Keysight
Add Configurable Test Set and Source Attenuators Upgrade Kit

To Upgrade PNA N5234A/B or N5235A/B Option 200 to Option 216

Upgrade Kit Order Numbers: N5234AU-216 or N5235AU-216 or N5234BU-216 or N5234BU-216

Keysight Kit Number: N5235-60101

KEYSIGHT
TECHNOLOGIES

Installation Note

Notices

Trademark Acknowledgments

Manual Part Number

Edition

Warranty

Technology Licenses

U.S. Government Rights

Safety Notices

CAUTION

A **CAUTION** 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 damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

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.

Description of the Upgrade

NOTE	Some of the assembly drawings in this document may be different from your instrument, but the process is similar for both an "A" model and "B" model instruments.

This upgrade adds the following items to your N5234A/B Option 200 or N5235A/B Option 200 network analyzer:

— 60 dB source step attenuators with brackets and wire harnesses

— front panel jumpers

— cable guards for front panel jumpers

— front panel overlay replacement

— new cables

After installation of this upgrade, your analyzer will be an N5234A/B Option 216 or N5235A/B Option 216.

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Getting Assistance from Keysight

Installing this upgrade kit requires special skills and experience. If you think you may not be qualified to do the work, or need advice, contact Keysight.

Contacting Keysight

Assistance with test and measurements needs and information on finding a local Keysight office are available on the Web at:
http://www.keysight.com/find/assist

If you do not have access to the Internet, please contact your Keysight field engineer.

NOTE	In any correspondence or telephone conversation, refer to the Keysight product by its model number and full serial number. With this information, the Keysight representative can determine whether your product is still within its warranty period.

If You Have Problems With the Upgrade Kit Contents

Keysight stands behind the quality of the upgrade kit contents. If you have problems with any item in the kit, refer to www.keysight.com and the **Contact Keysight** link.

Getting Prepared

CAUTION The PNA contains extremely sensitive components that can be ruined if mishandled. Follow instructions carefully when making cable connections, especially wire harness connections.

The person performing the work accepts responsibility for the full cost of the repair or replacement of damaged components.

To successfully install this upgrade kit, you will need the following:

— A license key - refer to "License Key Redemption" below.

— A PDF copy or a paper copy of the PNA Service Guide - refer to "Downloading the Online PNA Service Guide" below.

— An ESD-safe work area - refer to "Protecting Your Workspace from Electrostatic Discharge" below.

— Correct tools - refer to "Tools Required for the Installation" on page 8.

— Enough time - refer to "About Installing the Upgrade" on page 8.

— Test equipment for the post-upgrade adjustments and full instrument calibration. To view the equipment list, click the Chapter 3 bookmark "Tests and Adjustments" in the PDF Service Guide[1].

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1. See "Downloading the Online PNA Service Guide" on page 7.

License Key Redemption

| NOTE | The only difference between an A model license key redemption and a B model is that the A model uses a 12-character license key and the B model uses a license key file. |

| NOTE | Ensure that you are connected to an external server, before attempting to download your email and license key file. |

If you are unfamiliar with the licensing process, for A models, refer to the http://literature.cdn.keysight.com/litweb/pdf/N5235-90110.pdf or

for B models, refer to the http://literature.cdn.keysight.com/litweb/pdf/N5242-90024.pdf.

| NOTE | The enclosed Software Entitlement Certificate is a receipt, verifying that you have purchased a licensed option for the PNA of your choice. You must now use a Keysight Web page to request a license key for the instrument that will receive the option. |

To enable the option product, you must request license key(s) file from the Keysight Software Manager:
http://www.keysight.com/find/softwaremanager.

To complete the request, you will need to gather the following information:

— From the certificate

   — Order number

   — Certificate number

— From your instrument

   (Instrument information is available in the network analyzer - on the toolbar, click Help, then click About Network Analyzer.)

   — Model number

   — Serial number

   — Host ID (A models only)

Using the information just gathered, you must request license key(s) file from the Keysight Software Manager:
http://www.keysight.com/find/softwaremanager. If you provide an email address, Keysight will promptly email your license file message.

You will need to provide an email address, Keysight will promptly email your A model license key(s) or a for a B model, license key file(s) attachment message. Refer to "License Key Redemption" on page 6.

Downloading the Online PNA Service Guide

To view the online Service Guide for your PNA model number, use the following steps:

1. Go to www.keysight.com.

2. In the Search box, enter the model number of the analyzer (Ex: N5235A) and click Search.

3. Click Technical Support > Manuals.

4. Click Service Manual.

5. Click the service guide title to download the PDF file.

6. When the PDF of the Service Guide is displayed, scroll through the Contents section bookmarks to locate the information needed.

Protecting Your Workspace from Electrostatic Discharge

For information, click on the Chapter 1 bookmark, "Electrostatic Discharge Protection" in the PDF Service Guide[1].

ESD Equipment Required for the Installation

Description	Keysight Part Number
ESD grounding wrist strap	9300-1367
5-ft grounding cord for wrist strap	9300-0980
2 x 4 ft conductive table mat and 15-ft grounding wire	9300-0797
ESD heel strap (for use with conductive floors)	9300-1308

Tools Required for the Installation

Description	Qty	Part Number
T-10 TORX driver - set to 9 in-lbs (1.02 N.m)	1	N/A
T-20 TORX driver - set to 21 in-lbs (2.38 N.m)	1	N/A
5/16-in (8 mm) nutsetter or open end torque wrench - set to 10 in-lbs (1.13 N.m)	1	N/A
9 mm nutsetter or open end torque wrench - set to 21 in-lbs (2.38 N.m)	1	N/A

CAUTION Use a 5/16-in torque wrench set to 10 in-lbs on all cable connections except the front panel and rear panel bulkhead connectors. Torque these connections to 21 in-lb.

About Installing the Upgrade

Products affected	N5234A/B and N5235A/B Option 200
Installation to be performed by	Keysight service center or personnel qualified by Keysight
Estimated installation time	2 hours
Estimated adjustment time	0.5 hours
Estimated full instrument calibration time	4.5 hours

Items Included in the Upgrade Kit

Check the contents of your kit against the following list. If any part is missing or damaged, contact Keysight Technologies. Refer to "Getting Assistance from Keysight" on page 4.

Table 1   Contents of Upgrade Kit N5235-60101

Ref Desig.	Description	Qty	Part Number
--	Installation note (this document)	1	N5235-90101
--	Software Entitlement Certificate	1	5964-5145
A29, A30	Test port 1 source 60 dB step attenuator Test port 2 source 60 dB step attenuator	2	33325-60022
--	Bracket (for step attenuators)	2	N5235-00015
--	Machine screw, M3 x 8, pan head (to attach brackets to step attenuators; to attach step attenuator assemblies to deck)	5	0515-0372
--	Cable clamp	10	1400-1334
--	Cable tie	6	1400-0249
--	Front panel overlay - "A" Models	1	N5235-80001
--	Front panel overlay - "B" Models	1	N5235-80006
--	Front panel jumper cable guard - "A" Models	2	N5242-00029
--	Front panel jumper cable guard - "B" Models	2	N5242-00048
--	Dust caps for test ports	2	1401-0214
W11	RF cable, A23 MASS50 to A29 test port 1 source attenuator	1	N5235-20026
W12	RF cable, A23 MASS50 to test port 2 source attenuator	1	N5235-20020
W13	RF cable, A29 test port 1 source attenuator to PORT 1 SOURCE OUT	1	N5235-20027
W14	RF cable, A30 test port 2 source attenuator to PORT 2 SOURCE OUT	1	N5235-20021
W15	RF cable, A25 test port 1 bridge coupler to PORT 1 CPLR THRU	1	N5235-20031
W16	RF cable, A28 test port 2 bridge coupler to PORT 2 CPLR THRU	1	N5235-20025
W17	RF cable, A25 test port 1 bridge coupler to PORT 1 CPLR ARM	1	N5235-20033
W18	RF cable, A23 MASS50 to REF 1 SOURCE OUT	1	N5235-20030
W19	RF cable, A23 MASS50 to REF 2 SOURCE OUT	1	N5235-20024
W20	RF cable, A28 test port 2 bridge coupler to PORT 2 CPLR ARM	1	N5235-20032
W21	RF cable, A24 mixer brick to PORT 1 RCVR A In	1	N5235-20028
W22	RF cable, A24 mixer brick to REF 1 RCVR R1 IN	1	N5235-20029

Table 1   Contents of Upgrade Kit N5235-60101

Ref Desig.	Description	Qty	Part Number
W23	RF cable, A24 mixer brick to REF 2 RCVR R2 In	1	N5235-20023
W24	RF cable, A24 mixer brick to PORT 2 RCVR B In	1	N5235-20022
W30	RF cable, front panel jumper	6	N5245-20155
--	Wire harness, A19 test set motherboard J8 to A29 port 1 source attenuator	1	8121-0982
--	Wire harness, A19 test set motherboard J6 to A30 port 2 source attenuator	1	

NOTE   Extra quantities of items such as protective plastic caps, screws, cable ties, and cable clamps may be included in this upgrade kit. It is normal for some of these items to remain unused after the upgrade is completed.

Installation Procedure for the Upgrade

The network analyzer must be in proper working condition prior to installing this option. Any necessary repairs must be made before proceeding with this installation.

WARNING   This installation requires the removal of the analyzer's protective outer covers. The analyzer must be powered down and disconnected from the mains supply before performing this procedure.

Overview of the Installation Procedure

"Step 1. Obtain a Keyword and Verify the Information."

"Step 2. Remove the Outer Cover."

"Step 3. Remove the Inner Cover."

"Step 4. Remove the Front Panel Assembly."

"Step 5. Remove Some Existing Cables."

"Step 6. Assemble the A29 and A30 Source Attenuator Assemblies."

"Step 7. Install the A29 and A30 Source Attenuator Assemblies."

"Step 8. Install the Cables."

"Step 9. Secure the Hex Nuts on the Front Panel Bulkhead Connectors."

"Step 10. Remove the Old Lower Front Panel Overlay."

"Step 11. Reinstall Front Panel Assembly."

"Step 12. Install the New Lower Front Panel Overlay."

"Step 13. Install Front Panel Jumpers."

"Step 14. Reinstall the Inner Cover."

"Step 15. Reinstall the Outer Cover."

"Step 17. Remove Option 200 License."

"Step 17. Enable Options 216."

"Step 18. Perform Post-Upgrade Adjustments and Calibration."

"Step 19. Prepare the PNA for the User."

Step 1.Obtain a Keyword and Verify the Information

Follow the instructions on the Software Entitlement Certificate supplied to obtain a license key for installation of this upgrade. Refer to "License Key Redemption" on page 6.

Verify that the model number, serial number, and option number information on the license key match those of the instrument on which this upgrade will be installed.

If the model number, serial number, or option number do not match those on your license key, you will not be able to install the option. If this is the case, contact Keysight for assistance before beginning the installation of this upgrade. Refer to "Contacting Keysight" on page 4.

Once the license key (A models) or license key file (B models) has been received and the information verified, you can proceed with the installation at "Step 2. Remove the Outer Cover" on page 12.

| NOTE | If the model number, serial number, or option number do not match those on your license key (A models) or license key file (B models), you will not be able to install the option. If this is the case, contact Keysight for assistance before beginning the installation of this upgrade. If this is the case, contact Keysight for assistance before beginning the installation of this upgrade. Refer to "Contacting Keysight" on page 4. |

Step 2. Remove the Outer Cover

For instructions, click the Chapter 7 bookmark "Removing the Covers" in the PDF Service Guide[1].

Step 3. Remove the Inner Cover

For instructions, click the Chapter 7 bookmark "Removing the Covers" in the PDF Service Guide[1].

Step 4. Remove the Front Panel Assembly

For instructions, click the Chapter 7 bookmark "Removing and Replacing the Front Panel Assembly" in the PDF Service Guide[1].

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1. See "Downloading the Online PNA Service Guide" on page 7.

Step 5. Remove Some Existing Cables

NOTE	Leave the gray flexible cables, the wire harnesses, and the ribbon cables connected where possible. **Any that are removed should be labeled for reconnection later**.

NOTE	Be careful not to damage the center pins of the semi-rigid cables. Some flexing of the cables may be necessary but do not over-bend them.

NOTE	When removing a cable, also remove the plastic cable clamp, if present. It is normal for some of the cable clamp's adhesive to remain.

1. Place the analyzer bottom-side up on a flat surface.

Remove the following cables. To see an image showing the location of these cables, click the Chapter 6 bookmark "Bottom RF Cables, Standard 2-Port Configuration, Option 200" in the PDF Service Guide[1].

These RF cables may be discarded - they will not be reinstalled.

— W5 (N5235-20015) A25 test port 1 bridge coupler (arm) to A24 mixer brick

— W6 (N5235-20014) A23 MASS50 to A24 mixer brick

— W8 (N5235-20016) A28 test port 2 bridge coupler (arm) to A24 mixer brick

— W3 (N5235-20013) A23 MASS50 to A25 test port 1 bridge coupler (thru)

— W4 (N5235-20011) A23 MASS50 to A28 test port 2 bridge coupler (thru)

— W7 (N5235-20012) A23 MASS50 to A24 mixer brick

These cables must be saved - they will be reinstalled.

— W1 (N5235-20019) A22 multiplier/amplifier 26.5 (HMA26.5) to test set deck cable bracket

— W10 (N5235-20018) A24 mixer brick to test set deck cable bracket

— W2 (N5235-20017) A23 MASS50 to A22 multiplier/amplifier 26.5 (HMA26.5)

— W25 (top-side cable) (N5235-20040) A4 13.5 GHz Source Synthesizer board to test set deck cable bracket

Step 6. Assemble the A29 and A30 Source Attenuator Assemblies

Refer to Figure 1 for this step of the procedure. New parts are listed in Table 1 on page 9.

1. Gather two source attenuators (33325-60022) and install a ribbon cable (8121-0982) on each.

2. Install bracket N5235-00015 on each source attenuator, using two screws (0515-0372) with each bracket. Use a T-10 TORX driver set to 9 in-lbs to tighten all screws.

Figure 1   Source Attenuator Assembly
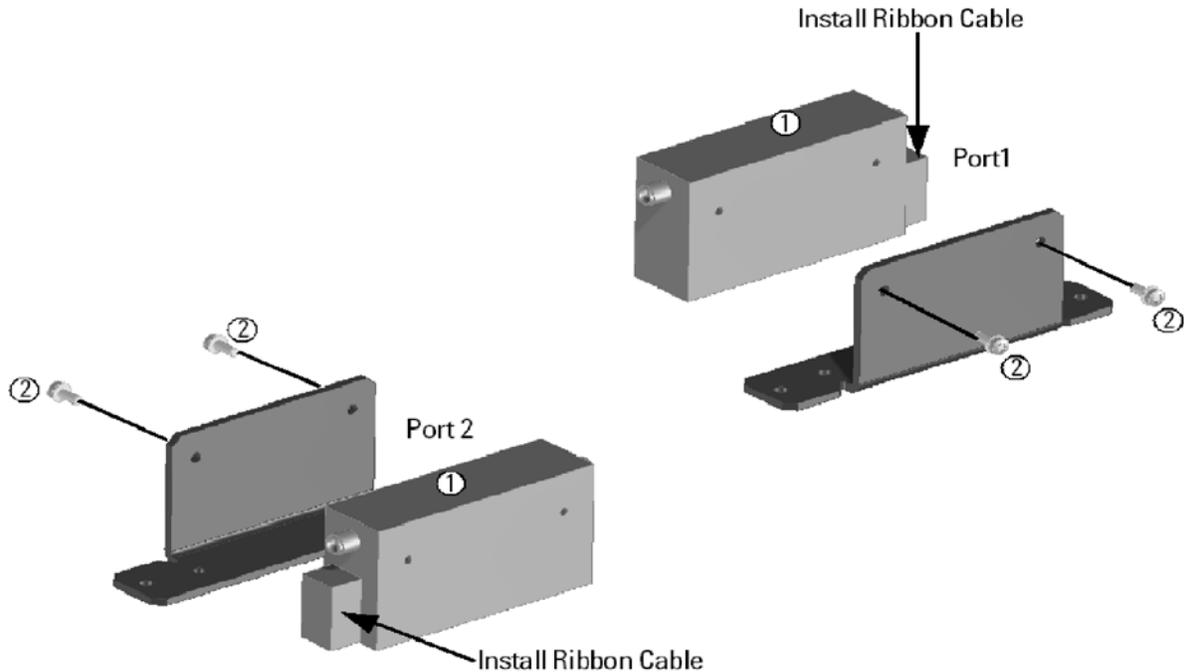
N5235_101_05

Step 7. Install the A29 and A30 Source Attenuator Assemblies

Refer to **Figure 2** for this step of the procedure. New parts are listed in **Table 1 on page 9**.

1. Install both source attenuator assemblies to the deck as shown, using two screws (0515-0372) with each assembly. Use a T-10 TORX driver set to 9 in-lbs to tighten all screws.

Figure 2   Source Attenuators Installation
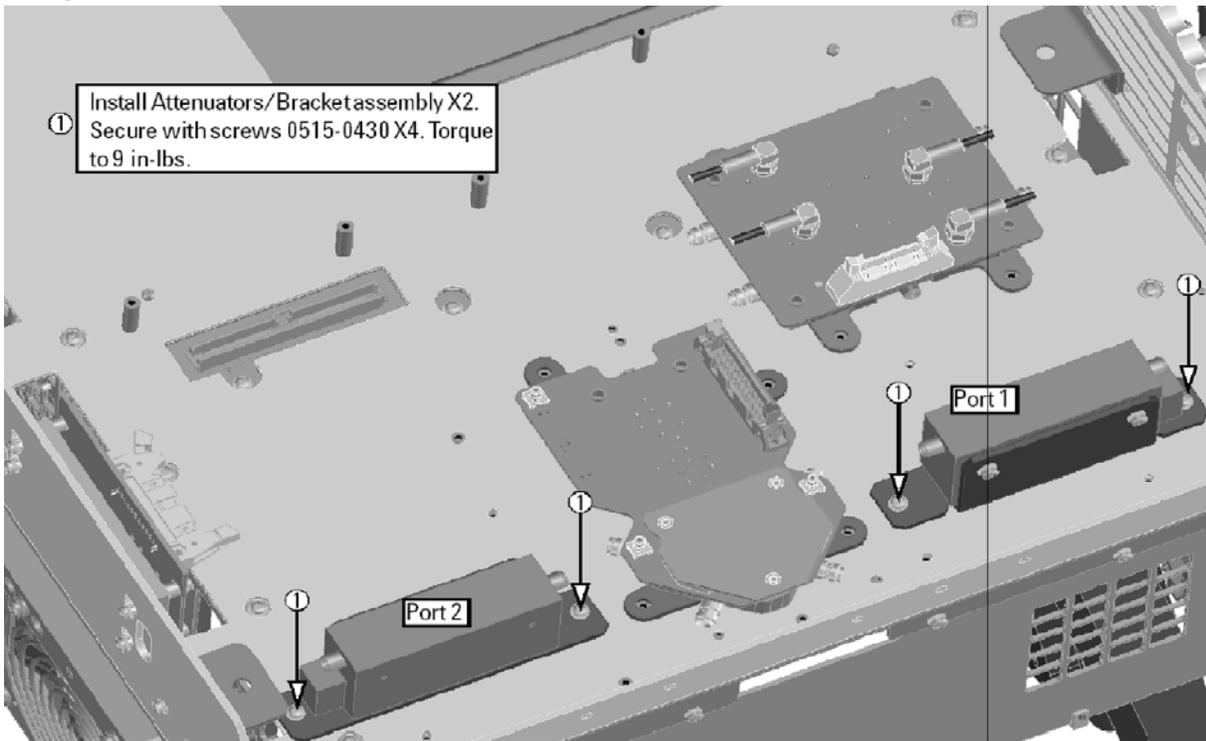
Step 8. Install the Cables

CAUTION   Follow instructions carefully when making cable connections, especially wire harness connections. Incorrect connections can destroy components, resulting in additional customer costs.

CAUTION   Be careful not to damage the center pins of the semi-rigid cables. Some flexing of the cables may be necessary but do not over-bend them.

CAUTION   Use a 5/16-in torque wrench set to 10 in-lbs on all cable connections except the front and rear panel bulkhead connectors. On these, use a 9 mm nutsetter or open end torque wrench set to 21 in-lb.

Install the Semi-rigid Cables

To see an image showing the location of these cables, click the Chapter 6 bookmarks "Bottom RF Cables, 2-Port Configuration, Option 216" in the PDF Service Guide[1]. New parts are listed in Table 1 on page 9.

Install the following new cables in the order listed.

—   W19 (N5235-20024) A23 MASS50 to REF 2 SOURCE OUT

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1. See "Downloading the Online PNA Service Guide" on page 7.

* As shown in Figure 3, install one cable clamp (part number 1400-1334) to secure W19 (part number N5235-20024).

Figure 3   Location of Cable Clamps to Secure W19
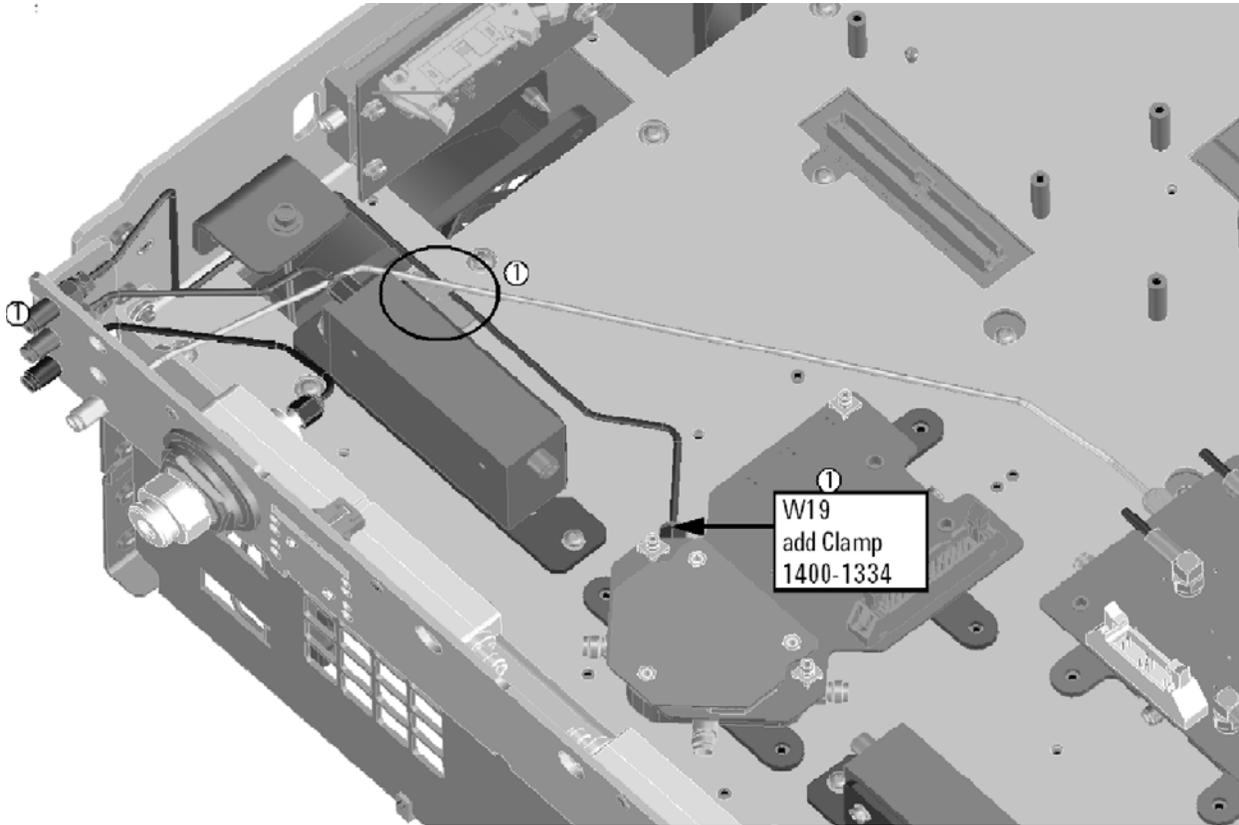
N5235_101_01

— W25 (reuse) (N5235-20040) A4 13.5 GHz Source Synthesizer board to test set deck cable bracket

— W20 (N5235-20032) A28 test port 2 bridge coupler to PORT 2 CPLR ARM

— W14 (N5235-20021) A30 test port 2 source attenuator to PORT 2 SOURCE OUT

— W24 (N5235-20022) A24 mixer brick to PORT 2 RCVR B In

— W16 (N5235-20025) A28 test port 2 bridge coupler to PORT 2 CPLR THRU

— W23 (N5235-20023) A24 mixer brick to REF 2 RCVR R2 In

* As shown in Figure 4, install four cable clamps (part number 1400-1334) to secure W23 (part number N5235-20023).

Figure 4   Location of Cable Clamps to Secure W23

N5235_101_02
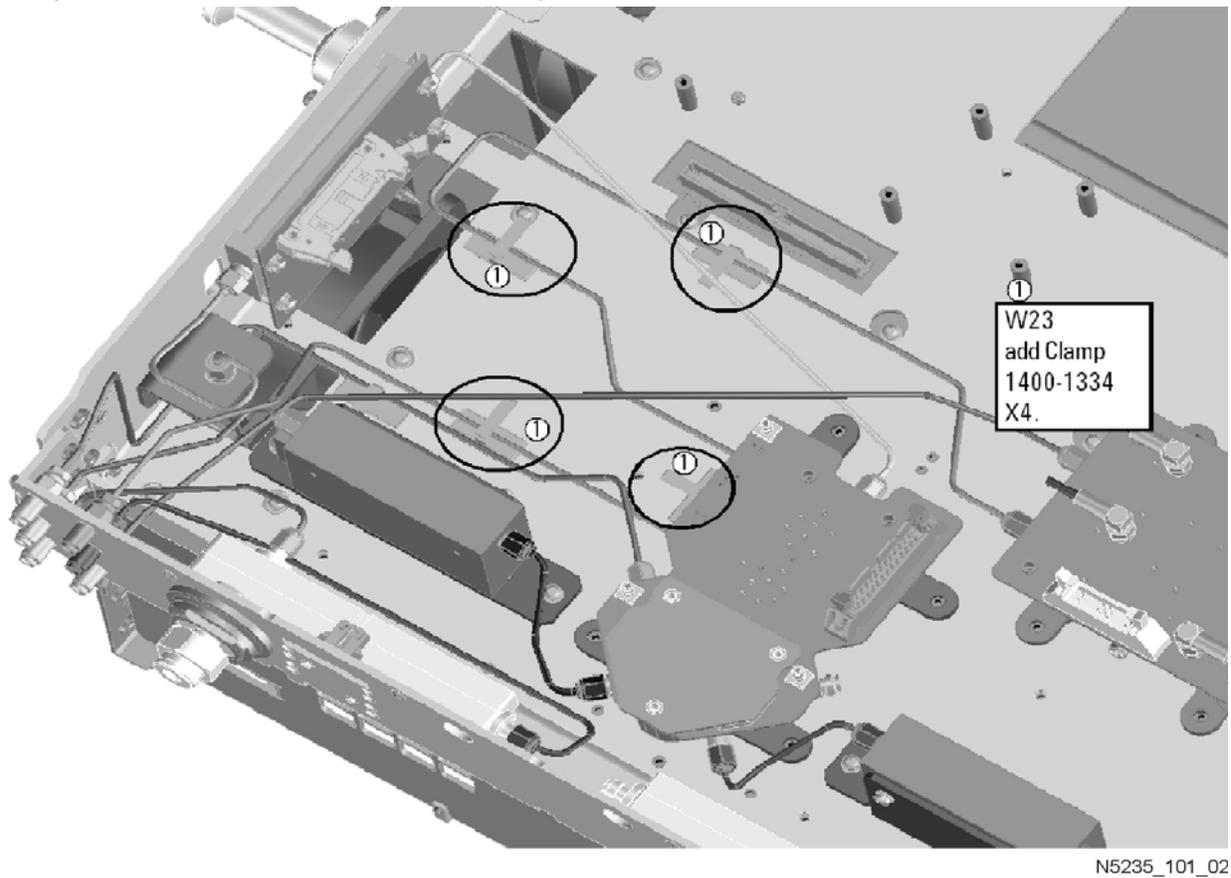
— W12 (N5235-20020) A23 MASS50 to test port 2 source attenuator

— W11 (N5235-20026) A23 MASS50 to A29 test port 1 source attenuator

— W2 (reuse) (N5235-20017) A23 MASS50 to A22 multiplier/amplifier 26.5 (HMA26.5)

— W1 (reuse) (N5235-20019) A22 multiplier/amplifier 26.5 (HMA26.5) to test set deck cable bracket

— W22 (N5235-20029) A24 mixer brick to REF 1 RCVR R1 IN

    * As shown in Figure 5, install one cable clamp (part number 1400-1334) to secure W22 (part number N5235-20029).

Figure 5   Location of Cable Clamps to Secure W22
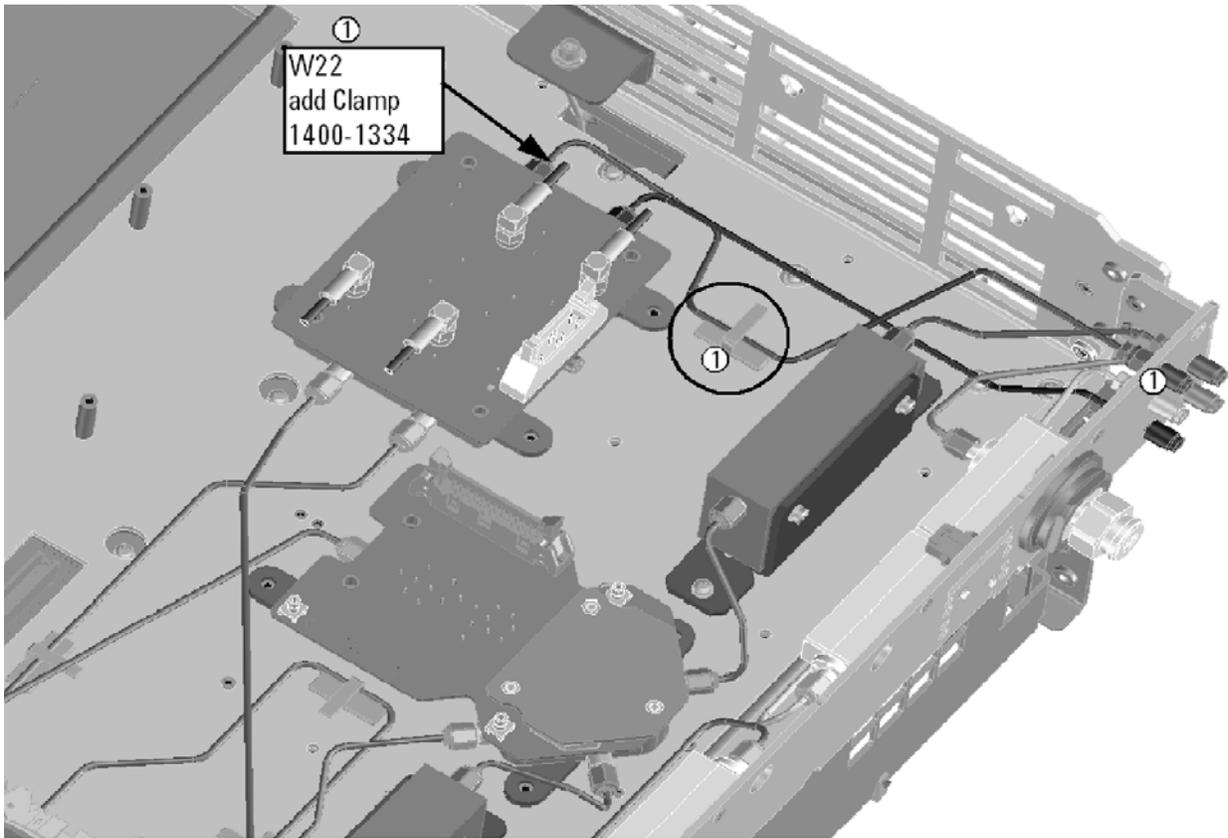
N5235_101_03

- W17 (N5235-20033) A25 test port 1 bridge coupler to PORT 1 CPLR ARM

- W21 (N5235-20028) A24 mixer brick to PORT 1 RCVR A In

- W13 (N5235-20027) A29 test port 1 source attenuator to PORT 1 SOURCE OUT

- W18 (N5235-20030) A23 MASS50 to REF 1 SOURCE OUT

  * As shown in Figure 6, install two cable ties (part number 1400-0249) to secure W18 (part number N5235-20030).

Figure 6   Location of Cable Clamps to Secure W18
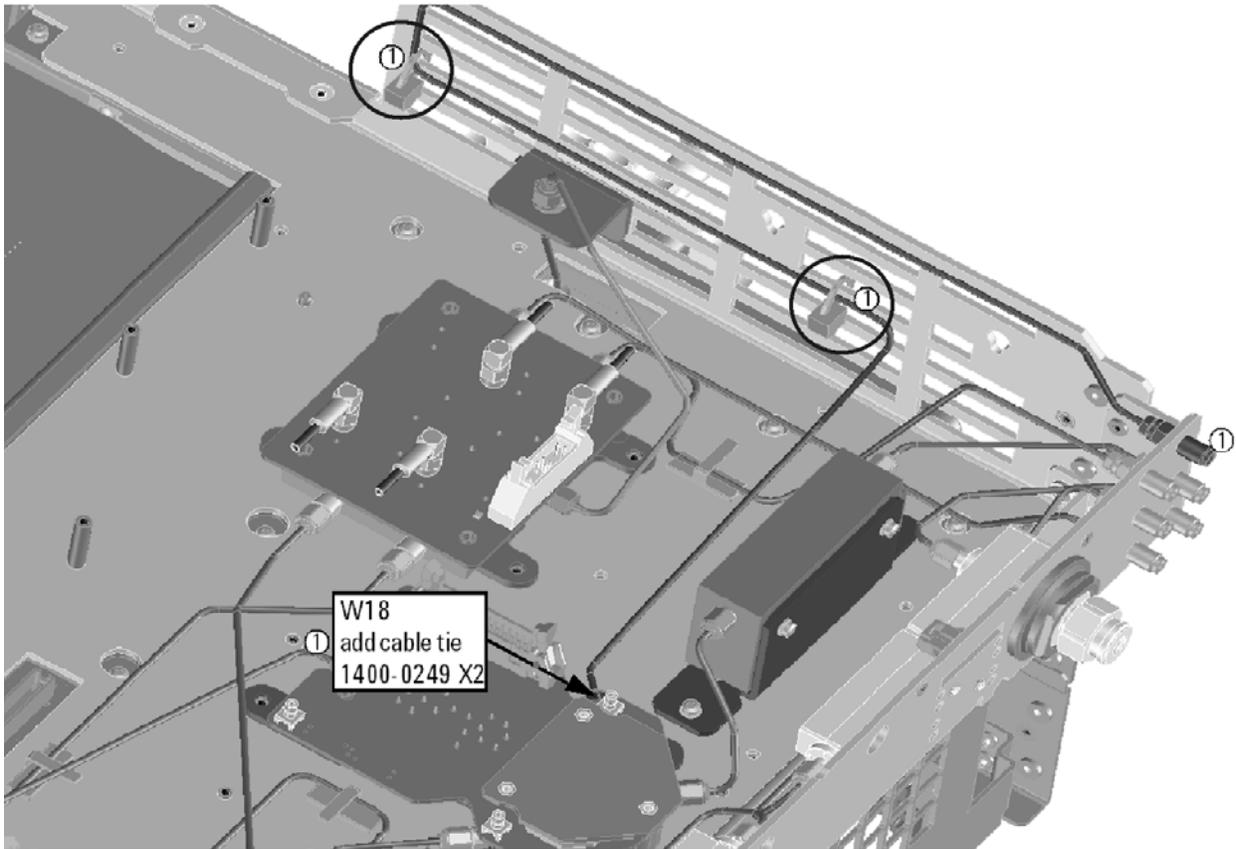
N5235_101_04

— W15 (N5235-20031) A25 test port 1 bridge coupler to PORT 1 CPLR THRU

— W10 (reuse) (N5235-20018) A24 mixer brick to test set deck cable bracket

Install the Wire Harnesses

To see an image showing the location of these wire harnesses, click the Chapter 6 bookmarks "Bottom Ribbon Cables and Wire Harnesses, 2-Port, Option 216" in the PDF Service Guide[1]. New parts are listed in Table 1 on page 9.

If not already done, connect these wire harnesses:

— 8121-0982 A19 test set motherboard J8 to A29 60 dB step attenuator

— 8121-0982 A19 test set motherboard J6 to A30 test port 2 source attenuator

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1. See "Downloading the Online PNA Service Guide" on page 7.

Step 9. Secure the Hex Nuts on the Front Panel Bulkhead Connectors

Some of the new cables that were installed in the previous step connect to the front panel bulkhead. These cables were shipped with hex nuts. If not already done, secure the cable connectors to the front panel bulkhead with the hex nuts, torquing to 21 in-lbs.

Step 10. Remove the Old Lower Front Panel Overlay

Refer to Figure 6-1 for this step of the procedure. Although a 4-port PNA is shown in the graphic, the concept is the same for the 2-port PNA. New parts are listed in Table 1 on page 9.

1. From the back side of the front panel, use a blunt object in the cutouts in the lower front dress panel to push on the old overlay (item ①) and separate it from the front dress panel.

2. From the front side of the front panel, pull off the overlay completely and discard it.

3. Remove any adhesive remaining on the front panel.

> **NOTE**
>
> **IMPORTANT!** To avoid possible damage to the lower front panel overlay, do not attempt to attach the lower front panel label until "Step 12. Install the New Lower Front Panel Overlay" on page 23.

Figure 6-1   Lower Front Panel Overlay Replacement
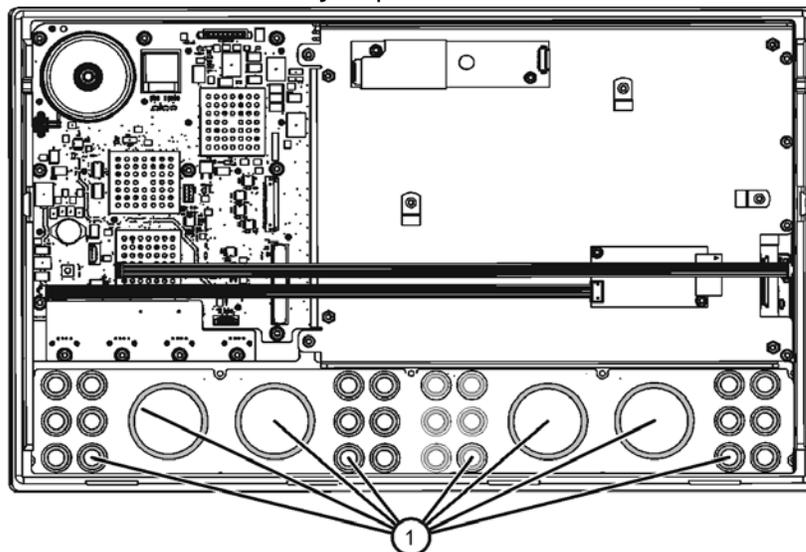
Old lower front-panel overlay visible through
cutouts from rear of front panel.
Push here to release old front-panel overlay.

Instrument shown may be
different from yours but the
procedure is the same.
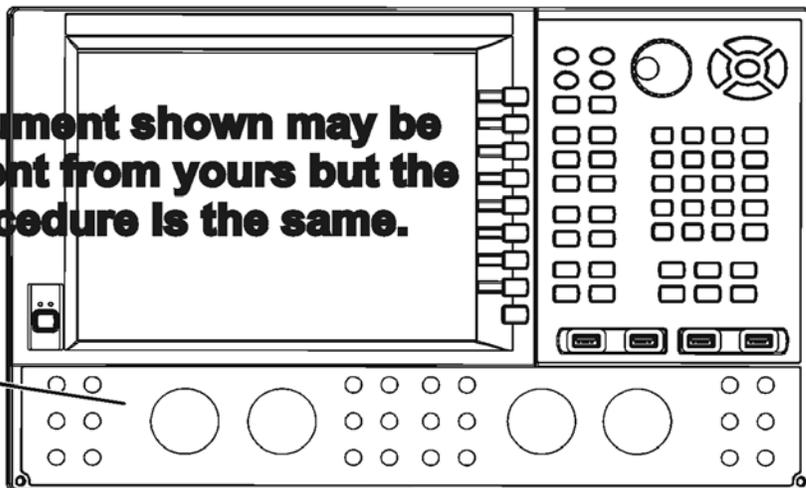
New lower front-panel
overlay.
Align loosely to opening
before pressing firmly.

N5225_105_04

Step 11. Reinstall Front Panel Assembly

Refer to Figure 7 for this step of the procedure.

Figure 7   Front Panel Assembly Installation

① Reinstall screws 0515-1946 X2 to front panel. Do not torque.

② Torque front panel screws in sequence shown in the circles on the left and right sides. Torque to 21 in-lbs. (X12)

③ Torque step 1 screws to 9 in-lbs.
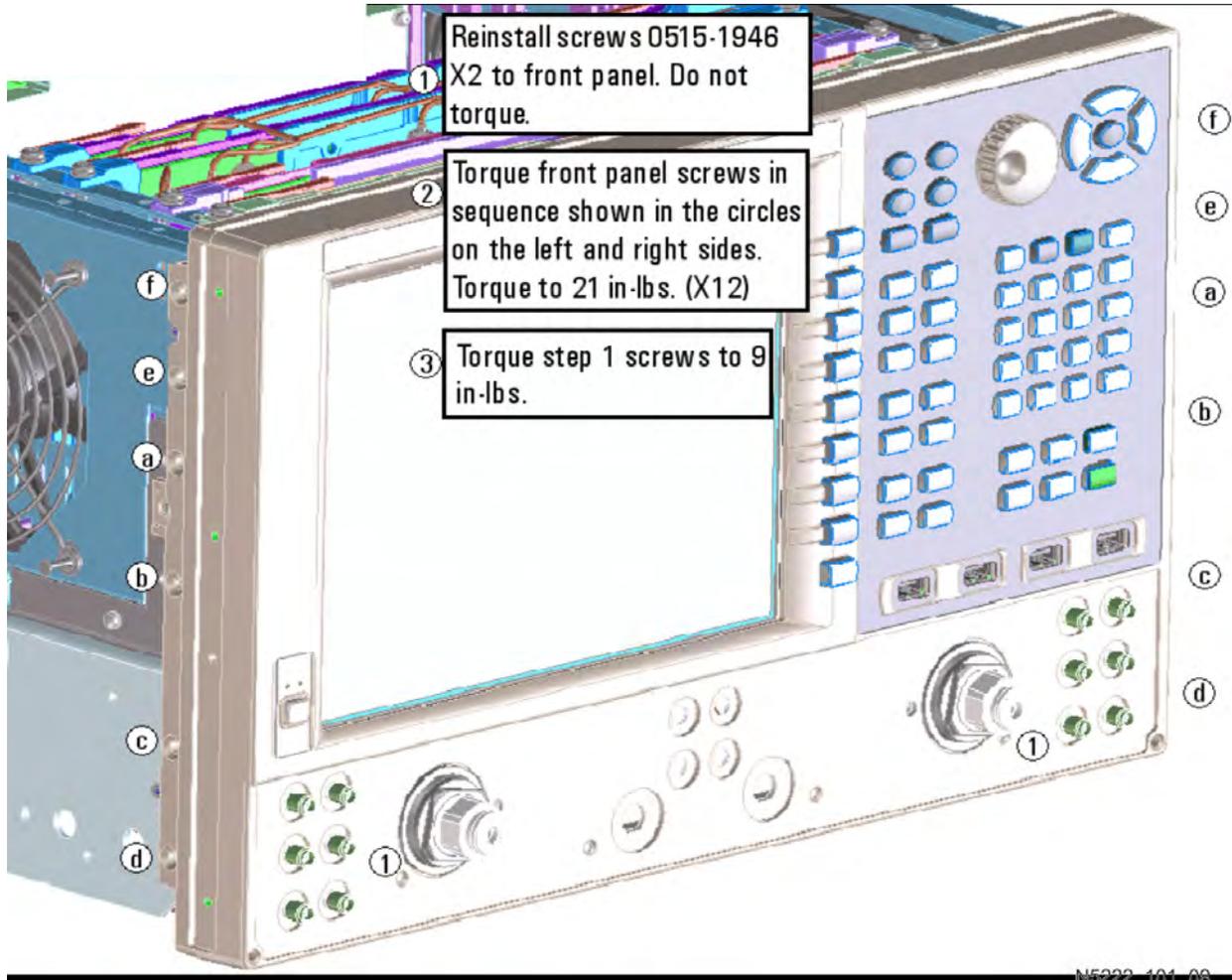
N5222_101_08

## Step 12. Install the New Lower Front Panel Overlay

Refer to Figure 6-1 on page 21 for this step of the procedure. Although a
4-port PNA is shown in the graphic, the concept is the same for the 2-port
PNA. New parts are listed in Table 1 on page 9.

1. Remove the protective backing from the new front panel overlay,
   N5245-00001 (item ②).

2. Starting from either side, **loosely** place the overlay in the recess on the
   lower front panel, ensuring that it fits tightly against the edges of the
   recess.

3. Once the overlay is in place, press it firmly onto the frame to secure it.

Step 13. Install Front Panel Jumpers

As shown in Figure 8, install six front panel jumper cables (part number
N5245-20155). Torque to 10 in-lbs.

Figure 8   Front Panel Jumper Cables Installation
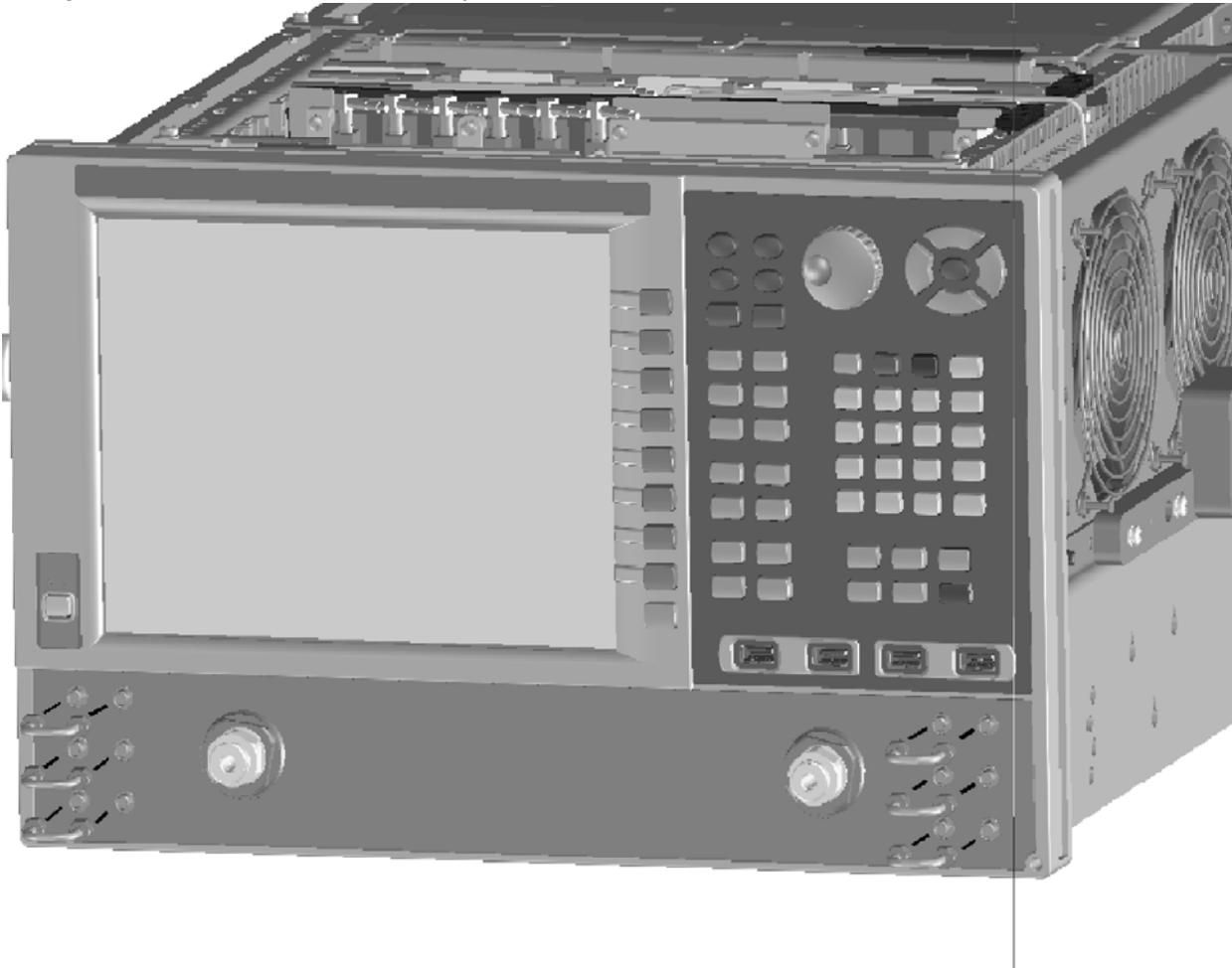
N5232_101_05

Step 14. Reinstall the Inner Cover

For instructions, click the Chapter 7 bookmark "Removing the Covers" in the PDF Service Guide[1].

Step 15. Reinstall the Outer Cover

For instructions, click the Chapter 7 bookmark "Removing the Covers" in the PDF Service Guide[1].

Step 17. Remove Option 200 License

Procedure Requirements

— The analyzer must be powered up and operating to perform this procedure.

— The Network Analyzer program must be running.

— A keyboard and mouse must be connected to the network analyzer.

A Model Option 200 License Removal Procedure

For B models, refer to "B Model Option 200 License Removal Procedure."

1. To start the option enable utility, press UTILITY System , then Service , then Option Enable . An option enable dialog box will appear.

2. Click the arrow in the **Select Desired Option** box. A list of available options will appear.

3. In the **Select Desired Option** list, click **200**.

4. Click **Remove**.

5. Click **OK** to confirm that you want to remove the license for the selected option.

6. Click **Yes** in answer to the displayed question in the **Restart Analyzer?** box.

B Model Option 200 License Removal Procedure

For A models, refer to "A Model Option 200 License Removal Procedure."

1. To start the Keysight License Manager, press **Start > Keysight License Manager > Keysight License Manager**. A Keysight License Manager dialog box will appear.

2. Right click the on the desired option and click **Delete**.

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1. See "Downloading the Online PNA Service Guide" on page 7.

3. In the Select Desired Option list, click **200**.

4. In the Keysight License Manager dialog box that appears, press or click **Yes** to confirm delete.

5. A message displays stating that the option removal was successful.

Step 17. Enable Options 216

Procedure Requirements

—   The analyzer must be powered up and operating to perform this procedure.

—   The Network Analyzer program must be running.

—   Refer to the license message you received from Keysight: Verify that the analyzer's model and serial numbers match those on the license message you received from Keysight.

—   A keyboard and mouse must be connected to the network analyzer.

For "A" models, refer to "Option Enable Procedure for "A" Model Instruments" on page 25.

For "B" models refer to "Option Enable Procedure for "B" Model Instruments " on page 26.

Option Enable Procedure for "A" Model Instruments

1. To start the option enable utility, press UTILITY `System` , then `Service` , then `Option Enable` . An option enable dialog box will appear.

2. Click the arrow in the **Select Desired Option** box. A list of available options will appear.

3. In the **Select Desired Option** list, click **216 - Configurable Test Set**.

4. Using the keyboard, enter the license key in the box provided. The license key is printed on the license message you received from Keysight. Enter this key *exactly* as it is printed on the message.

5. Click **Enable**.

6. Click **Yes** in answer to the displayed question in the **Restart Analyzer?** box.

7. When the installation is complete, click **Exit**.

"A" Model Option Verification Procedure

Once the analyzer has restarted and the Network Analyzer program is again running:

1. On the analyzer's **Help** menu, click **About Network Analyzer**.

2. Verify that "216" is listed after "Options:" in the display. Click **OK**.

NOTE	If if the option(s) have not been enabled or if Option 200 has not been removed, contact Keysight Technologies. Refer to "Getting Assistance from Keysight" on page 4.

Option Enable Procedure for "B" Model Instruments

NOTE	For this step, you will need a USB flash drive.

1. Locate the email(s) from Keysight which contain license file attachments.

2. Copy the license file(s) from the email(s) to the root directory of the USB flash drive.
   More than one license file may be copied to the USB flash drive.

NOTE	A single license file may contain more than one feature.

3. Connect the USB flash drive to the PNA, within 5 seconds, the PNA should display a small "New licenses installed" message.

   Else, load the license key file(s), manually move your license file(s) to `C:\Program Files\Agilent\licensing`. It may take Keysight License Manager an extra ~5 seconds to enable the licenses.

NOTE	Attempting to re-install a license file that is already installed may generate a "Corrupt Media" error message. Ignore this message.

4. Disconnect the USB flash drive from the PNA.

5. On the analyzer, click or press to open the KLM software from your PNA's Windows taskbar by pressing **Start** > **More Programs** > **Keysight License Manager folder** > **Keysight License Manager** and verify the options are correct.

"B" Model Option Verification Procedure

Once the Network Analyzer program is again running:

1. Start the Network Analyzer program.

2. Once the Network Analyzer program is running:

> — Press **Help** > **About NA** and verify that Option 216 is listed in the PNA application.

NOTE	If the option(s) not been enabled or Option 200 has not been disabled, contact Keysight Technologies. Refer to "Getting Assistance from Keysight" on page 4.

3. After successful installation of all upgrades, some features require some adjustments to ensure the instrument meets its specified performance. Refer to the following Web site: http://na.support.keysight.com/pna.

Step 18. Perform Post-Upgrade Adjustments and Calibration

Adjustments

The following adjustments must be made due to the hardware changes of the analyzer.

— source adjustment

— IF gain adjustment

— receiver characterization

— receiver adjustment

— IF Response adjustment (For A model: Options 090, 093, or 094 Only. For B models: Options S93090xA, S93093A, or S93094A Only.)

These adjustments are described in the PNA Service Guide and in the PNA on-line HELP. A list of equipment required to perform these adjustments is also found in the service guide.

To view this service guide information, click the Chapter 3 bookmark "Tests and Adjustments" in the PDF Service Guide[1].

After the specified adjustments have been performed, the analyzer should operate and phase lock over its entire frequency range.

Operator's Check

Perform the Operator's Check to check the basic functionality of the analyzer. For instructions, click the Chapter 3 bookmark "Tests and Adjustments" in the PDF Service Guide[1].

If you experience difficulty with the basic functioning of the analyzer, contact Keysight. Refer to "Contacting Keysight" on page 4.

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1. See "Downloading the Online PNA Service Guide" on page 7.

Calibration

Although the analyzer functions, its performance relative to its specifications has not been verified. It is recommended that a full instrument calibration be performed using the analyzer's internal performance test software. To view information on the performance test software, click the Chapter 3 bookmark "Tests and Adjustments" in the PDF Service Guide[1].

Step 19. Prepare the PNA for the User

1. If necessary, reinstall front jumper cables.

2. Install the cable guards, pushing them over the front jumper cables until the cushioning material touches the front panel of the PNA.

3. Install the dust caps on the test ports.

4. Clean the analyzer, as needed, using a damp cloth.

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