

**Agilent V2999A-1CM Rack
Mount Kit for V2800 Series
and V2900 Series
Instruments**

Installation Guide



Agilent Technologies

Notices

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CAUTION

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A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

Introduction

This document contains a parts list and installation instructions for the Agilent Technologies Inc. RF Instruments-RMK Dual Fixed Rack Mounting Kit. This kit includes all the hardware necessary to mount one or two Agilent RF instruments in a standard 19-inch rack. If only one instrument is installed in the rack mounting tray, a filler panel is installed in the empty side of the tray.

Parts list

Table 1 lists the parts supplied with the Agilent RF Instruments-RMK Dual Fixed Rack Mounting Kit.

Table 1

RF Instruments-RMK Dual Fixed Rack Mounting Kit part list

Quantity	Description	Agilent Part Number
1	Installation Instructions	5972-3316
1	Rack mount tray	2910-RMK-337B
1	Rack mount kit filler panel	2910-RMK-339A
1	Bracket: Left rear support	4288-9-301A
1	Bracket: Right rear support	4288-9-302A
4	Rack mount lock link	2910-RMK-338B
8	Fastener: captive nut, 10-32	0590-0804
8	Dress screw with nylon washer, quartz gray	0570-1577
8	Machine screw, pan head, pozidriv recess, 10-32 UNF-2A, 0.375 inches long, stainless steel-300 series passivated finish, external tooth lockwasher, phos-bronze, nickel plated	2680-0051
8	Machine screw, pan head, pozidriv recess, 10-32 UNF-2A, 0.625 inches long, stainless steel-300 series passivated finish	2680-0105
2	Machine screw, flat head, pozidriv recess, 6-32 UNC-2A, 0.312 inches long, pozidriv, recess, 82-degree, stainless steel-300 series passivated finish	2360-0182
6	Machine screw, pan head, pozidriv recess, 6-32 UNC-2A, 0.375 inches long, stainless steel-300 series passivated finish, external tooth lockwasher, phos-bronze, nickel plated	2360-0117
1	Label	MC-345

NOTE

You will need a Phillips screwdriver (#2) to perform these installation instructions.

Installation

The instrument may be installed on the right or left side of the rack. The following instructions show an example of a single instrument being installed on the right side of the mounting tray.

WARNING

Ensure the instrument that is being installed is powered down with all cables unplugged. Failure to install an instrument with power removed and in a discharged state may cause an explosion in a hazardous environment or electrical shock which may lead to personal injury or death, property damage, or economic loss.

CAUTION

To prevent destructive heat build-up and ensure specified performance, adhere to the following rack-mounting precautions:

- Keep the rear exhaust vent free of any obstructions. Even partial blockage may impair proper cooling. Also, keep at least one vent at the front of the instrument free of obstruction.
- Allow at least 1U of space at the top and bottom of the instrument.
- Make sure there is adequate air flow around at least one side of the instrument. Adequate airflow ensures that air temperatures around the instrument remain within specified limits under all operating conditions.
- DO NOT rack-mount high power dissipation equipment adjacent to the instrument, which could cause excessive heating to occur. The specified ambient temperature must be maintained around the surfaces of the instrument to maintain specified accuracies.

NOTE

A standard vertical spacing of 1 rack unit (1U) equals 1.75 inch.

When determining placement of an instrument within any rack, you should make sure to adhere to the CAUTION above. If the rack has only convection cooling, use the following points as general guidelines to properly design equipment placement:

- Place the hottest equipment (for example, the power supply) at the top of the rack.
- Place precision equipment as low as possible in the rack (where temperatures are cooler).
- Add space panels below the instrument to help ensure adequate air flow.

Step 1. Prepare the instrument

To prepare the instrument for rack mounting, remove the handle and both front and rear panel bumpers.

1. Remove the handle:
 - a. Gently pull the handle away from the sides of the instrument case and swing it above the top surface of the instrument until it lines up between the marks on the side of the instrument.
 - b. Pull the ends of the handle away from the case.
2. Remove the front and rear panel bumpers:
 - a. Pull a corner of the bumper away from the front or rear instrument panel.
 - b. Pull down and out to remove each bumper.

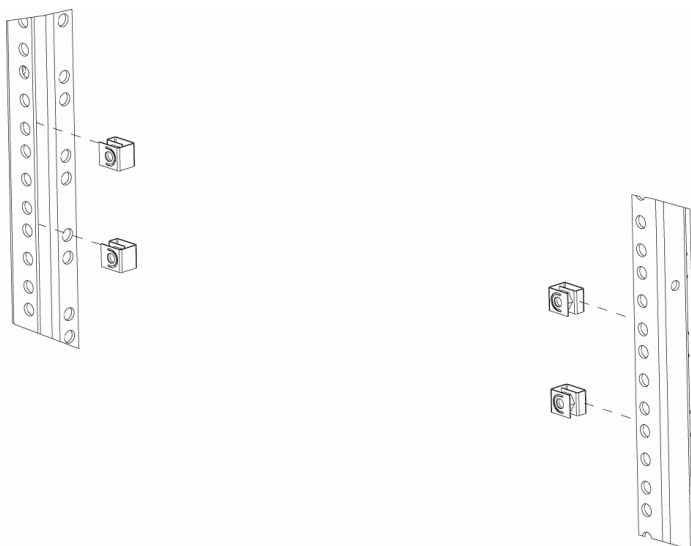
NOTE

Save all removed parts for future bench-top use of the instrument. When reinstalling the bumpers, slide them over the panel edges, snapping them in place. The bumpers are unique for the front and rear panels. The rear bumper has feet to protect rear panel connections when the instrument is in a standing position.

Step 2. Prepare the rack

1. Select a location in the rack to install the instrument mounting tray (2910-RMK-337B). The assembly will take three rack units of vertical space.
2. Continue with the appropriate next step:
 - If the rack vertical rails have threaded mounting holes, proceed to “Step 3. Install mounting hardware.”
 - If the rack vertical rails do not have threaded mounting holes, continue with the next step to install fasteners in the appropriate places on the rack.
3. On both the front and rear vertical rails, install the four fasteners (0590-0804) so that the captive nuts are located behind the appropriate holes on the rack rails. Refer to Figure 1.

Figure 1
Fastener installation



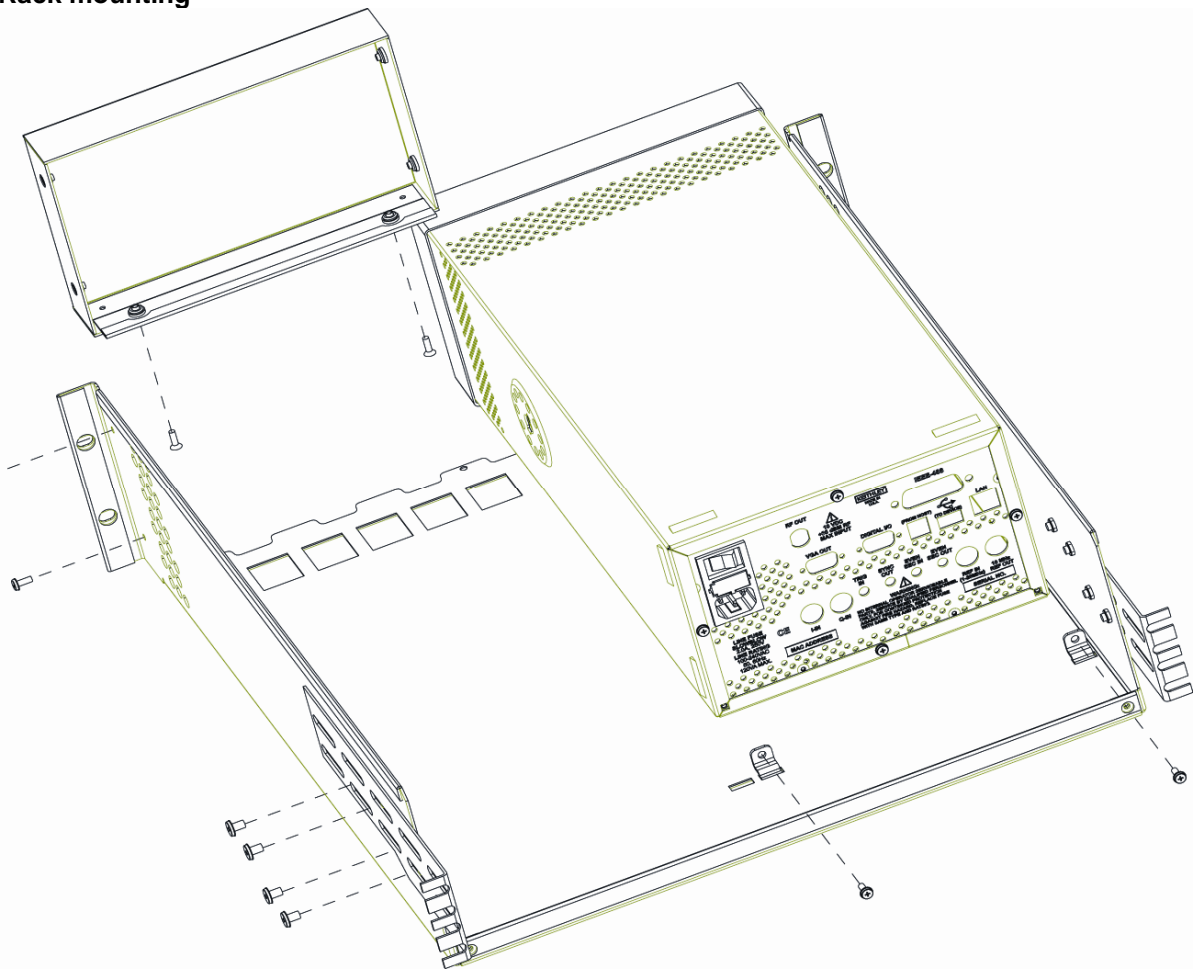
Step 3. Install the mounting hardware

NOTE

The instrument may be installed on the right or left side of the rack. Figure 2 shows an example of a single instrument being installed on the left side of the mounting tray.

1. Correctly seat the filler panel in the mounting tray so that it meets the following conditions:
 - The filler panel is on the opposite side of the mounting tray from where the instrument will be located.
 - The tabs on the bottom of the mounting tray are slid into the bottom of the filler panel housing.
 - The filler panel is flush with the front of the rack.
2. Attach the filler panel to the mounting tray (refer to Figure 2):
 - a. Use two flat-head screws (6-32 x 5/16 PFH) to fasten the bottom of the filler panel to the tray.
 - b. Use two pan-head screws (6-32 x 3/8 PPHSEM) to fasten the side of the filler panel to the tray.

Figure 2
Rack mounting



NOTE

The next four steps may require an additional person to support the mounting tray as it is being installed.

3. Slide the mounting tray into position in the rack.
4. While supporting the mounting tray from underneath, loosely attach the front of the tray to the rack vertical rails. Use four pan-head screws (10-32 x 5/8 PPH).
5. Reaching through the side of the rack, loosely attach the two rear support brackets to the sides of the mounting tray. Use four pan-head screws (10-32 x 3/8 PPHSEM) to attach each bracket.
6. Reaching through the back of the rack, attach the two rear support brackets to the rack vertical rails. Use two pan-head screws (10-32 x 5/8 PPH) for each bracket.
7. Tighten all screws, especially the screws that attach the front of the mounting tray to the rack.

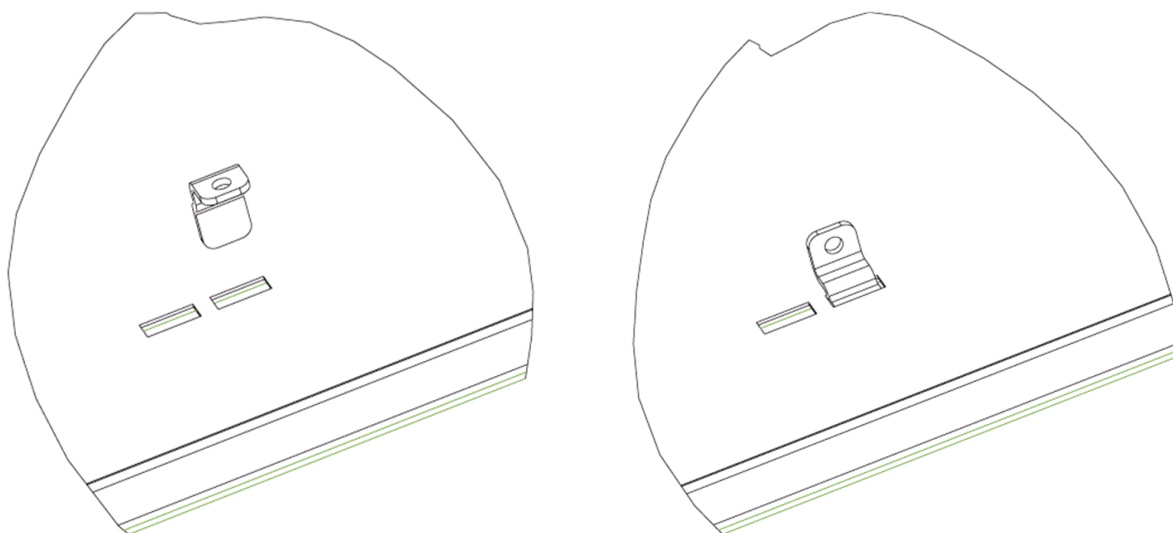
Step 4. Install the instrument

NOTE

Keep all instrument covers on the instrument. To ensure proper cooling and specified output power, all covers must be intact.

1. From the front of the rack, slide the instrument onto the mounting tray. Refer to Figure 2.
2. Correctly seat the instrument in the mounting tray so that it meets the following conditions:
 - The tabs on the bottom of the mounting tray are slid into the bottom of the instrument front-panel housing.
 - The instrument front panel is flush with the front of the rack.
3. From the back of the rack, fasten the instrument to the mounting tray:
 - a. Insert the two lock-brackets (2910-RMK-338B) into the slots of the tray that are located at the corners of the instrument. Insert the solid end of the bracket in the tray and rotate the side of the bracket with the hole toward the instrument. The hole in the bracket should align with the mounting hole at the bottom of the rear panel. Refer to Figure 3.
 - b. Use two pan-head screws (6-32 x 3/8 PPHSEM) to attach the bottom corners of the instrument to the brackets you just positioned in the mounting tray.

Figure 3
Lock brackets installation



Installing a second instrument

If you want to install a second instrument in the rack-mounting tray, you do not need to completely uninstall the tray. You only need to remove the filler panel to install the second instrument.

1. Reaching through each side of the rack, loosen the four screws that attach each rear support bracket to the mounting tray.
2. While supporting the mounting tray, remove the four screws that attach the front of the mounting tray to the rack front rails.
3. Carefully slide the mounting tray toward the front of the rack.
4. Remove the filler panel from the mounting tray:
 - a. Remove the two flat-head screws that fasten the bottom of the filler panel to the tray.
 - b. Remove the two pan-head screws that fasten the side of the filler panel to the tray.
5. Slide the mounting tray back into the rack and attach the front of the tray to the rack front rails.
6. Install the instrument in the mounting tray by following the instructions in Step 4. Install the instrument.
7. Tighten all screws.