XTR Programmable Power Supplies: Rack Mount Kit Options and Installation Instructions

Application Note

XTR 850 Watt
XTR 1700 Watt

975-0281-01-01 Rev A

This Application Note provides information on the options available for rack mounting the XTR series and provides installation instructions for the rack mount kit options. The complete set of instructions for installing the XTR power supplies are provided in the *XTR 850 Watt and 1700 Watt Series Programmable DC Power Supply Operating Manual (part number 975-0200-01-01)*. See the Installation chapter for additional information.
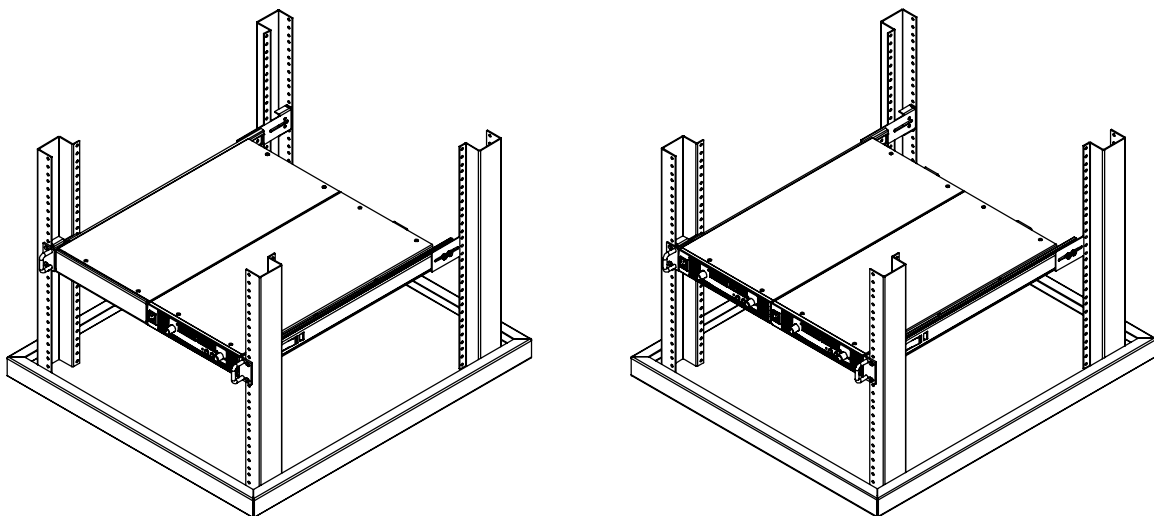
Rack Mount Kit Options

Table 1 describes the options available for rack mounting the XTR and provides the Xantrex part numbers for each option.

Table 1 Rack Mount Options

Unit	Option A: Rack Mount with Rails	Option B: Rack Mount with Slides
XTR 1700 Watt	RM-XTR	See Table 2 on page 6.
XTR 850 Watt Single	RM-S-XTR1 and RM-XTR	RM-S-XTR1. See Table 2 on page 6.
XTR 850 Watt Dual	RM-D-XTR1 and RM-XTR	RM-D-XTR1. See Table 2 on page 6.

XTR 850 Watt Single and Dual

Figure 1 shows the rack mount kits options for installing the XTR 850 Watt into a rack.

Single XTR 850W - Part Number: RM-S-XTR1

Dual XTR 850W - Part Number: RM-D-XTR1

Figure 1 XTR 850 Watt Single and Dual Rack Mount Kit Options

XTR 1700 Watt

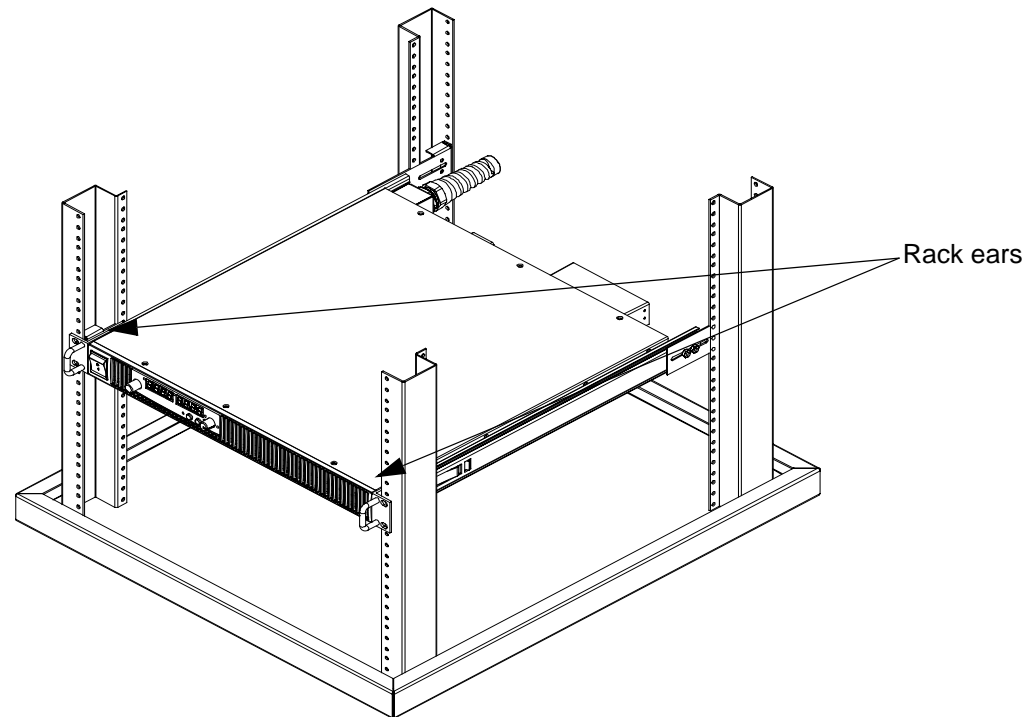The XTR 1700 Watt standard package provides rack ears and handles for easy installation into standard racks. See Figure 2.

Rack ears

Figure 2 XTR 1700 Watt Standard Installation

Location Requirements

Install the XTR in a location that meets the following requirements:

Condition	Description
Clean	The XTR should not be exposed to metal filings or any other form of conductive contamination.
Cool	The ambient air temperature should be between 0 °C–50 °C (32 °F–122 °F) for best performance.
Ventilated	Whether operating the power supply in a rack or on a bench, allow air to reach the ventilation inlets on the front and rear of the unit for cooling. The direction of airflow is from the front to the back of the unit. Ventilation space at the top, bottom or sides of the power supply is not required

⚠ **WARNING: Shock or fire hazard**

Ensure that any mounting screws do not penetrate more than 1/8 in. (3.0 mm) into the bottom and/or the back of the unit.

Mounting Option A: Xantrex 1U Rails

Xantrex offers its 1U rails to support the XTR rack mount packages. The rail is a flanged rail type and only available for a rack depth of 25 inches.

The part number to order this option is RM-XTR.

Tools and Materials Required

To mount and connect the XTR, you will need the following tools and materials:

- Screwdriver (Phillips head, #2)
- Standard carpenter's level
- Eight #10-24 × ¼" (30 mm) Phillips head screws.

Installation Procedures

To install the power supply in an equipment rack:

1. Ensure that your rack resembles the rack shown in Figure 3, and has inner holes within the specified dimensions.
2. Find the 1U space in which you wish to install your power supply in the specific rack.
3. Place the lower plain flange of the RM-XTR rail at the lowest point of the 1U space. If it is placed correctly, a hole on the inner flange of the vertical rack will line up to the oval mounting slot in the rail.
4. Using the carpenter's level for accuracy, install the rail using two #10-24 screws.
5. Tighten the screws to a torque of 20.5 to 22.5 in-lbs.
6. Repeat on the opposite side, using the level to ensure both rails align.
7. Slide the XTR assembly onto the rails, and against the front rails of the rack.
8. If there are four front mounting locations available, then install four #10-24 screws. Tighten the screws to a torque of 20.5 to 22.5 in-lbs. If there is only one hole available on either side, then the RM-XTR rails are not installed correctly.
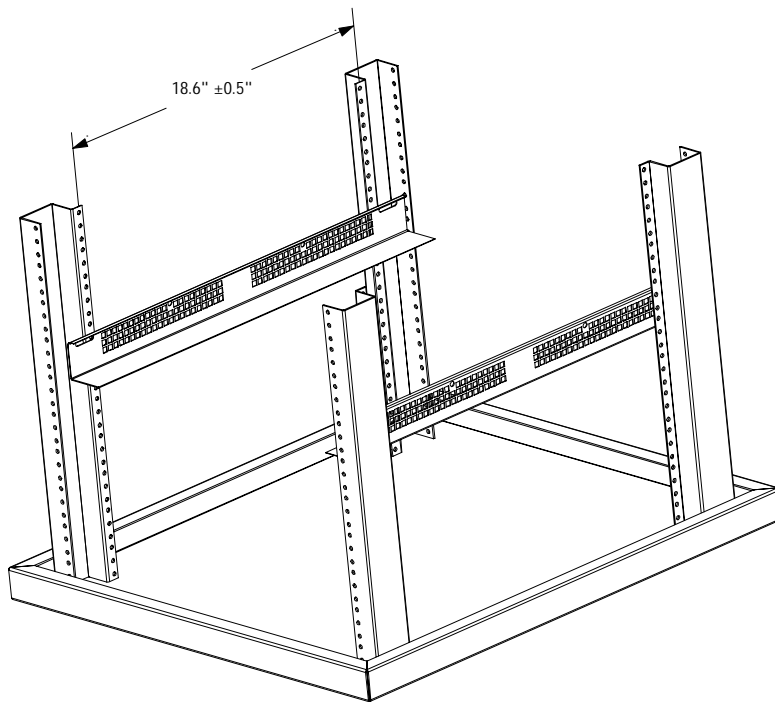
18.6" ±0.5"

Figure 3 RM-XTR Rack Rails

Mounting Option B: Manufactured Slides from Jonathan® Engineered Solutions

Jonathan Engineered Solutions offers a wide variety of manufactured slides to allow the easy installation and removal of the XTR assemblies into all rack sizes. Follow these steps to find the Jonathan product that suits your needs.

To install a single power supply in an equipment rack:

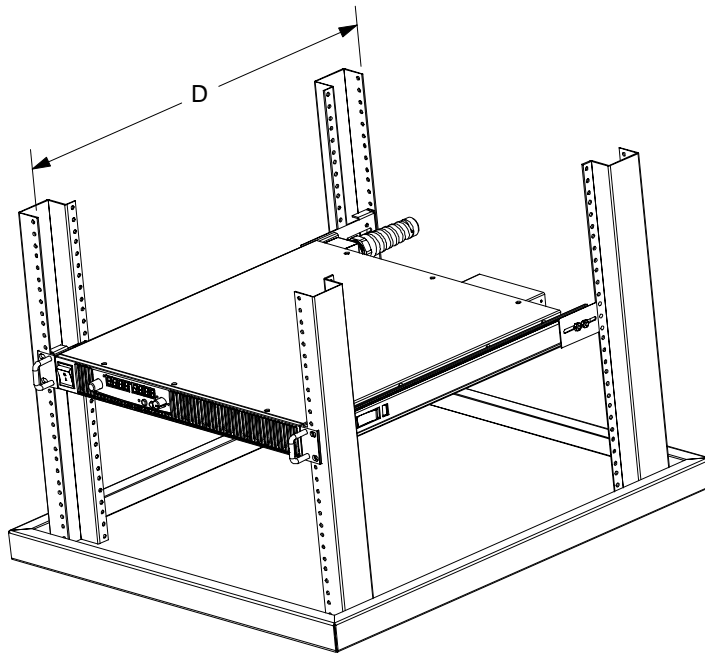1. Find your rack depth (D), which is the distance between the front and back flanges. See Figure 4.

Figure 4 Finding rack depth
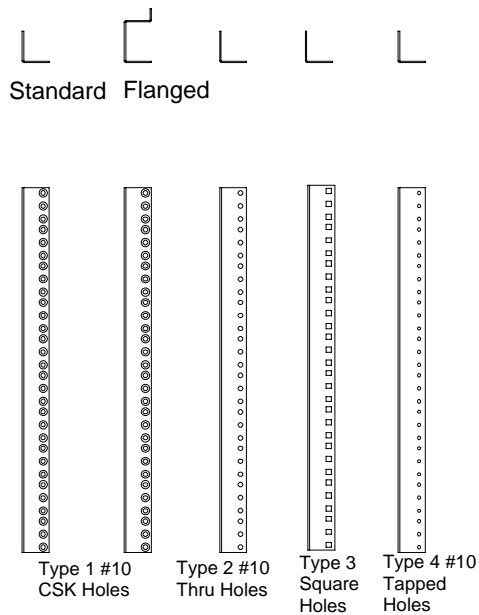
2. Select your rail type. See Figure 5.

Figure 5 Selecting a rail type

3. Refer to Table 2 to select the correct Jonathan slide part number for your rack depth and rail type. To view Jonathan Engineered Solutions product data sheets, visit the Xantrex website at **www.xantrex.com** and navigate to the XTR product page.

Table 2 Part Numbers for Jonathan Manufactured Slides

Rack Depth "D" (in.)	Jonathan Slide Part Number[1]	Bracket For Rail Types 1, 2, 3		Bracket for Rail Type 4	
		Front	Rear	Front	Rear
Less than 20	XTR Chassis will not fit within cabinet (depth of unit 19.25")				
20–22.5	375QD-18	SPO-622	SPO-683-2	SPO-857	SPO-857
20–25.5	375QD-18	SPO-622	SPO-683	SPO-857	SPO-857
20–27.5	375QD-18	SPO-622	SPO-683-1	SPO-857	SPO-857
20–30	375QD-18	SPO-683	SPO-683	SPO-857	SPO-683[2]
20–34	375QD-18	SPO-683-1	SPO-683-1	SPO-857	SPO-683-1[2]
25.5–27.5	375QD-26	SPO-622	SPO-622	SPO-857	SPO-857
27.5–29.5	375QD-28	SPO-622	SPO-622	SPO-857	SPO-857
29.5–32.5	375QD-28	SPO-622	SPO-683-2	SPO-857	SPO-857
29.5–35.5	375QD-28	SPO-622	SPO-683	SPO-857	SPO-857
29.5–37.25	375QD-28	SPO-622	SPO-683-1	SPO-857	SPO-683[2]

1.Jonathan slides 375QD-20, 22, 24 do not fit on the XTR chassis.
2.Requires bracket to be modified as shown in Figure 6.
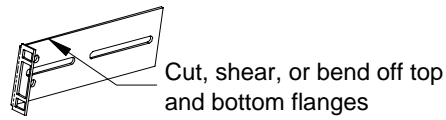
Cut, shear, or bend off top
and bottom flanges

Figure 6 Modifying rear bracket

4. Remove the chassis member from the slides and assemble to the chassis using M5 × 6 mm pan head screw SST (6X) which are not supplied. See Figure 7.
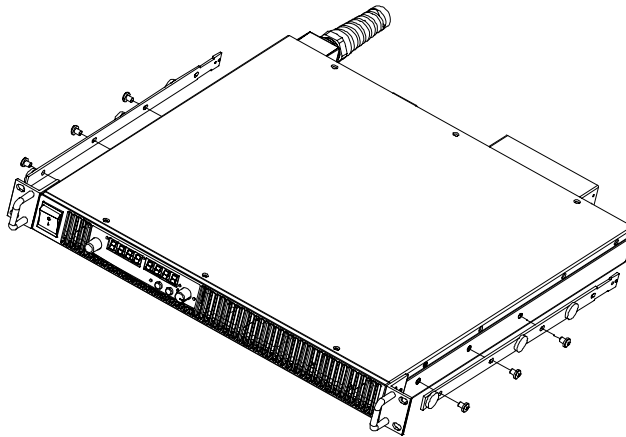

Figure 7 Removing Chassis Member From Slides

> **Important:** Figure 7 shows the chassis member for slide 375QD-18. The chassis member will be longer for Jonathan slide 375QD-26/28.

5. Attach front and rear brackets to cabinet section (see Figure 8) using the following materials supplied with the slides:

- (4) #8 × 0.375 Flat Head Countersunk Screws SST
- (4) #8 Lock Washers
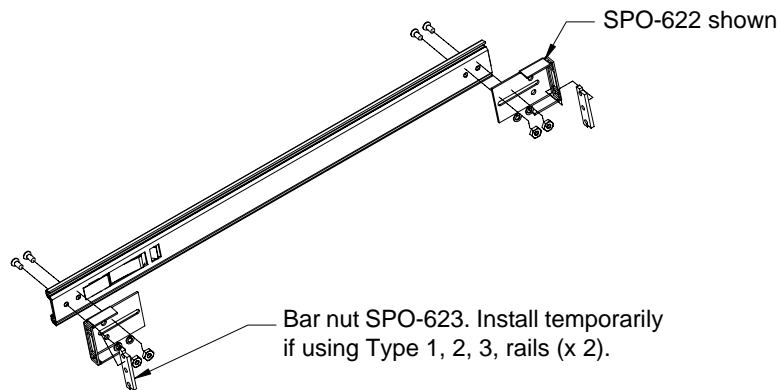- (4) #8 Regular Washers
- (4) #8 Hex Nuts

SPO-622 shown

Bar nut SPO-623. Install temporarily
if using Type 1, 2, 3, rails (x 2).

Figure 8 Attaching Front And Rear Bracket To Cabinet Section

Important: Do not tighten hardware completely.

6. Mount cabinet section into rack between upright rails using:

   •   (4) Bar nuts (SPO-623 sold separately)

   •   (6) #10 × 0.375 flat head countersunk Phillips SST screw (not supplied by Jonathan).
       Two for each side. See Figure 9.

Important: The hardware used will change depending on the type of
mounting hole available in your equipment rack. Ensure rails are level.

SPO-683 shown

SPO-622 shown
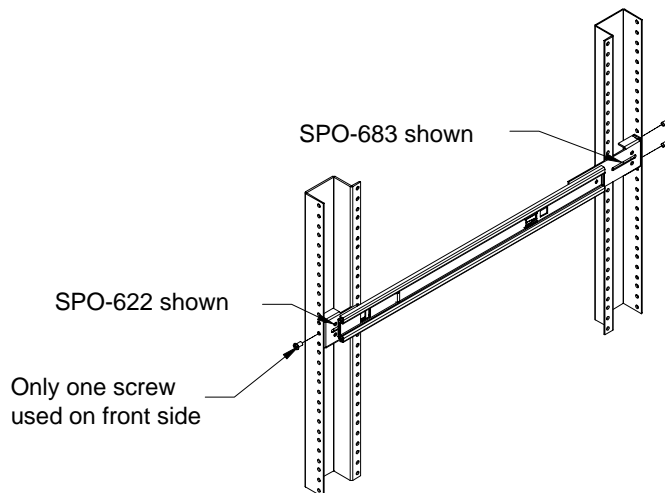
Only one screw
used on front side

Figure 9 Mounting Cabinet Section Into Rack

7. Install chassis.

8. Cycle chassis twice (push in and out two times).

   Ensure that rollers are engaged and the lock functions properly.

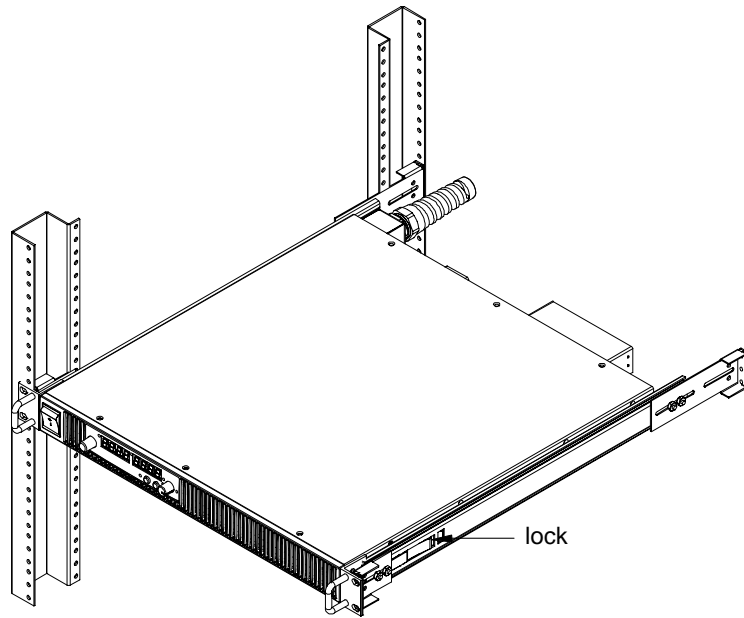9. Remove chassis and securely tighten hardware from step 4. See Figure 10.

Figure 10 Installing Chassis

Related Information

For related material on this product, see also:

- *XTR 850 Watt and 1700 Watt Series Programmable DC Power Supply Operating Manual (part number 975-0200-01-01)*
- *XTR 850 Watt and 1700 Watt Series Programmable DC Power Supply: Quick Reference Guide (part number 975-0276-01-01)*
- *XTR 850 Watt and 1700 Watt GPIB and ENET Manual (part number 975-0275-01-01)*

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