

MAC Panel Company

SCOUT Instructions Assembly and Mounting into a 19" Rack

Style B: using external set of mounting
holes in the rack front rail

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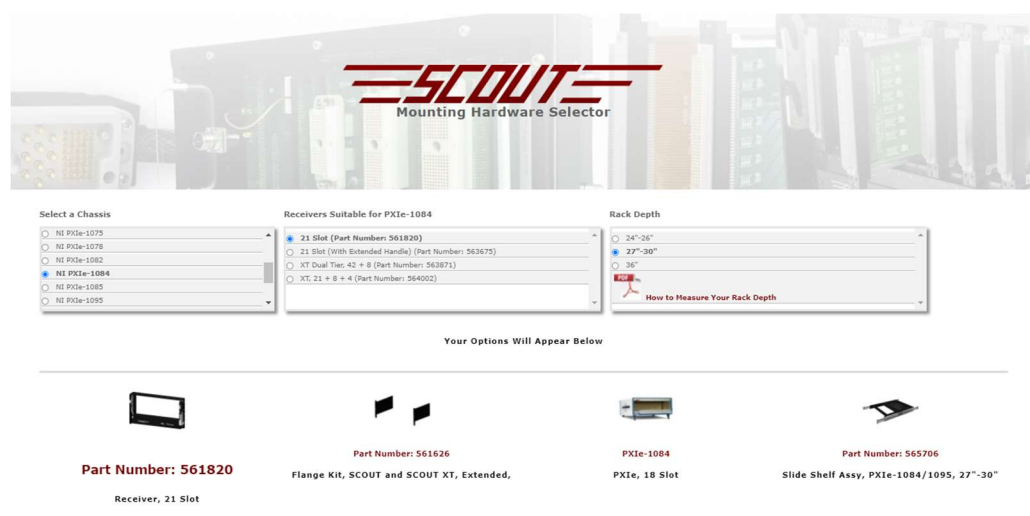
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Mounting Receiver into a 19" Rack using a Slide Shelf Assembly - Overview

The diagrams and instructions in this section shows the following items being assembled:

- NI PXIe-1084 chassis
- MAC Panel flange kit part # 561626
- MAC Panel slide shelf part # 565706
- MAC Panel receiver part # 561820

The MAC Panel SCOUT family of products supports a wide range of chassis from a variety of manufacturers along with slide shelves for different racks. A full range of options can be found at <https://www.macpanel.com/scout-mounting-hardware/>



The image shows the SCOUT Mounting Hardware Selector web application. At the top, there's a header with the SCOUT logo and the text "Mounting Hardware Selector". Below this, there are three main selection areas: "Select a Chassis", "Receivers Suitable for PXIe-1084", and "Rack Depth".

Select a Chassis: A dropdown menu showing options: NI PXIe-1075, NI PXIe-1078, NI PXIe-1082, NI PXIe-1084 (selected), NI PXIe-1085, and NI PXIe-1095.

Receivers Suitable for PXIe-1084: A list of options: 21 Slot (Part Number: 561820) (selected), 21 Slot (With Extended Handle) (Part Number: 563675), XT Dual Tier, 42 + 8 (Part Number: 563871), and XT, 21 + 8 + 4 (Part Number: 564002).

Rack Depth: A dropdown menu showing options: 24"-26", 27"-30" (selected), and 36". Below this is a link "How to Measure Your Rack Depth".

Below the selection areas, a section titled "Your Options Will Appear Below" displays four product images with their respective part numbers and descriptions:

- Part Number: 561820**: Receiver, 21 Slot
- Part Number: 561626**: Flange Kit, SCOUT and SCOUT XT, Extended,
- PXIe-1084**: PXIe, 18 Slot
- Part Number: 565706**: Slide Shelf Assy, PXIe-1084/1095, 27"-30"

Most chassis and flange kits are similar to the images shown but more detailed information for specific part numbers can be found on the MAC Panel website www.macpanel.com

The images in these instructions are taken from an assembly video that can be found at

[SCOUT Assembly Instructions - Style B](#)

Step 1 Remove hardware from chassis

Remove feet from side of chassis using a Philips screwdriver



Figure 1 Remove 4 feet from side of chassis

Remove feet from bottom of chassis



Figure 2 Remove 4 feet from bottom of chassis

Remove carrying handle



Figure 3 Remove carrying handle

The chassis is now ready to be assembled to the SCOUT products.

Step 2 Attach Slide Shelf Tray to Chassis

The slide shelf has been supplied with the outer rails removed for ease of shipping and assembly.

Identify that you have the following before proceeding:

- Quantity 1 Slide shelf tray
- Quantity 1 Right side outer rail
- Quantity 2 Left side outer rail

Orientate the slide shelf tray with the chassis. The large cutout is located towards the front of the chassis as shown in figure 4.



Figure 4 Ensure correct orientation of slide shelf tray with chassis

Attach the slide shelf tray to the chassis as shown in figure 5 using the supplied screws

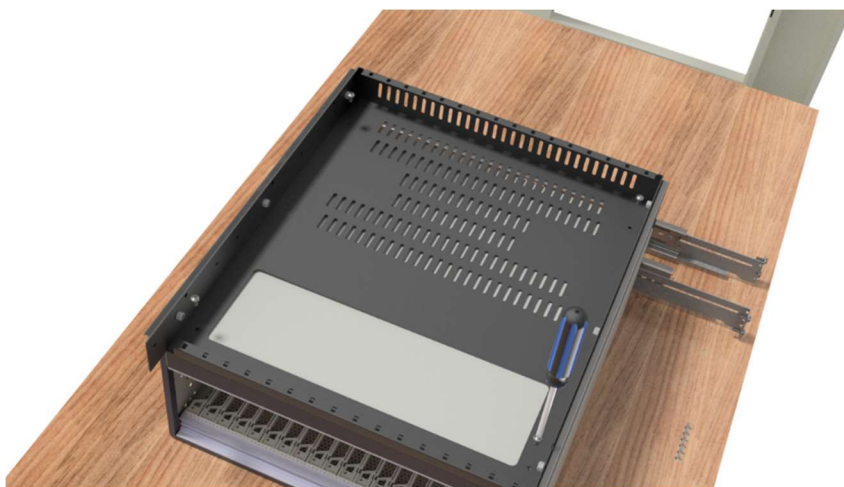


Figure 5 Attach slide shelf to chassis

Step 3 Attach flange kit to chassis

Identify the right and left flanges. Each flange kit includes one right hand and one left hand flange. These are physically identified as right (R) or left (L) L and R on each flange.

Identify each side of the chassis and ensure that the flange kit is oriented correctly i.e., that the correct flange is used in the correct position.



Figure 6 Identify left and right flanges

Attach the flange kit (both left and right) to the chassis as shown in figure 7 using the supplied screws

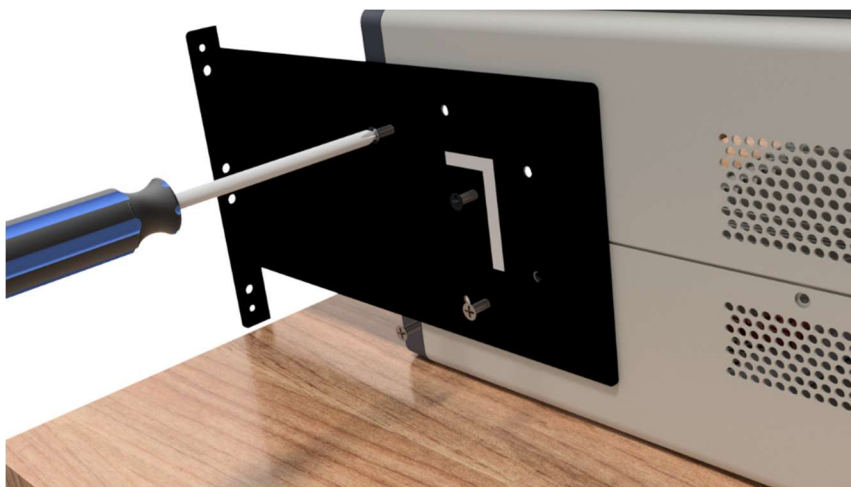


Figure 7 Attach flanges to chassis

Step 4 Attach receiver to flange kit

Align receiver with the flange kit as shown

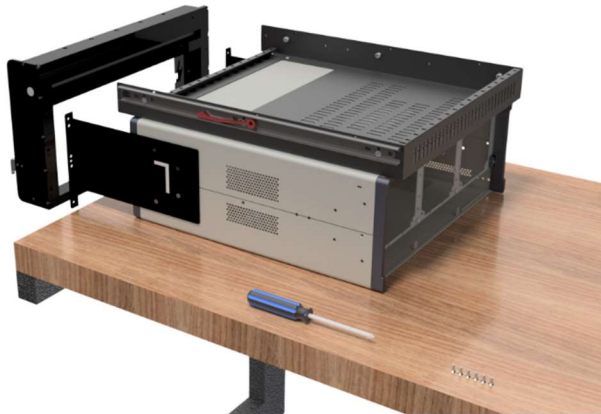


Figure 8 Align receiver with flanges

With the chassis still on the bench, attach the receiver to the flange kit using the supplied screws

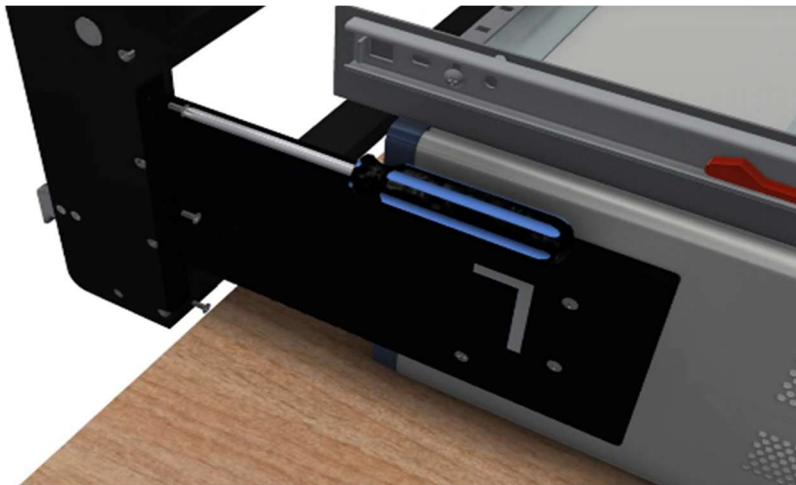


Figure 9 Attach receiver to flanges

The assembly is now ready to be assembled into the 19" rack.

Step 5 Identify, adjust, and attach outer slide shelf rails to 19" rack

Note that there are many different 19" racks from a variety of manufacturers. SCOUT can be attached to all styles of rack but there are many factors to consider.

These instructions show mounting to an external set of mounting holes in the rack's front rail. This mounting method requires the use of 2 additional spacers to space the receiver away from the front of the rack. This method will leave gaps at the top and bottom of the assembly.

The preferred method for mounting uses an internal set of mounting holes in the rack's front rail.

See [Assembly Instructions Style A](#) for details

Each slide shelf assembly is supplied complete with the main shelf and 2 outer rails. The outer rails are labeled right (R) and left (L) and will be assembled into the rack.



Figure 10 The outer rails will be assembled into the rack

It is important that the outer rails are identified and fitted correctly. Identify the right and left outer rails. These are physically identified as right (R) or left (L) L and R on each outer rail.



Figure 11 Identify left and right outer rails

It is critical that the correct vertical location on the rack is determined so that the receiver and all other components within the system will align correctly within the standard “U” settings.

A standard 1U is defined as 1.750” high and includes 3 hole locations at specified spacings as shown below

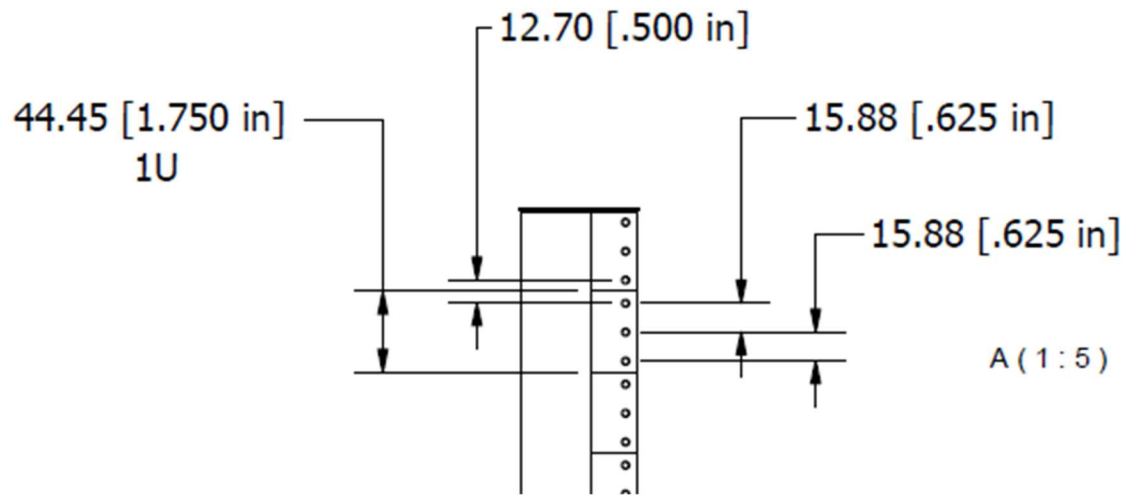


Figure 12 Standard U dimensions

Determine the position of the lowest hole location for the outer slide rail by choosing the hole at 0.739" from the lower edge of the receiver.



The outer rails will need to be adjusted dependent on the rack depth being used. Loosen the screws as shown. Next, adjust the length so that the end flanges sit against the outside of the vertical rack rails.

Note that in figure 15, the front of the rack is on the left side of the picture.



Figure 15 Adjust length of outer rail to suit rack

Using the hole locations determined from figures 13 and 14 attach the outer slide rails into the rack.



Figure 16 Attach outer slide rails into rack

Locate the two optional spacers and align with the rack. The top of the spacer will align with the top of a 1U spacing as shown in figure 17. The top of the spacer will also align with the top of the receiver. 2 screws will be used, and these will be located at 6.126" and 9.0" from the lower edge of the receiver

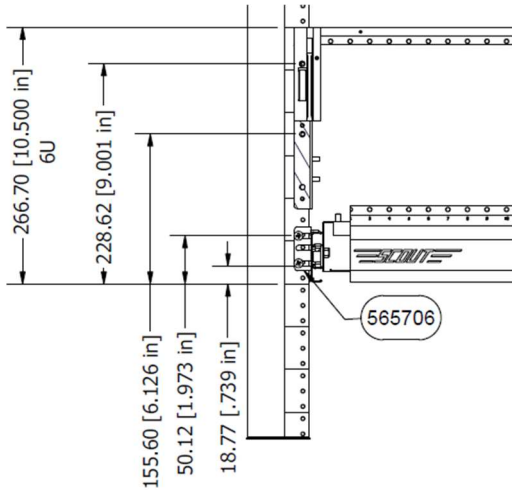


Figure 17 Location of spacer on rack

The two spacers will be fixed into position as shown in figure 18



Figure 18 Assemble spacers into rack

Step 6 Mount receiver into rack

Important: for safety reasons this action must be performed by 2 people.

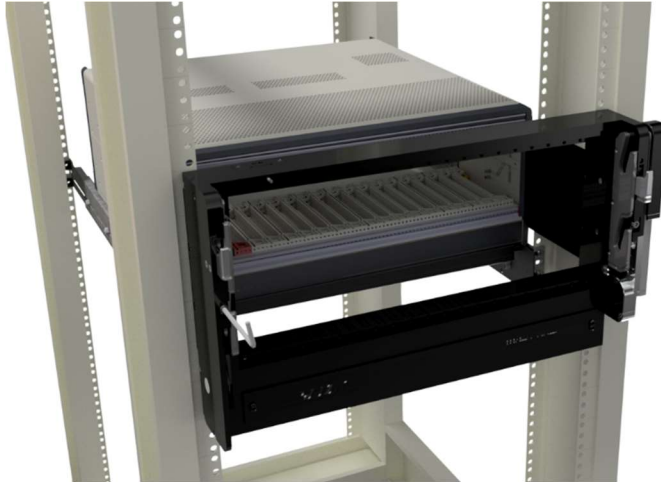


Figure 19 Mount receiver into rack

Align inner slide shelf rails with outer slide shelf rails and slide the unit into position. Ensure that both sides are completely aligned, and that the unit moves freely before removing support from the assembly. Push the receiver back into the frame ensuring that the red safety clips have actuated and will not allow the slide shelf to be removed.



Figure 20 Ensure that both red safety clips have actuated (spacers are not shown in this view)

To ensure that the slide shelf is correctly installed, pull the receiver away from the rack and confirm that the 2 red safety clips prevent the assembly from being removed.

Secure receiver into permanent position using the supplied bolts. The receiver actuating arm should not be used before these screws are fitted

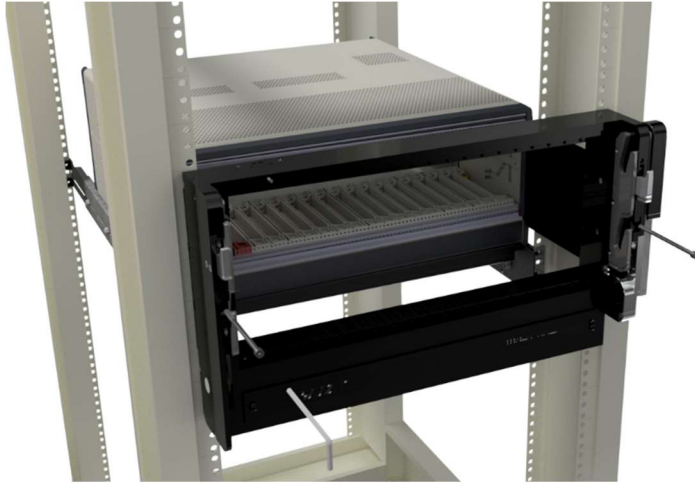


Figure 21 Attach receiver into rack using supplied bolts

The receiver is now fully installed and can be safely operated.

Step 7 Removing the receiver from the rack

When removing the receiver and slide shelf the reverse of the installation method is employed.

Start by removing the 2 long bolts



Figure 22 Remove bolts from receiver

The next operation must be performed by 2 people. The 2 red safety clips need to be actuated at the same time to allow removal. Pull the receiver and chassis assembly forward until it is close to the maximum extended position but before it is completely against the safety clips. One person on each side of the rack should actuate the clip on their side and then both people should gently move the assembly forward until it is past both clips but before the outer and inner slide rails have completely disconnected.

Note that the left side clip must be actuated down, and the right side clip must be actuated up in order to activate the release mechanism



Figure 23 Actuate the 2 red safety clips and pull assembly forward (spacers not shown in this view)

The assembly can now be removed completely from the rack.

Appendix Table of Part Numbers

There is a wide range of 19" racks, chassis and MAC Panel components that can be used in a variety of combinations. These instructions cover a wide range of combinations.

In the table below, we list the combinations that have been verified to comply with these instructions. If your combination is not listed or you would like further assistance, please contact us at applications@macpanel.com or visit our website at www.macpanel.com

		MAC Panel Receiver	
Chassis		561820 21 slot	564002 21/8/4 slot
Keysight M9018A/19A	Flange kit	561968	561968
	Slide shelf	562162/3/4	562162/3/4
NI PXI(e)-1044/ 45/ 65/ 75/ 85	Flange kit	561998	561998
	Slide shelf	562162/3/4	562162/3/4
NI PXIe-1084/ 95	Flange kit	561626	561626
	Slide shelf	565706/27/28	565706/27/28
NI PXIe-1092	Flange kit	562297	562297
	Slide shelf	565841/2/3	565841/2/3
Pickering 40-923-001	Flange kit	561977	561977
	Slide shelf	562162/3/4	562162/3/4
Pickering 40-914-001	Flange kit	561959	561959
	Slide shelf	562162/3/4	562162/3/4
Pickering 60-103B-001	Flange kit	562915	562915
	Slide shelf	562162/3/4	562162/3/4