

RS-232 Option Card

NPB-232

INSTALL SHEET

This document covers the mounting and wiring of the NPB-232 option card in a Tridium® JACE® controller, including models T-200/600 (JACE 2/6), T-700 (JACE 7), T-202/602-XPR (M2M JACE), or Security JACE series.

Table 1 NPB-232 option description.

Description	Notes / COM Port Assignments
Single port RS-232 adapter, with DB-9M connector. Uses its own on-board UART. Supports baud rates up to 115200.	<p>Most JACE models have two option slots, where COM assignments are:</p> <ul style="list-style-type: none"> T-200/600, Security JACE: If <i>single</i> RS-232 option in Slot 1: COM3. If <i>two</i> RS-23 options, ports are Slot 1: COM3 and Slot 2: COM4. T-700: If <i>single</i> RS-232 option in Slot 1: COM5. If <i>two</i> RS-232 options, ports are Slot 1: COM5 and Slot 2: COM6. <p>The T-202/602-XPR series (M2M JACE) accepts only one option card; port is COM7. Also see "COM Port Usage," page 3. See Figure 2 on page 2 for location of Option Slots 1 and 2 on a T-200/600.</p>
Note: The JACE requires NiagaraAX build level 3.1.24 or higher to use the NPB-232 option.	

Refer to the appropriate JACE® mounting and wiring document for further JACE installation details.

Included in this Package

Included in this package you should find the following items:

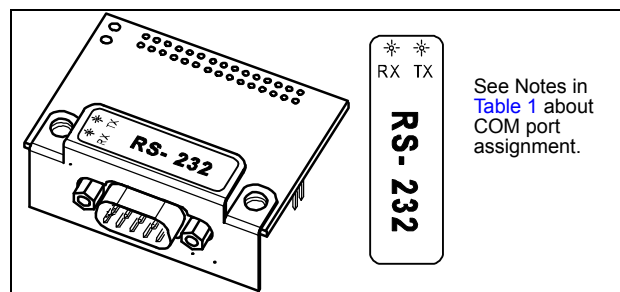
- NPB-232 option card, connector end plate.
- This NPB-232 *Option Install Sheet*, Part Number 11874 Rev. 1.2.

Material and Tools Required

The following tools and supplies may be required for installation:

- #2 Phillips screwdriver: used to install the NPB-232 option card.
- #1 Phillips screwdriver: to remove and refasten T-202-XPR covers (if applicable).

Figure 1 NPB-232 option.



Mounting



Warning Power to the JACE must be OFF when installing or removing option cards, or damage will occur! Also, you must be very careful to plug any option card into its connector properly (pins aligned).

Mount the option card in either of the option card slots of the JACE, as needed. Note the T-x02-XPR series has only one option card slot.

Procedure 1 Mounting NPB-232 option card on a JACE.

- Remove power** from the JACE—see the previous [Warning](#). Wait for all LEDs on the unit to be Off.
- Remove the JACE cover or covers (T-x02-XPR). For all but the T-x02-XPR, press in the four tabs on both ends of the unit, and lift the cover off.

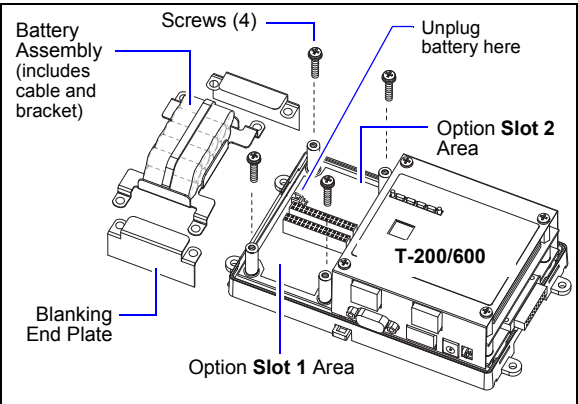


Note If accessory modules are plugged into the JACE, you may need to slide them away from the unit to get to the cover tabs.

For a T-x02-XPR, first remove the right cover, then the left cover, retaining the two screws that secure each cover.

- If a T-200/600 series or Security JACE, remove the battery and bracket assembly by taking out the screws holding it in place, setting screws aside for later. See [Figure 2](#) for an exploded view.

Figure 2 Remove battery assembly.



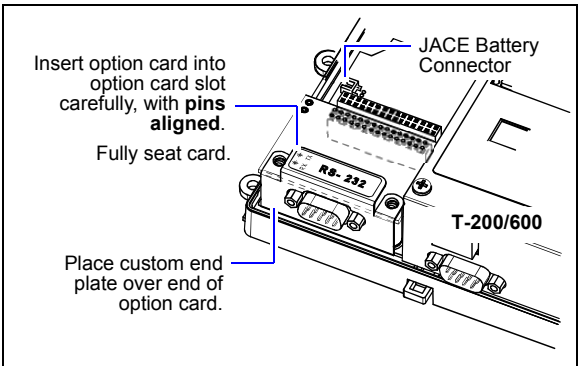
4. Remove the blanking end plate for the slot you are installing the option card into. (Retain the blanking end plate in case the option card must be removed at a later date.)



Note Slot 2 option card installation in a T-700 controller requires careful attention! See the *T-700 Mounting and Wiring Guide* for more details. This document focuses on installation in a T-200/600 series (JACE 2/6) controller.

5. Carefully insert the pins of the NPB-232 into the socket of the appropriate option card slot. The mounting holes on the option board should line up with the standoffs on the base board. If they do not, the connector is not properly aligned. Press until the option card is completely seated.
6. Place the custom end plate that came with the NPB-232 over its connector (see [Figure 3](#)).

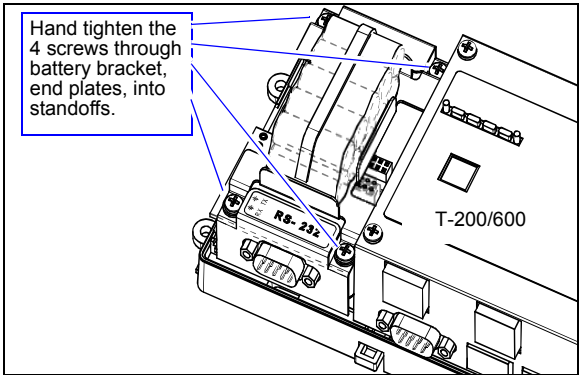
Figure 3 NPB-232 inserted, end plate on top.



7. If unplugged, plug the battery cable back into the battery connector on the JACE (see [Figure 3](#) for location on the T-200/600).

8. For the T-200/600 series or Security JACE, set the battery and bracket assembly back over the option card slots, with mounting holes aligned with the standoffs. Screws enter holes in the battery bracket first. See [Figure 4](#).

Figure 4 Re-fasten screws.



9. Place the screws through the end plate(s), and into the standoffs on the base board. Using a screwdriver, hand tighten screws.
10. Replace the JACE cover or covers (T-x02-XPR).
11. If accessory modules were unplugged from the JACE, plug them back as before, and secure.

Port Pinouts

The NPB-232 option has standard DB-9M pinouts, identical to the RS-232 port on the T-200/600, T-700, or Security JACE base. [Table 2](#) provides a reference.

Table 2 NPB-232 port pinouts.

Pinout Reference	Signal	DB-9 Plug Pin
DB-9 Plug (male) 	DCD	1
	RXD	2
	TXD	3
	DTR	4
	GND	5
	DSR	6
	RTS	7
	CTS	8
	not used	9

Standard DB-9 serial cables may be used, for example, a “null modem” cable to communicate to another DTE device.

LEDs

Two LEDs are visible on the top of the NPB-232 option card (cover must be removed from JACE). They are also noted on the label—see [Figure 1](#) on page 1.

The two LEDs are described as follows:

- TX (yellow) — Transmit, indicates that the JACE is *sending* data to a device.
- RX (green) — Receive, indicates that the JACE is *receiving* data from a device.

COM Port Usage

The NPB-232 option card has an onboard UART, and so adds *one* COM port on the installed JACE controller. The hosted station automatically resolves the option's COM addresses.

- If a T-200/600 or Security JACE controller and installed in Option Slot 1, or if the *only* option card, the port is COM3.
- If a T-700 controller and installed in Option Slot 1, or if the *only* option card, the port is COM5.

If installed in Slot 1 of a JACE along with *another* option card that uses COM ports in Option Slot 2, note that COM port assignments for the other card are affected.

For example, if a T-200/600 with a NPB-232 option installed in Slot 1, and a dual port RS-485 option (NPB-2X-485) installed in Slot 2, COM assignments are:
Slot 1 (RS-232): COM3.
Slot 2 (RS-485): COM4 and COM5.

The same option card mix in a T-700 controller yields:
Slot 1 (RS-232): COM5
Slot 2 (RS-485): COM6 and COM7

The NPB-232 installed in the only (single) option slot of a T-202/602-XPR (M2M JACE) controller is COM7.

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