Installing and Cabling the ULTRIX-FR12

CAUTION

Before you set up and operate your router, refer to the "Important Regulatory and Safety Notices to Service Personnel" document that was included with your router. It is also recommended to refer to the *ULTRIX-FR12 Installation Guide* which is available from our website.

WARNING: When servicing or moving equipment, always observe safe handling practices. Get help to move heavy items. Use safe lifting techniques. Follow all safety rules of your workplace.

CAUTION: The ULTRIX-FR12 weighs approximately 122lbs (55.34kg). Two people should work together to lift it into place to avoid physical injury.

CAUTION: Risk of electrical shock. Enclosure shall be connected to earth ground via protective earth stud and 12AWG conductor or larger.

NOTICE: The ULTRIX-FR12 frame does not have a power switch. 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-FR12, the system could start to power up before it has enough power to operate and could damage the equipment.

Read the user documentation for your Ultripower and ULTRIX-FR12 before starting work or operating equipment.

Have a question? Call our free, 24-hour technical support hotline to speak with a live product specialist located right here in our facility.
Tel: (+1) 844 • 652 • 0645
Email: techsupport@rossvideo.com

Rack Mounting

1 The ULTRIX-FR12 router is designed for installation into a standard 19" equipment rack. It has integrated rack ears, allowing it to be screwed in using standard screws and cage nuts. It is recommended to use M6 x 10mm screws with 40in-lbs [4.5N·m] of torque.
Before working on any rack, ensure that it is stable. Make sure that any rack is level and stable before extending a component from the rack.
Always load the rack from the bottom up, and load the heaviest item in the rack first.
Under some conditions, the ambient air temperature inside rack-mount cabinets can be greater than the ambient temperatures within a room. For safe long term reliability, ensure the ambient air temperatures at the router intake are within the router's specified operating temperature range. Adequate ventilation within a rack frame must also be maintained.
The ULTRIX-FR12 mounts in the rack frame by means of rack screws fastened through the front and back mounting ears. This should normally be sufficient to carry the load, including the weight of accompanying cables. There are 4 slots in each rack ear which need to be populated with a total of 8 screws.
After installing equipment/components within a rack, never pull more than one component out of the rack on its slide assemblies at one time. The weight of more than one extended component could cause the rack to tip over and may result in serious injury.

CAUTION: *Adequate ventilation within a rack frame must be maintained. Ensure side to side ventilation is not compromised. Refer to the **ULTRIX-FR12 Installation Guide** for more information.*

1GbE Network Cabling

2

Note: The router must be connected to the same network as the other devices in your routing system.

2a Plug an Ethernet cable from your network into the **ENET 1** port. This is the primary network connection for the router.

2b Plug an Ethernet cable from your network into the **ENET 2** port. This is the backup network connection for the router. (optional)

Reference Cabling

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3a Connect a 75ohm coaxial cable with HD-BNC connectors between the video reference signal output and the **REF A** connector on the router.

3b Connect a 75ohm coaxial cable with HD-BNC connectors to the next device in the system **or** terminate, set the LOOP DIP SWITCH to TERM if end of reference link.

Source Cabling

4

4a Connect a 75ohm coaxial cable with HD-BNC connectors between the source device and the input connector on the rear panel of the router.
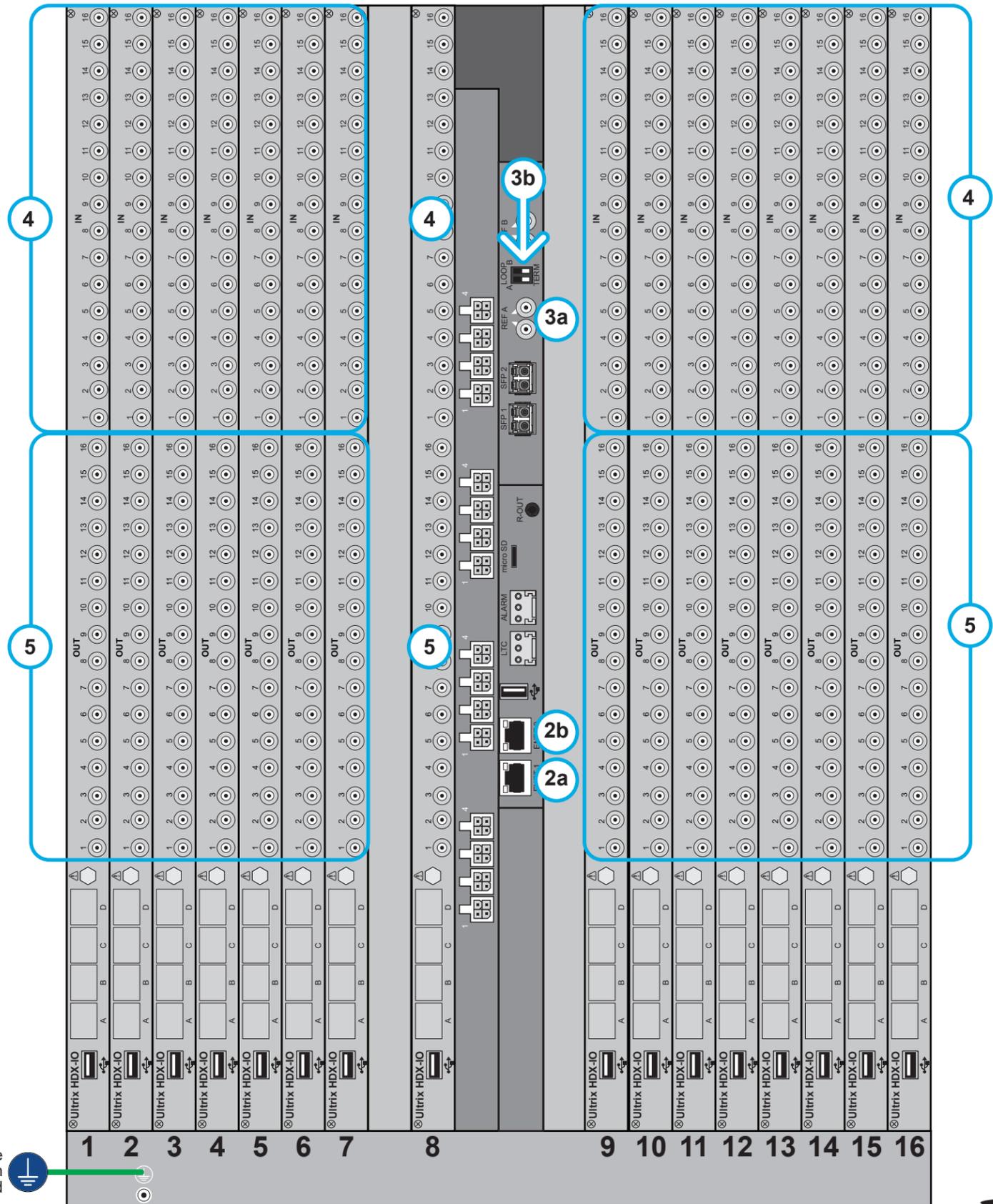
4b Ensure the bayonnet connector is locked in place correctly.

Destination Cabling

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5a Connect a 75ohm coaxial cable with HD-BNC connectors between the destination device and the output connector on the rear panel of the router.

5b Ensure the bayonnet connector is locked in place correctly.

Protective Earth Ground

ROSS

Powering the ULTRIX-FR12

CAUTION

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CAUTION: Risk of electrical shock. Enclosure shall be connected to earth ground via protective earth stud and 12AWG conductor or larger.

NOTICE: The ULTRIX-FR12 frame does not have a power switch. Ensure that each Ultripower is not connected to mains power before connecting the power cables from an Ultripower to the other components. If an Ultripower is energized as you connect the power cables to the ULTRIX-FR12, the system could start to power up before it has enough power to operate and could damage the equipment.

Read the user documentation for your Ultripowers and ULTRIX-FR12 before starting work or operating equipment.

Before You Begin

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The ULTRIX-FR12 requires multiple Ultripower power supply units (minimum of two). It is required that these power cycle together. The Ultricore BCS has a feature to group up to 4 Ultripower units. When the Ultripower group output state is toggled, the output of the units in that group is set to the same state.

NOTICE: *The Ultripower units must be configured prior to connecting the power connections to the ULTRIX-FR12 chassis.*

To set up Ultripower grouping
Note: Do not connect the Ultripower units to the ULTRIX-FR12 until the Ultripower units are configured and grouped.
1. Connect each Ultripower unit to mains AC and your facility network.
2. Configure Ultripower network IP addresses via DashBoard > Walkabout. Refer to the *Ultripower User Guide* for details.
3. Change the names of the Ultripower units (particularly the primary) for easy identification in the DashBoard Device Tree.
4. Add the Ultripower units to the DashBoard Device Tree. Refer to the *Ultripower User Guide* for details.
5. For each Ultripower, navigate to the **Setup** tab and ensure the output ports are grouped together.
6. In DashBoard, Locate the Ultricore BCS node in the Tree View of DashBoard.
7. Expand the main Ultricore BCS node.
8. Expand the Ultricore BCS sub-node to display a list of sub-nodes in the Tree View.
9. Expand the Devices sub-node.
10. Double-click the Ultripower Manager sub-node.
11. Click Add under the Group pane. The Group pane displays a new entry "New Group".
12. To assign a unique identifier for the group, click "New Group" and edit as required.
13. Select the group from the list in the Group pane.
14. Click Add under the Ultripower pane to open the Select Ultripower dialog.
15. From the drop-down menu, expand the node for the Ultripower unit to include in this group.
16. Double-click the sub-node.
17. Verify that the information is correct.
18. Click OK. The Select Ultripower dialog closes and the Ultripower pane updates to list the selected unit.
19. Repeat steps 11 to 18 to add the second Ultripower unit to the group.
Note: If you are setting up a redundant system or a high-powered system, you will need to include 4 Ultripower units to the group.
20. Click **OFF**.

Powering on the ULTRIX-FR12

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NOTICE: *The Output state of the grouped Ultripowers must be toggled to* **OFF** *before connecting to the ULTRIX-FR12.*

To verify that each Ultripower Output state is toggled to OFF
6a Locate the Ultricore BCS node in the Tree View of DashBoard.
6b Expand the main Ultricore BCS node.
6c Expand the Ultricore BCS sub-node.
6d Expand the Devices sub-node.
6e Double-click the Ultripower Manager sub-node.
6f From the Group list, select the required Ultripower group.
6g Click **OFF**.
6h Verify that each Ultripower is the same state (Off).
Refer to the *Ultripower User Guide* for details.

Max. Power Consumption	
Power	4800W
Current	320A
Voltage	15Vdc

For the latest power numbers for your configuration, refer to the Ross Configuration Tool on our website.

To cable two Ultripowers to the ULTRIX-FR12
6i Connect all four power cables from the ULTRIX-FR12 to the matching power connectors on the first Ultripower chassis.
6j Connect all four power cables from the ULTRIX-FR12 to the matching power connectors on the second Ultripower chassis.

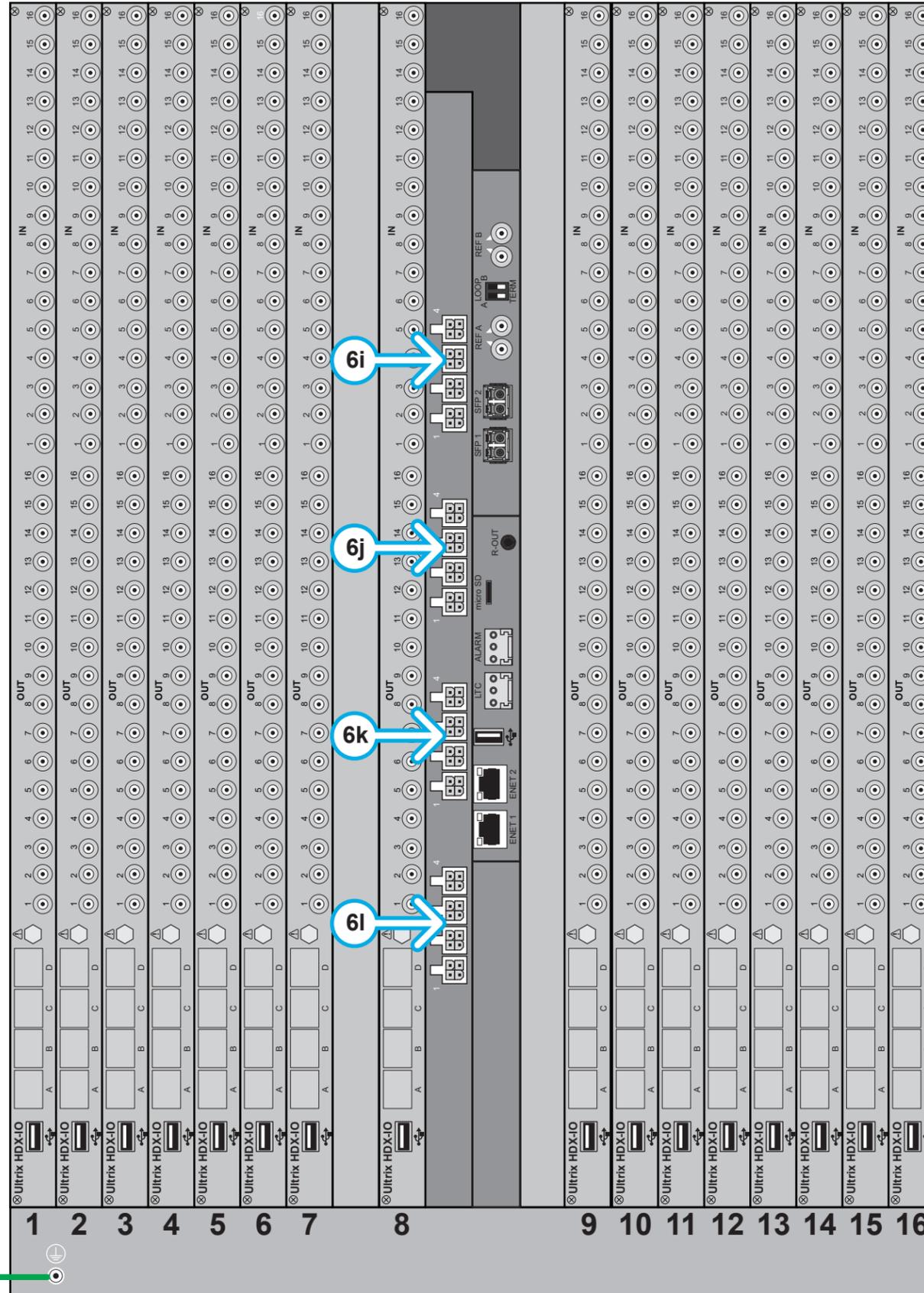**To cable additional Ultripowers (optional)**
Note: This procedure is only required when installing a high power redundancy setup.
6k Connect all four power cables from the ULTRIX-FR12 to the matching power connectors on the third Ultripower chassis.
6l Connect all four power cables from the ULTRIX-FR12 to the matching power connectors on the fourth Ultripower chassis.

CAUTION: Before setting an Ultripower Group to ON, ensure its Ultripower PSU average power output is below 5W.

To toggle the Ultripower Group to ON
6m Locate the Ultricore BCS node in the Tree View of DashBoard.
6n Expand the main Ultricore BCS node.
6o Expand the Ultricore BCS sub-node to display a list of sub-nodes in the Tree View.
6p Expand the Devices sub-node.
6q Double-click the Ultripower Manager sub-node.
6r Click **ON**.

Protective Earth Ground

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