

Motoman XRC Controller I/O Expansion Rack Kit Instructions

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Introduction

These instructions describe the I/O Expansion Rack (XEB01 board) installation for the XRC controller. Before performing this or any other procedure on your XRC controller, refer to Section 2, SAFETY, in the manipulator manual that came with your robot and/or system.

Installation of this rack (XEB01 board) should only be performed by personnel who are familiar with the XRC controller and its operation. If you are in need of technical assistance, contact the Motoman service staff at (937) 847-3200.

Installing the XRC I/O Expansion Rack



DANGER!

Before beginning installation procedures, remove all energy sources from the XRC controller/system per OSHA 1910.47, Lockout/Tagout procedures. Failure to remove power before installation can cause serious personal injury, loss of life, or equipment damage.

1. Configure the XIU01 board. Proceed as follows:



CAUTION!

Be sure to follow proper anti-static procedures to avoid damage to system components.

- a) Open XRC cabinet, connect personal grounding strap, and locate the XIU01 board (see Figure 1-1).

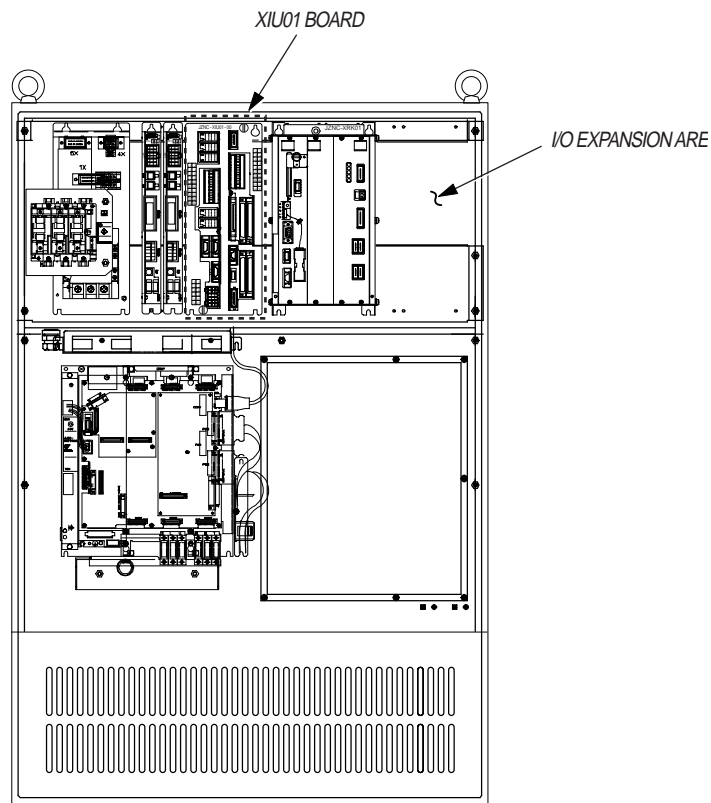


Figure 1-1 XIU01 Board and I/O Expansion Area inside XRC Controller

- b) Disconnect all cables from XIU01 board.
- c) Loosen two faceplate screws on front of board and carefully remove the faceplate and inner circuit boards from the case (see Figure 1-2).
- d) Change jumper from 17 BYTE to 16 BYTE, as shown.

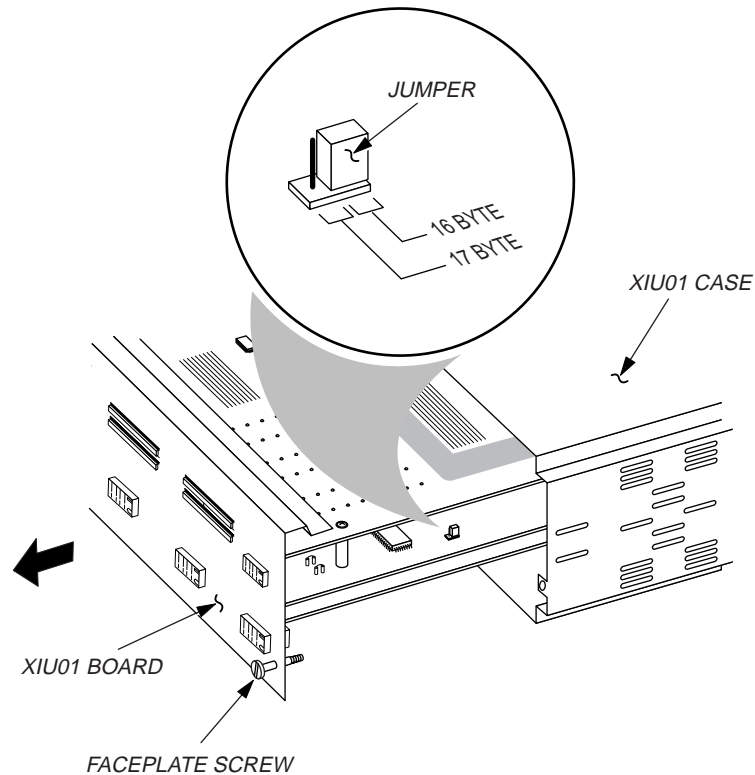


Figure 1-2 XIU01 Jumper

- e) Carefully insert the inner circuit boards into the case and tighten both faceplate screws securely.
 - f) Connect all cables to the XIU01 board, as marked.
2. Install I/O expansion rack. Proceed as follows:
 - a) Inspect I/O expansion rack and both cables (twisted pair and single) for shipping damage. If damage is found, notify shipper immediately.



CAUTION!
Be sure to follow proper anti-static procedures to avoid damage to system components.

- b) With personal grounding strap connected, locate expansion area (see Figure 1-3).
- c) Using a phillips screwdriver, loosen but do not remove, four mounting screws (see Figure 1-3).

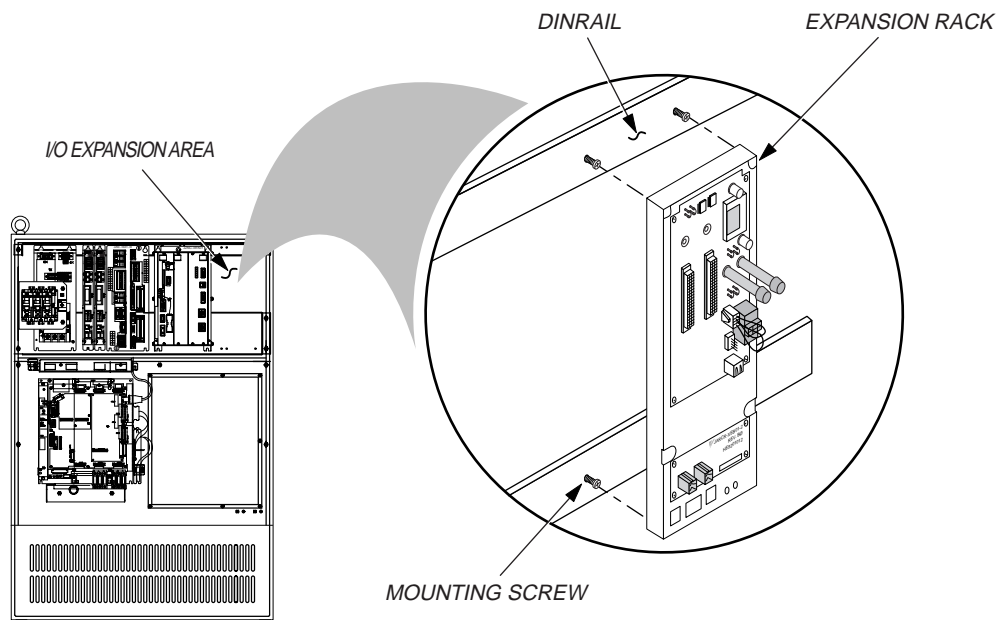


Figure 1-3 XRC I/O Expansion Rack Installation

- d) Install expansion rack on mounting screws, then tighten screws.

NOTE: If XEB01 board is to be installed in an external axis cabinet, route the expansion rack cables through the cabinet to the XIU01 board.

- e) Insert XEB01-CN01 connector (on the twisted pair cable) into the CN01 connection on the expansion rack (XEB01 board).
- f) Insert XIU01-CN20 into CN20 connection on the XIU01 board.
- g) Insert XEB01-CN2 connector (on the single cable) into the CN2 connection on the expansion rack (XEB01 board).
- h) Insert XIU01-CN02 into CN02 connection on XIU01 board.

Multiple Expansion Rack (XEB01 Board) Configuration

Three address jumpers on the expansion rack (XEB01 board) determine the I/O address for the I/O boards that will be mounted to it (see Figure 1-4). If your XRC controller has only one XEB01 board, the address jumpers can be set to any combination. However, if your controller has two or more XEB01 boards, the address jumpers on each board must be set to different address combinations.

Table 1-1 shows address jumper settings and their corresponding I/O address for XEB01 board connectors CNB1 and CNB2.

NOTE: Figure 1-4 illustrates how the cables for multiple XEB01 boards are connected. Cables on the first XEB01 board are connected directly to the XIU01 board. However, subsequent XEB01 boards are connected directly to the XEB01 board located before it, as shown.

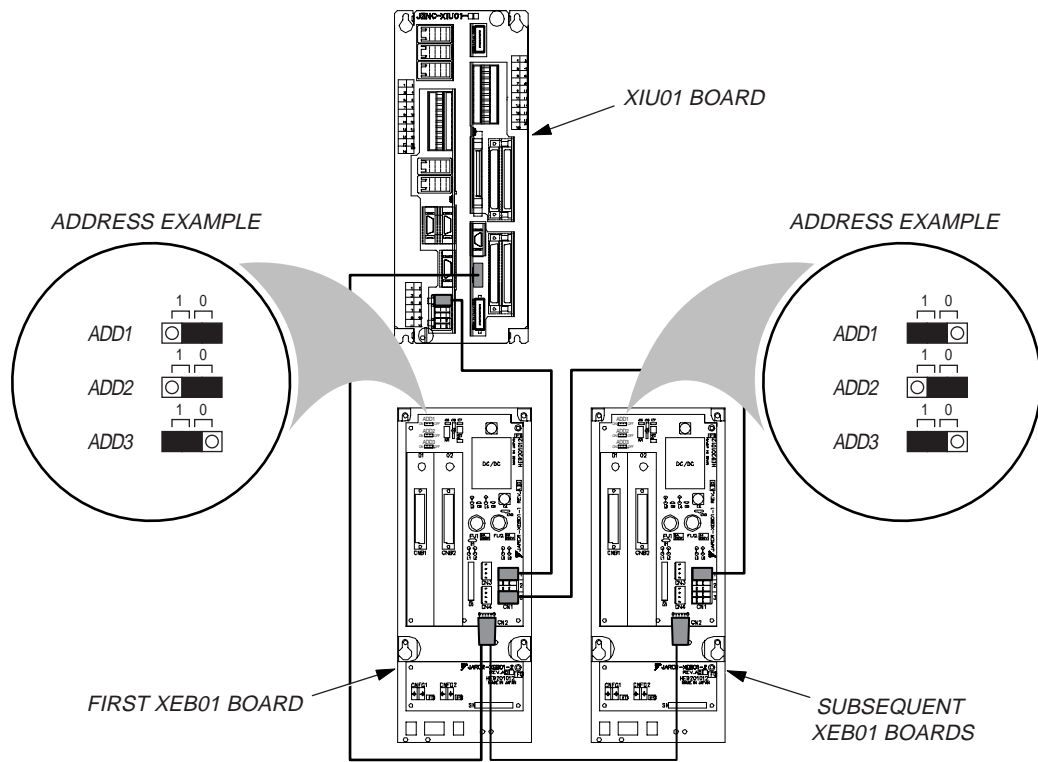


Figure 1-4 Multiple XEB01 Board Address Examples and Cable Connections

Table 1-1 XEB01 Board Jumper Settings and Addresses

Address Switch	CNB1	CNB2	Address Switch	CNB1	CNB2
ADD1 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$ ADD2 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$ ADD3 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$	60H	61H	ADD1 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$ ADD2 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$ ADD3 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$	68H	69H
ADD1 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$ ADD2 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$ ADD3 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$	62H	63H	ADD1 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$ ADD2 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$ ADD3 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$	6AH	6BH
ADD1 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$ ADD2 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$ ADD3 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$	64H	65H	ADD1 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$ ADD2 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$ ADD3 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$	6CH	6DH
ADD1 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$ ADD2 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$ ADD3 $\begin{matrix} 1 & 0 \\ \square & \blacksquare \end{matrix}$	66H	67H	ADD1 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$ ADD2 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$ ADD3 $\begin{matrix} 1 & 0 \\ \blacksquare & \square \end{matrix}$	6EH	6FH