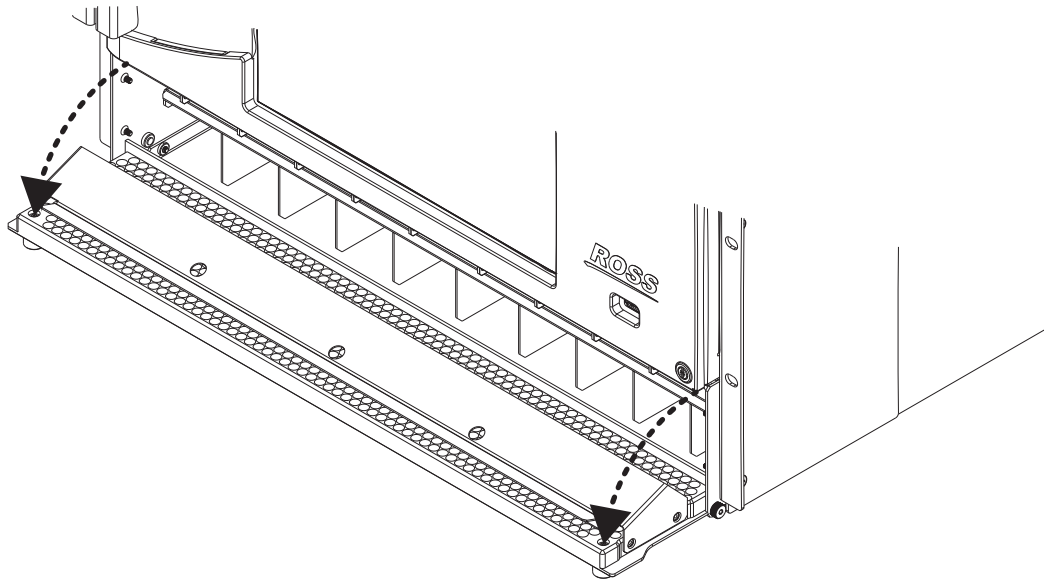


Door Retaining Screw

3. Locate the exhaust grill below the front panel door.
4. Locate the retaining screw on the top corners of the exhaust grill.



5. Use a #2 Phillips screwdriver to fully loosen each grill retaining screw.
6. Locate the pull tabs on either side of the grill.
7. Grip a pull tab in each hand to pull the grill towards you to fully open the grill and expose the fan tray.

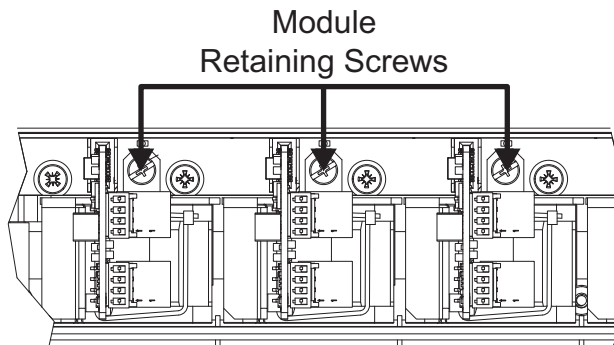


### Removing the Failed I/O Fan Module

Each I/O Fan Module is secured with one screw to the fan tray. Removing a failed module requires you to first unfastened the screw on the module and then slide the module out of the tray.

### To remove the failed I/O Fan Module

1. Locate the failed I/O Fan Module and note its orientation in the fan tray.
- ★ The LED next to failed module is unlit.
- ★ The failed I/O Fan Module is also reported in DashBoard on the Frame Configuration > Fans & Power tab. Refer to the **ULTRIX-FR12 User Guide** for details.
2. Locate the screw on the top left corner of the failed module. The example below indicates the screws on three modules.



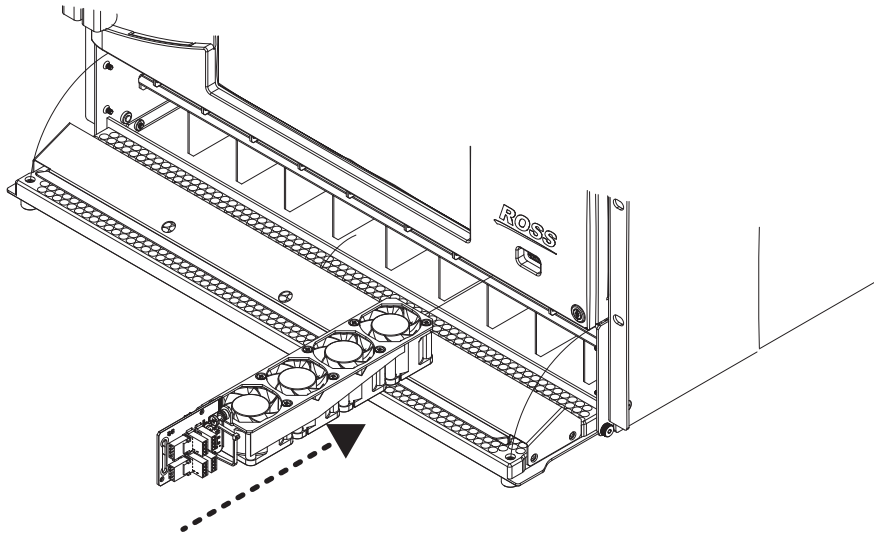
3. Use a #1 Phillips screwdriver to fully loosen the screw from the module.
4. Make a note of the position of the module within the fan tray. This will be helpful when installing the new module.
5. Gently slide the module towards you to fully disengage the module from the fan tray.

### Installing the New I/O Fan Module

Installing a new I/O Fan Module requires you to align the new module in the available fan slot, slide the module fully into the fan tray, and affix the module to the fan tray.

#### To align the new I/O Fan Module in the tray

1. Locate the available slot in the fan tray.
2. Position the new I/O Fan Module so that it aligns with the slot.



3. Slide the I/O Fan Module until you feel it make contact with the fan backplane and its front aligns with the other modules in fan tray.

### To affix the new I/O Fan Module to the tray

1. Locate the retaining screw in the upper left corner of the new I/O Fan Module.
2. Use a #1 Phillips screwdriver to tighten the module retaining screw.
- ★ Use approximately 4 to 5 in-lbs of torque to tighten the screw.



**Caution** — *The module retention screw is required to ensure proper contact.*

3. Verify that the LED next to the new module is now lit green.

### Re-installing the Front Exhaust Grill

Once the new I/O Fan Module is installed, you must close and secure the exhaust grill to the front of the ULTRIX-FR12 chassis, then tighten the front panel door retaining screw.

#### To close the front exhaust grill

1. Grasp the exhaust grill with one hand on the left pull tab and another hand on the right pull tab.
2. Slide the exhaust grill into position.
3. Secure the exhaust grill to the chassis:
  - a. Locate the locking screw on each top corner of the grill.
  - b. Use a #1 Phillips screwdriver to tighten each screw.
4. Secure the front panel door into position:
  - a. Locate the locking screw near the bottom right corner of the door.
  - b. Use a #2 Phillips screwdriver to tighten the screw.