



# **RHINO Channel Bank**

---

## **Modular Configuration Guide**

### **Models:**

- CB24-MOD-110V** - T1, 4-24  
FXS/FXO analog channels, 110VAC
- CB24-MOD-220V** - T1, 4-24  
FXS/FXO analog channels, 220VAC
- CB24-MOD-48V** - T1, 4-24  
FXS/FXO analog channels, -48VDC

Rhino Equipment Corp. is proud to manufacture our products in the U.S.A..

Specifications are subject to change without notice.

© 2005 Rhino Equipment Corp. All rights reserved. Printed in U S America 1/2005

**Thank you for purchasing the Rhino Equipment Modular CB24 T1 channel bank!**  
**This guide is designed to help change the configuration of the modular cards located inside your channel bank unit. Please follow this step by step process to ensure your safety and the safety of the channel bank hardware.**

## Preparation

- 1** Always make sure to unplug all cables from the channel bank unit before removing the chassis lid. Remove the AC power cord followed by any other cables you may have attached.
- 2** After successfully powering off the unit place it on a stable, none abrasive, and static free work surface. Note that there are 14 philips head screws holding the chassis lid securely in place. Remove the screws leaving the top center and front center screws for last.
- 3** Before you remove the chassis lid please make certain that you are grounded, the electronic components of the channel bank are susceptible to electrostatic discharge; failure to ground and discharge yourself may damage the electronics of the channel bank unit. Make sure that you have successfully removed all 14 screws, the lid will move easily. Without force, pull the lid towards the front of the unit so that it may clear the LEDs and Buttons. Neglect to do so may result in damage to the buttons and LEDs. Keep the lid close to the chassis; you will want to avoid putting any tension on the display cable. Set the lid on its top with the front of the lid facing the front of the chasse.  
(Refer to figure1)

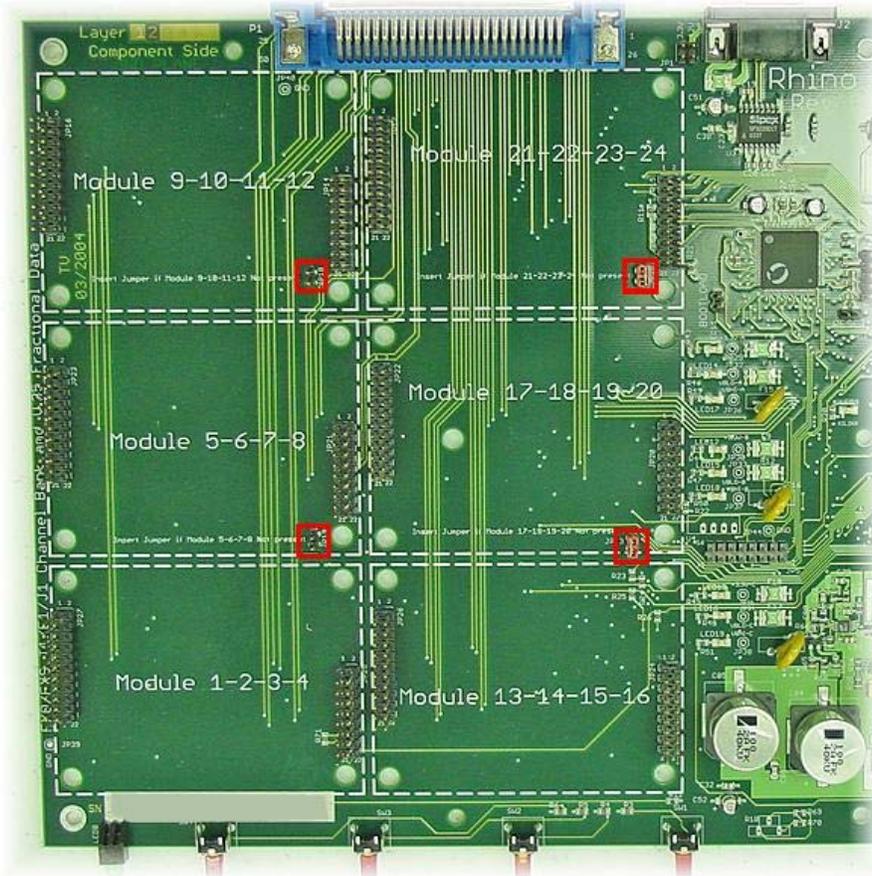


Figure1

**4** Now that the modular cards are exposed and ready to be configured you will want to take note of the current configuration. Look at the bottom left corner of each modular card; you will see that the card is marked with either FXO or FXS. Each modular card is held in place by two plastic standoffs. These are in place to ensure a good connection between the modular boards and the main board.



**3** If any of the six modular card positions are to remain empty you will need to ensure that there is a jumper in place next to the right side group of connector pins assigned to the empty spot. (Refer to figure 3) (DO NOT add or remove jumpers in other positions)



# Installing Modular Cards

(To be performed only after Preparation steps 1 through 4.)

**1** Before installing a new modular card check to make sure there isn't an installed jumper in the position where the new card will be placed. (Refer to figure3) If a jumper is present simply remove it. (DO NOT add or remove jumpers in other positions)

**2** It is recommended that you use the spacers provided with the modular card. These spacers will help ensure a solid connection between the modular card and the main board. Place the spacers in the top right corner and bottom left corner of the space designated for the new modular card. (Refer to figure 4)

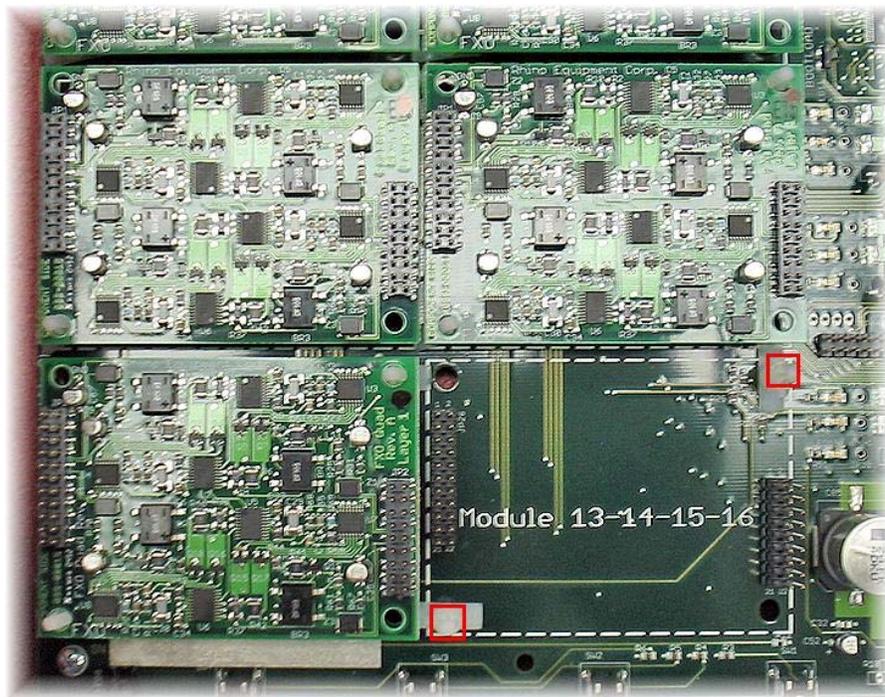


Figure 4

**3** The modular cards connectors are keyed so that the card may only be installed one way. The card must be installed with the larger connector on the left side and the smaller connector on the right side. Make sure the FXO or FXS marking is displayed in the bottom left corner of the card. (Refer to figure 5)

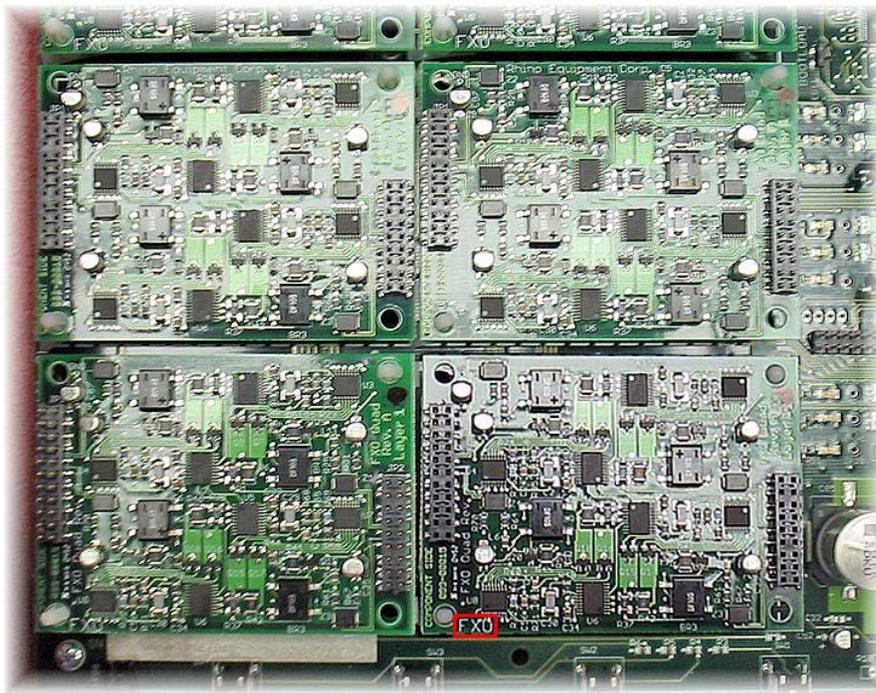


Figure 5

**4** Before applying any pressure to the card make sure the connectors on the card are lined up with the pins on the main board. When you begin to seat the card apply very little pressure, the majority of the pressure must be focused on the black top mounted plastic connectors. DO NOT force the card – note where to place fingers in the figure. (Refer to figure 6) It is normal for the male gold pins to extrude out from the black plastic connectors; in fact, this is required for good electrical connection. Continue to ease the card down onto the spacers until the card clicks into place over the plastic spacers. (Refer to figure 7)

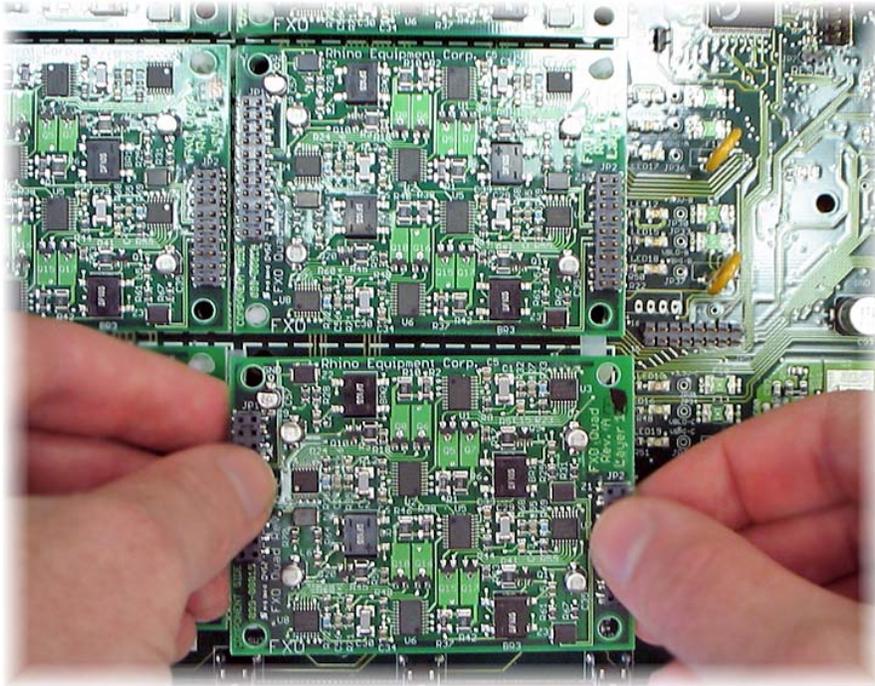


Figure 6

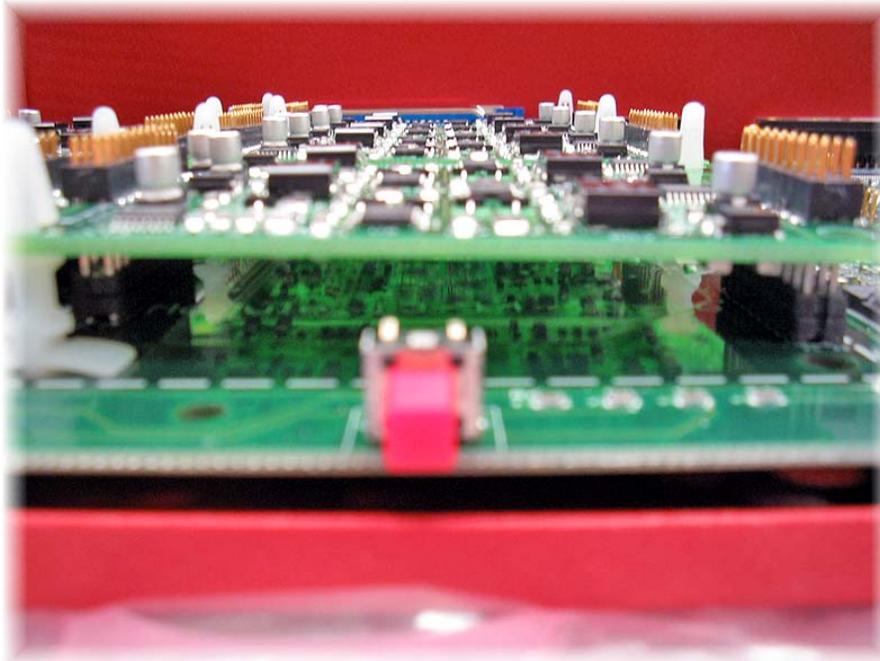


Figure 7

## Putting It Back Together

- 1** Once you are finished placing the modular card(s) according to your desired configuration double check your work. Make sure the cards are securely in place, check for jumpers where they should and shouldn't be. Nothing else on the main board should have been altered at anytime.
- 2** After a thorough check, place the lid back on the chassis, allowing the front of the lid to clear the buttons and LEDs. Just as before you will want to make sure you do not force the lid, simply slide it in place over the buttons and LEDs, making sure that each protrudes through the designated hole.
- 3** Lightly screw the lid back on starting with the front center screw, then the top center screw followed by the rest. After all screws are in place tighten them down so that they are snug, take care not to strip them.
- 4** Remount the channel bank and reconnect the appropriate plugs, plugging in the AC power cable last. The Rhino will automatically sense that there has been a board reconfiguration, and at this time the Rhino will execute a reboot and perform an AutoT1. Looking at the display during the auto T1 configuration you will now notice that the FXO channels are represented by an O and the FXS channels are represented by an S directly reflecting your configuration.

NOTE: If you made any special configuration changes to the Rhino, you will need to go into the specific menus and make the changes, since the AutoT1 reset the Rhino configuration settings.

**Call us!**  
**(800) 785-7073 x303**

**Email us!**  
**[sales@rhinoequipment.com](mailto:sales@rhinoequipment.com)**

**Technical questions?**  
**[support@rhinoequipment.com](mailto:support@rhinoequipment.com)**

**Order online at:**  
**[www.rhinoequipment.com](http://www.rhinoequipment.com)**

**Rhino Equipment Corp.**  
**4122 W. Venus Way, Suite B**  
**Chandler, AZ 85226**