

Cable Management

VPC solutions are designed to accommodate an array of ATE chassis sizes/configurations, including PXI, SCXI, GPIB, LXI, PCI, and VXI applications. These solutions are available in various wired configurations, including Slide Mount, Vertical Hinged Mounting Frames, and Direct Rack Mount. Cable routing and strain relief are important for any configuration.

Slide Mount

Slide mount configurations, popular for use with PXI-based testers, offer short cable lengths, easy access to instrumentation, and the ability to connect to secondary instrumentation. In addition, the cabling remains static and electrically consistent when accessing instrumentation. Two considerations should be made when choosing this type of interface: 1) Will the instrument chassis be placed on an instrument bracket? If so, the cables connecting to the receiver should be secured to the strain relief included on the instrument bracket. This prevents the cables from being damaged when the slides are extended. The recommended cable length is 20" when the instrument bracket is used with a slide-mounted receiver. This length can change if the instrument is being wired to a receiver module on the opposite side of the tester. VPC standard lengths are 20" and 36"; custom lengths are available. 2) Will any instrumentation be located somewhere other than on the instrument bracket? If so, the cables used to connect this instrumentation to the receiver must be long enough to allow the slides to extend fully without putting tension on the cables. To determine the appropriate cable length, measure the vertical distance from the receiver to the instrument, then measure the distance from the front of the rack to the receiver with the slides fully extended, taking into account any bends and special routing considerations. Cables routed to instrumentation not placed on the instrument bracket should be secured to the strain relief on the instrument bracket.

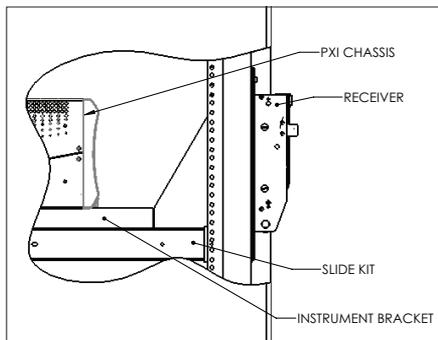


Figure 1. Slide Mount Configuration.

Vertical Hinged Mounting Frames

Vertical Hinged Mounting Frames (VHMF) enable the instrument chassis to be placed directly behind the VHMF. When using the VHMF, keep a space of 8-10" from the front of the chassis to prevent tight bends in the cables when the VHMF is closed. To determine the proper cable length required, measure the distance from the front face of the instrument to the module location in the VPC receiver with the VHMF in the 'open' position, allowing for bends in the cable for proper cable routing with extra length in the cable to prevent tight bends when the VHMF is closed.

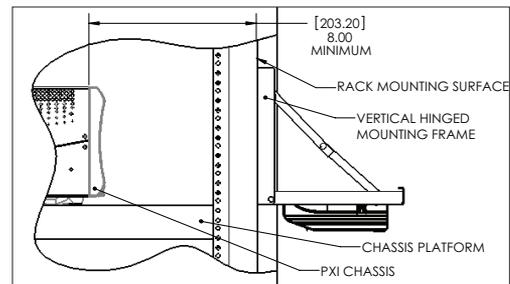


Figure 2. Vertical Hinged Mounting Frame Configuration.

Direct Panel Mount

With direct panel mount systems, follow the same considerations as with the VHMF systems. The only exception is that the additional cable length is not necessary because the system does not hinge down.

Strain Relief

With all three configuration types, strain relief is critical in developing a reliable and consistent tester. VPC offers several strain relief options. The most common strain relief method is to attach strain relief plates directly to the receiver or ITA modules. Wire or cable bundles are secured to the plate with wire ties, preventing forces exerted on the cables from transferring directly to the contact termination where they can cause damage and loss of signal integrity.

A second type of strain relief can be found on the receiver side of a tester: cable tie-down bars. These bars can be used on VHMFs and are included in the instrument bracket or cable tray kits used with slide-mount receivers.

