How to replace 26RU Frame XLINK rear board

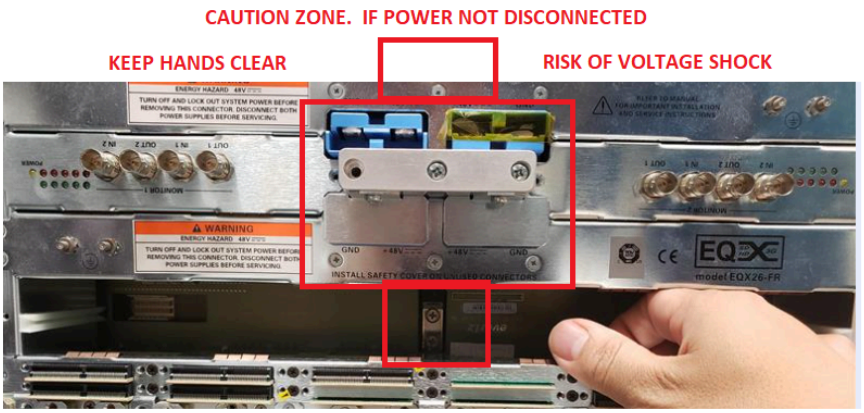
There are times where you may have to replace the XLINK rear boards on the EQX16 & 26RU frames. These boards are passive components and so therefore before a replacement is suggested, troubleshooting should be done to rule out other cards causing the problem first.

Remember that all components on the xlink rear board are individual traces between the MI board and the components that output the signal. It is **NOT** possible that all signals on the entire xlink rear board will fail and issue comes back to the EQX-MI or the XLINK rear board. This is assuming all assembly parts were done correctly.

Replacing the EQX26-FR-XLINK2-RPS on the 26RU frame

Replacing the board itself takes only 10minutes or so if you didn't have to plan for it. This is not the case when dealing with a system located at the customer site which is in operation. So allocate 1 entire service day if this needs to be done. Since backups and retesting will need to be re-done afterwards.

The board can technically be replaced with the frame "ON", **BUT it is strongly suggested that it be done with the frame turned off**. The area where your hands will need to be is **very close to the main power bus bar** and so this can become a safety risk.



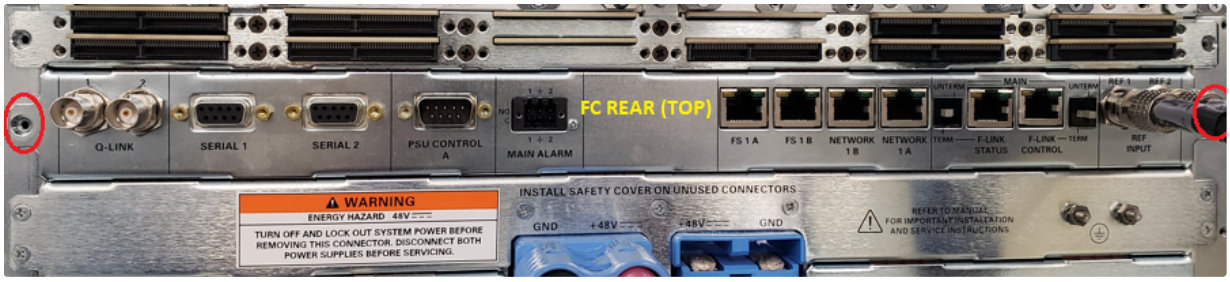
Red zone is where the power inlet connections are. Keep hand clear of this area.

The procedure to replace the top or bottom board are the same and so instructions below will outline how to replace the TOP board. The top one is more difficult anyways.

Do not attempt any of this until you have a replacement board on-hand ready to swap out. Order the unit using the follow part number "EQX26-FR-XLINK2-RPS". This part number is for 1 of the 2 rears.

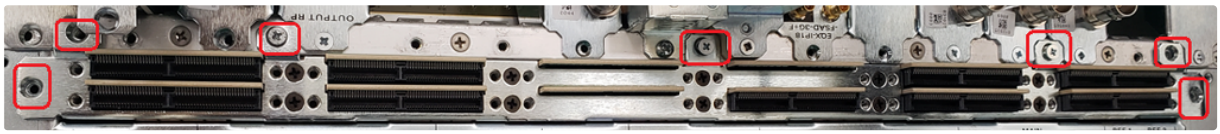
When ready, the procedure goes as follows for replacing the TOP board.

1. Prepare a system backup (as you would before working on any customer system)
2. Power down the frame now if possible. Only do it with the frame on, if powering down the frame is not an option.
3. Label all the xlink cables if not already done so. Unscrew all 9 cables and put them to the side out of the way.
4. Label all the connections to the FC rear as this board also needs to be removed. ***This is assuming if you will be removing any cabling on this board that gets in the way.*** It is also possible to leave all these connections in place if cable length does not restrict the removal of this rear plate.
5. Remove 2 screws that holds TOP FC rear and remove it. If this board can be removed without removing cable connection, that is okay to.



TOP XLINK connectors removed. Unscrew 2 screws holding FC rear plate in.

6. Remove 7 screws that holds xlink board to the frame. If the rear place was installed correctly, it will not fall down once the screws are out. If it does fall out, it means none of the connections are actually inserted.

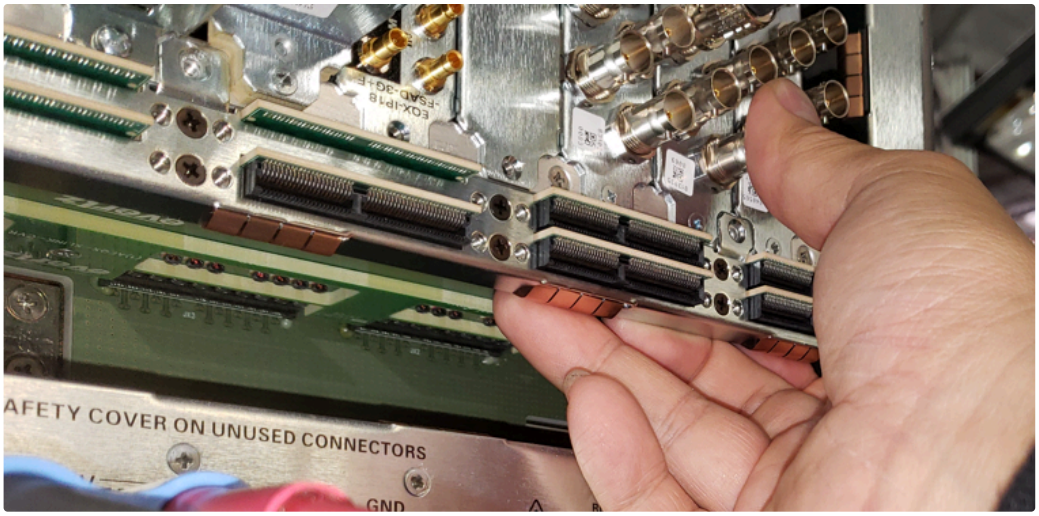


Screw placements on each rear plate

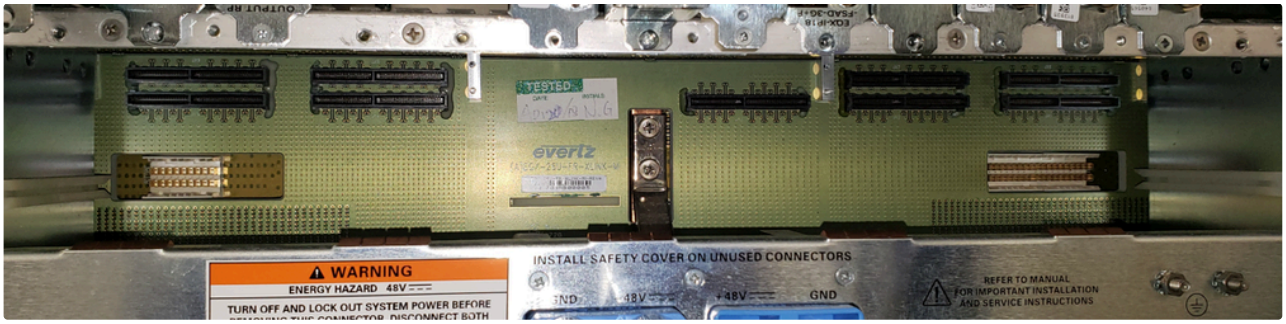
7. With two hands, carefully pull board out forward until it comes out of the mating connections. ***If doing on a system that is still powered on, be very careful of the center area as your hands might come into contact with the active power bus bar.***

IDEALY TO AVOID RISK. FRAME SHOULD BE POWERED OFF

8. You should be able to grab the metal edging on each side and slightly pull it out bit by bit. Left side, right side, left, etc… until the unit is free from the internal connectors. Do not forcefully yank it on one side only as this might damage the internal mating connectors. Wiggle back and forth until loose.

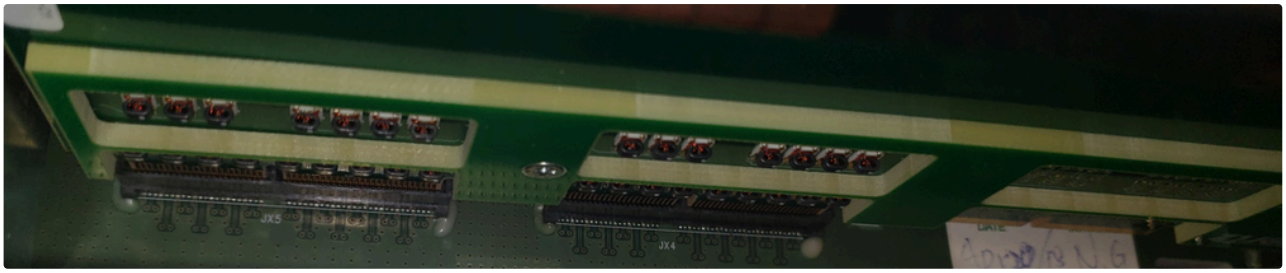


9. With the rear connections exposed. Inspect the connectors with a light to see if any damage is present. Ensure no debris or bent pins are present in the black connectors.



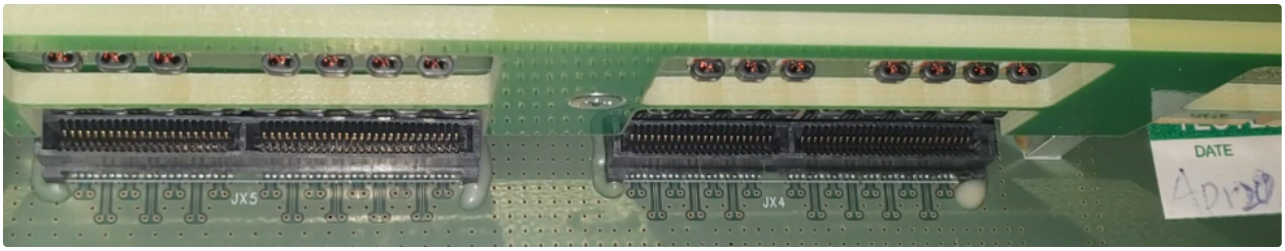
Inspect the internal black xlink mating connectors

9. Have 1 screw and the philips screwdriver close by on hand.
10. There are no insertion rails for this board. Take the new board and align the board with the mating connections and push in a little bit just so it gets a little nudge into the connectors. You should be able to see this with the FC rear plate removed. Mave sure the visible connectors are correctly inserted into the rear xlink connectors. See picture below.

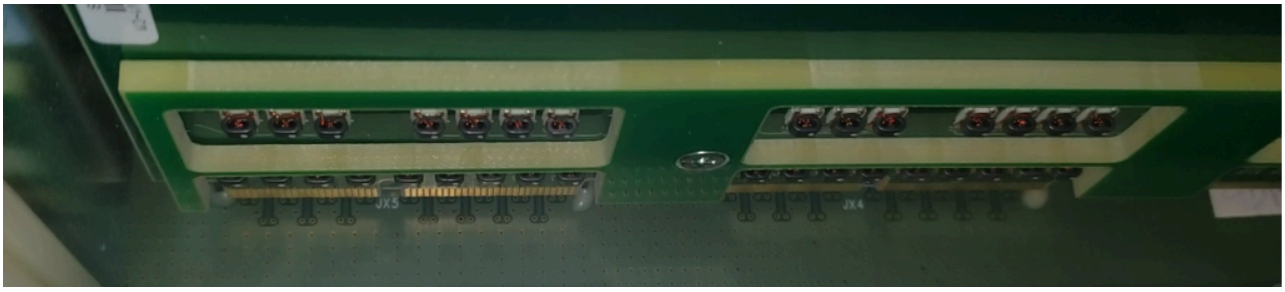


Properly aligned board with rear xlink connectors

Here are 2 **INCORRECTLY placed xlink board**s. If done incorrectly, **this will guarantee that all outputs on this xlink boards will FAIL** as the connectors are not correctly inserted.



Xlink boards INCORRECTLY on TOP of mating connectors



Xlink boards INCORRECTLY below mating connectors

As you can see from above incorrect pictures, you should NOT be able to see the entire connector at the back, or any gold pins on the board. Both cases will result in no signals working obviously since the board isn't actually mated to the rear board.

11. With the board aligned correctly. Push the board in slightly to hold it slightly in place. While maintaining this placement, install 1 screw partially (screw in half way) in the middle hole. Connecting the board to the chassis. (this just prevents the board from slipping downwards and keeping it aligned

Center screw will hold board in place before applying full pressure.

If you pressed the board in slightly and with the screw in place, you can let go of the it now. The board should not fall out of place.

12. Using your palm, covering multiple points on the board (versus directly on just 1 xlink connector). Apply pressure to each side of the rear to push the board into the mating connections.

Use your palm over mulitple xlink connector PCB points.

There should be resistance when you apply pressure on each side. Since the 9 xlink connectors on the rear needs to mate together.

13. Now would also be a good time just to double check that the connectors are mated properly with rear. Shine a light to the back and visually confirm it.

14. Once connection is confirmed and rear is flushed, install and tighten all 7 screws.
15. Install FC rear and screws. Re-connect any cables removed from the FC rear plate.
16. Reconnect the xlink cables (do NOT overtighten, just flush)
17. Turn frame back on and retest

> Remember the ensure that the card you are replacing is mated correctly with the rear connectors!

Follow the same steps above for replacing the lower board if need be.

The same steps above applies to replacing the bottom board. The board is easier to replace as you will not really need to hold up the board when installing and removing.

- Ensure the board is mated correctly before installing. Below is a picture when the boards are mated correctly in the bottom slot.