

Instructions



WCA2UP-03 & RSA3UP-03 IQ Input Function

WCA230A & WCA280A

Portable Wireless Communication Analyzers

RSA3303A & RSA3308A

Real-Time Spectrum Analyzers

075-1268-01

Warning

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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Kit Description

This kit provides parts and instructions to replace the A10 A/D board and add Option 03 (IQ input function) to your WCA230A and WCA280A Portable Wireless Communication Analyzers or RSA3303A and RSA3308A Real-Time Spectrum Analyzers.

Products

WCA230A and WCA280A without Option 03
RSA3303A and RSA3308A without Option 03

Minimum Tool and Equipment List

Required tools and equipment	Description
Screwdriver handle	Accepts Phillips-driver bits
#1 Phillips tip	Phillips-driver bit for #1 size screw heads
#2 Phillips tip	Phillips-driver bit for #2 size screw heads

Kit Parts List

Fig. & index number	Quantity	Part number	Description
606-0140-00			
1-1	1 ea	671-B158-55	CIRCUIT BD ASSY:A10
1-2	4 ea	131-6607-00	CON,RF,JACK:BNC
1-3	4 ea	174-B980-00	CABLE ASSY,RF:50OHM,COAX
1-4	8 ea	211-0871-00	SCREW,MACHINE:M3X6MM L
1-5	16 ea	211-A151-00	SCREW,MACHINE:M2.5X6MM L
1-6	1 ea	334-1377-50	MARKER, IDENT
1-7	1 ea	075-1268-00	INSTRUCTION MANUAL, WCA2UP-03 & RSA3UP-03

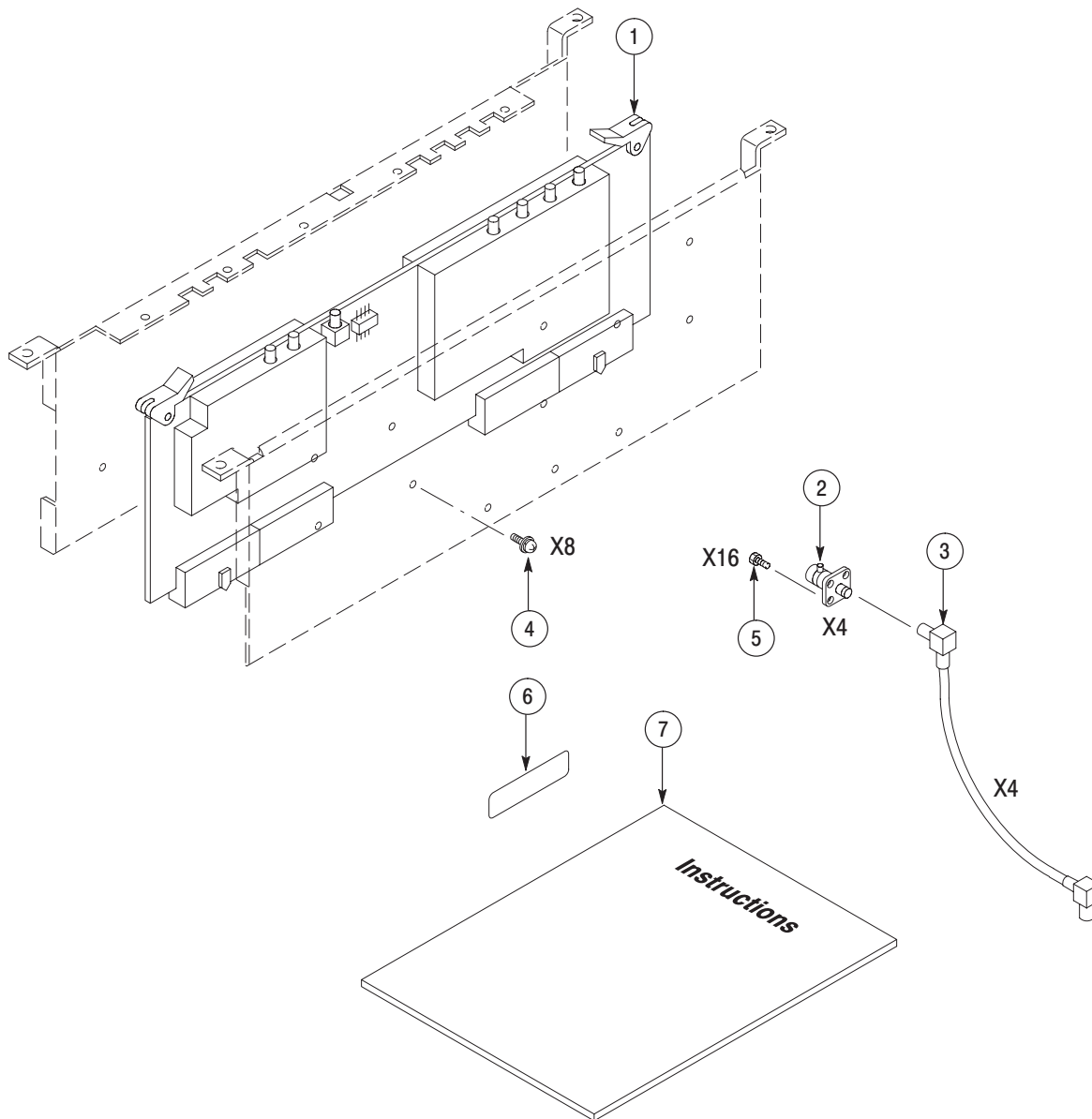


Figure 1: Kit parts

Installation Instructions

These instructions are for personnel who are familiar with servicing the product. If you need further details for disassembling or reassembling the product, refer to the *WCA230A and WCA280A Service Manual* (Tektronix part number 071-1257-00) or the *RSA3303A and RSA3308A Service Manual* (Tektronix part number 071-1412-XX).



CAUTION. *To prevent static discharge damage, service the product only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing this kit.*

These installation instructions consist of four main processes:

- Replacing the A10 A/D board
- Installing the I and Q input connectors
- Enabling the IQ input function
- Calibrating the analyzer

Replacing the A10 A/D Board

Perform the following procedure to replace the A10 A/D board.

Removing the Cabinet

You will need a Phillips #2 screwdriver.

1. Disconnect all external cables and the power cord from the analyzer.
2. Remove the one screw securing the rear foot over the cabinet to the rear panel at each corner.
3. Remove the center two screws securing the cabinet to the rear panel.
4. Slide the cabinet backward. As you remove the cabinet, take care not to bind or snag it on the analyzer's internal cabling.

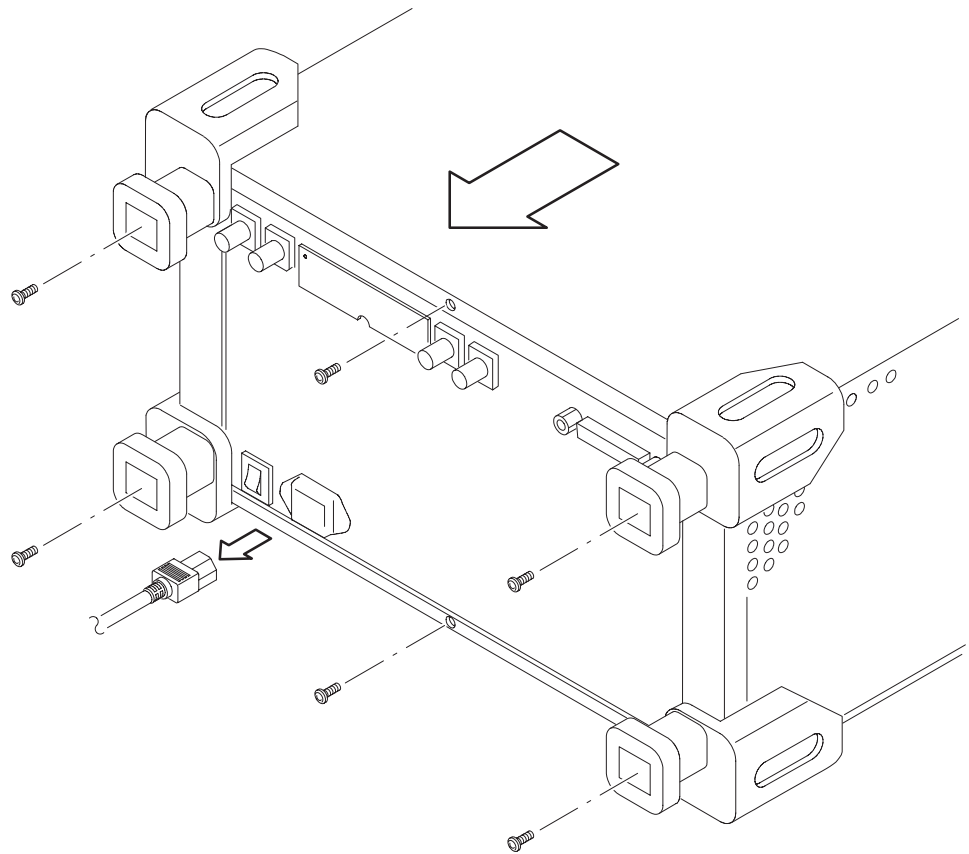


Figure 2: Cabinet removal

Removing Old A10 Board

You will need a Phillips #2 screwdriver.

1. Locate the A10 A/D board in Figure 3 (top view of the card cage) below.

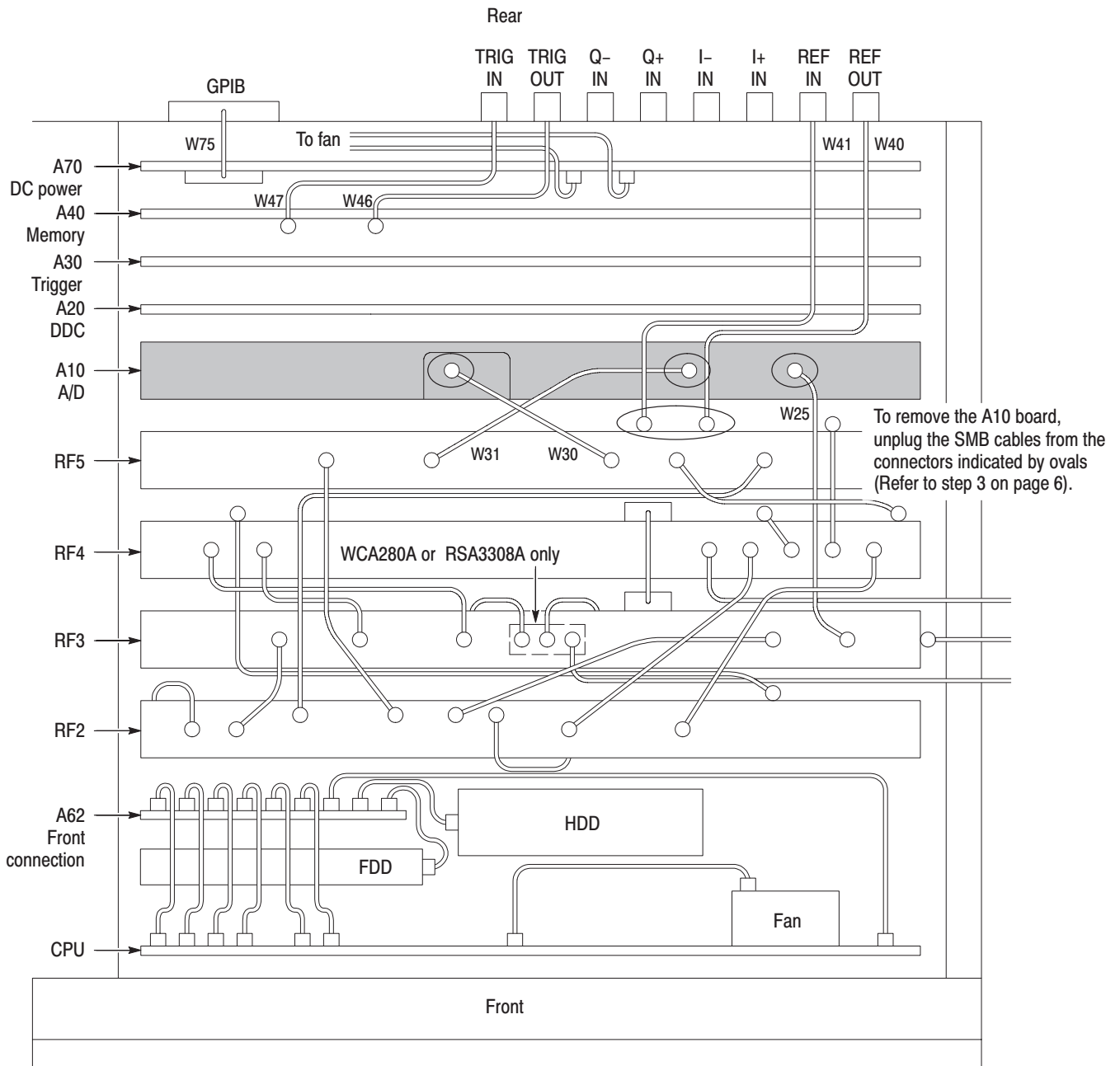


Figure 3: Top view of the card cage

2. *Remove the board support bracket:* See Figure 4 below.
Remove the two screws securing the board support bracket to the rear support bracket and the RF5 module. Lift the board support bracket away.

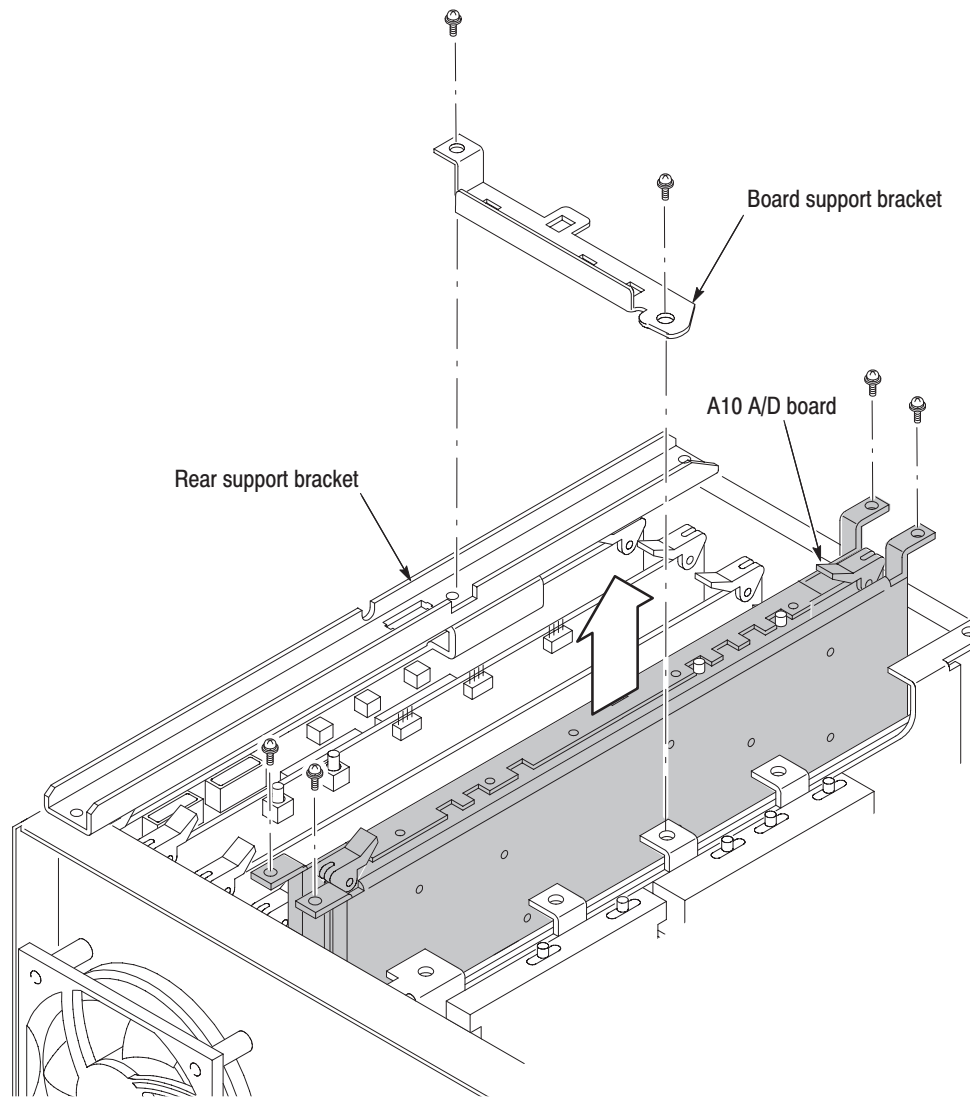


Figure 4: Removing the A10 A/D board

3. *Disconnect cables to access the A10 A/D board:* See Figure 3 on page 5.
 - a. Unplug the SMB cables W40 (RF OUT) and W41 (RF IN) from the RF5 module.
 - b. Unplug the SMB cable W30 and W31.

4. *Remove the A10 A/D board:* See Figure 4 on page 6.
 - a. Remove the two screws securing the front shield bracket to the main chassis.
 - b. Remove the two screws securing the back shield bracket to the main chassis.
 - c. Lift up the A10 board with the shield brackets from the main frame.
5. *Remove the shield brackets:* (See Figure 5 below.)
 - a. Remove the 8 screws securing the front shield bracket to the A10 board to detach the bracket.
 - b. Remove the 9 screws securing the back shield bracket to the A10 board to detach the bracket.

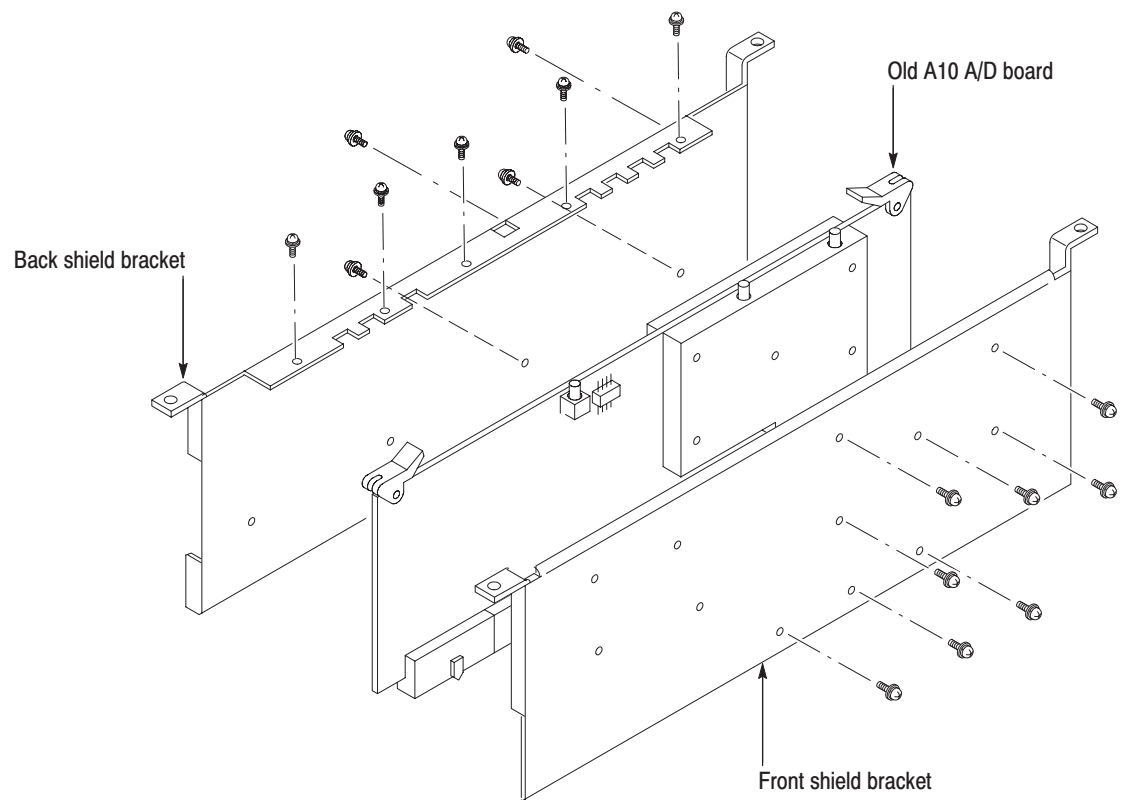


Figure 5: Detaching the shield brackets

Installing New A10 Board

You will need a Phillips #2 screwdriver.

1. *Attach the shield brackets:* See Figure 6 below.
 - a. Secure the back shield bracket to the new A10 board with 13 screws (Tektronix part number 211-0871-00). Use the screws included in this kit additionally.
 - b. Secure the front shield bracket to the A10 board with 12 screws (the same screws as substep a above).

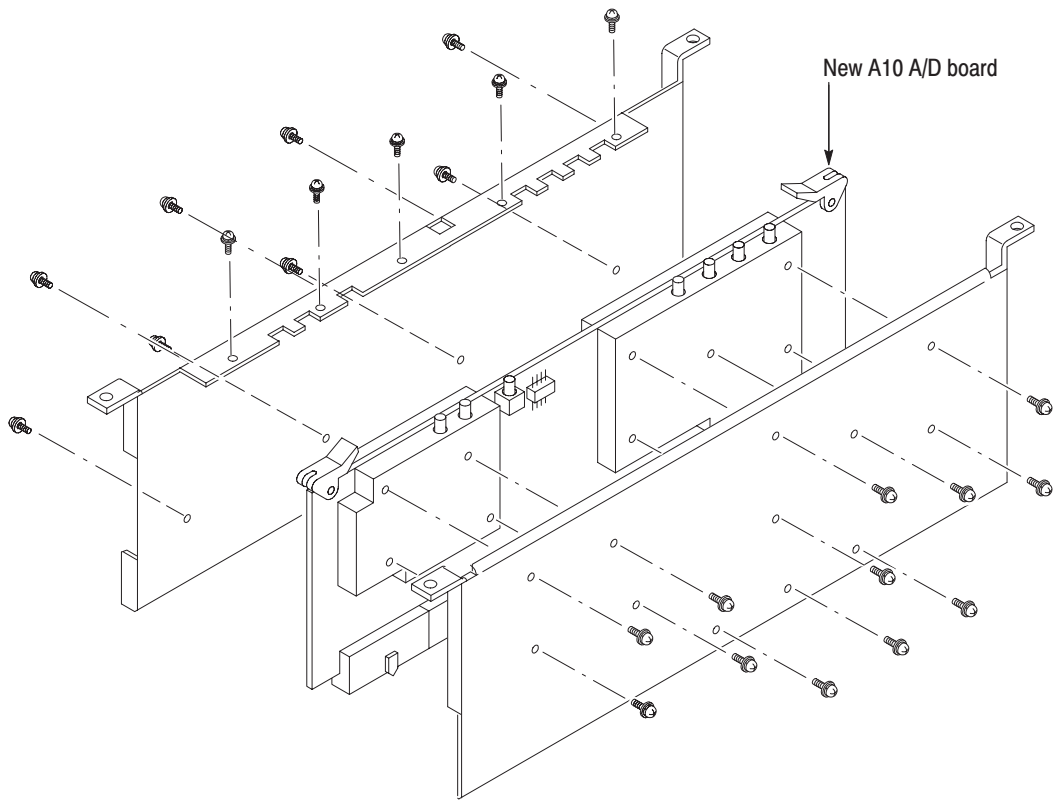


Figure 6: Attaching the shield brackets

2. Reverse step 4 on page 7 to install the new A10 board with the shield brackets to its slot.
3. Reverse step 3 on page 6 to reconnect the cables.

Installing the I and Q Input Connectors

Perform the following procedure to attach four BNC-SMB connectors on the rear panel for the I and Q input.

Attaching BNC-SMB Connectors

You will need a Phillips #1 screwdriver.

1. *Remove the blank panel:* See Figure 7 below.
Using a Phillips #1 screwdriver, remove the two screws securing the blank panel to the rear panel.

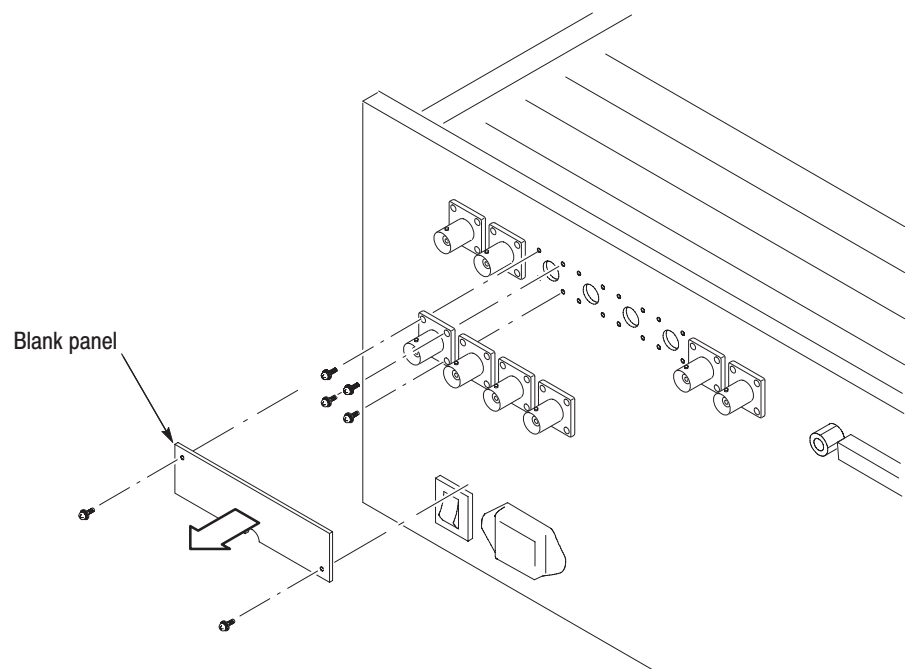


Figure 7: Installing the IQ input connectors

2. *Attach the BNC-SMB connectors:* See Figure 7.
Using a Phillips #1 screwdriver, attach the four BNC-SMB connectors (Tektronix part number 131-6607-00) with the four screws (Tektronix part number 211-A151-00) each.

Connecting SMB Cables

You will need a Phillips #2 screwdriver.

1. *Remove the rear panel:* See Figure 8 below.
Using a Phillips #2 screwdriver, remove the two screws securing the rear panel to the main chassis.

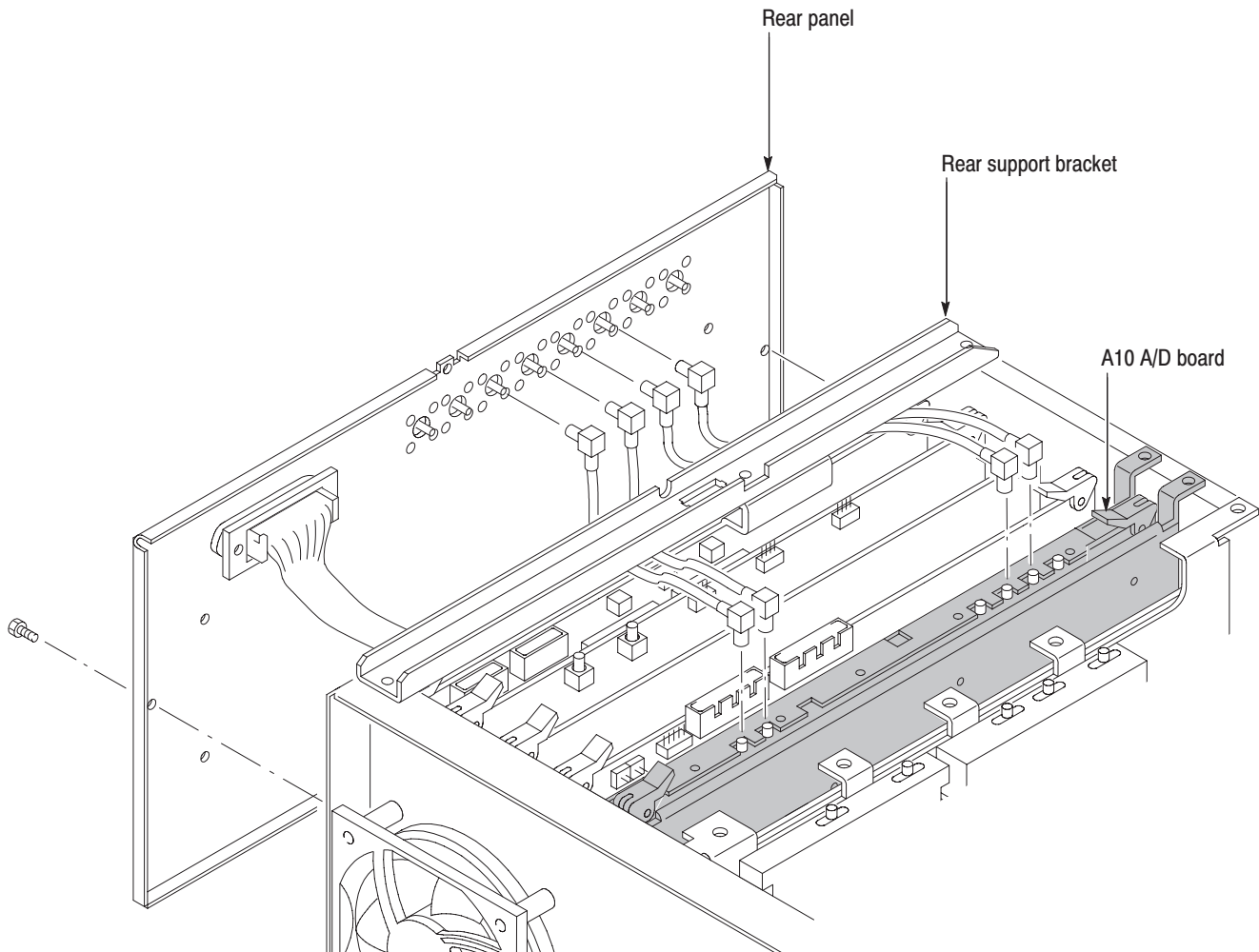


Figure 8: Connecting SMB cables

2. Move the rear panel backward gently until you can plug the SMB cables to the IQ input connectors.
3. Connect the SMB cables (Tektronix part number 174-B980-00) W42, W43, W44, and W45, as shown in Figure 9, from the connectors attached in the previous step to those on the A10 A/D board.

NOTE. Pass the cables under the rear support bracket (see Figure 8 on page 10).

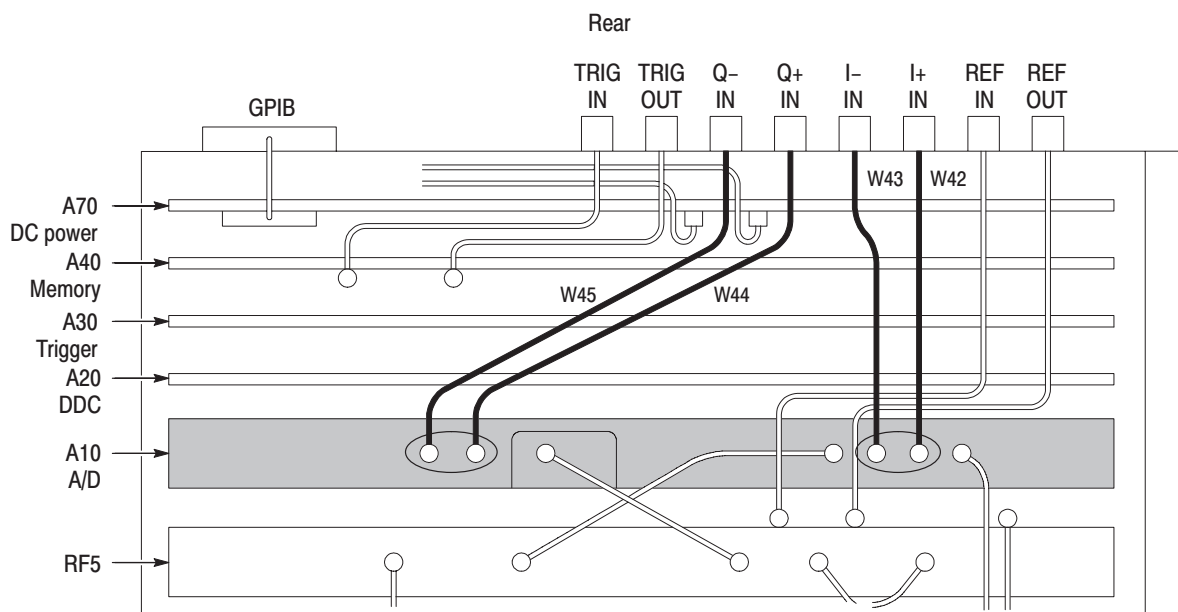


Figure 9: Connecting the IQ input (top view)

Reassembling Modules

1. Reinstall the rear panel by reversing step 1 on page 10.
2. Reinstall the board support bracket by reversing step 2 on page 6.
3. Reinstall the cabinet by reversing steps 1 through 4 on page 4.

Attaching the ID Label

After you finish the A10 A/D board and the IQ input connector installation, attach the ID label (supplied with this upgrade kit) onto the rear panel of the analyzer. Figure 10 shows the location for the label.

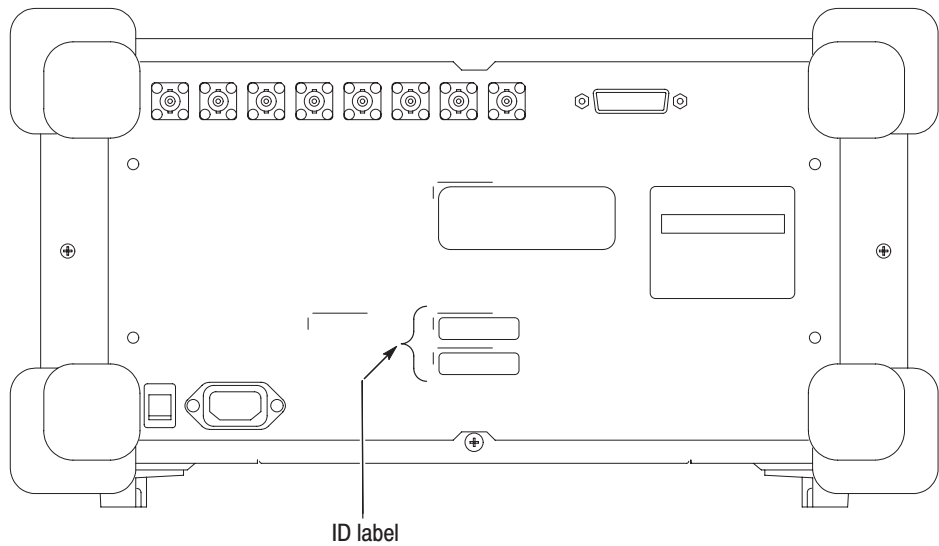


Figure 10: ID label location (rear panel)

Enabling the IQ Input Function

Edit the *Option.cal* file on the analyzer to enable the IQ input function using the following procedure.

1. Turn on the analyzer.
2. Connect a USB mouse and a USB keyboard to the USB ports on the analyzer side panel. You can connect them to either or both ports. You can also connect the mouse to the USB port on the keyboard.

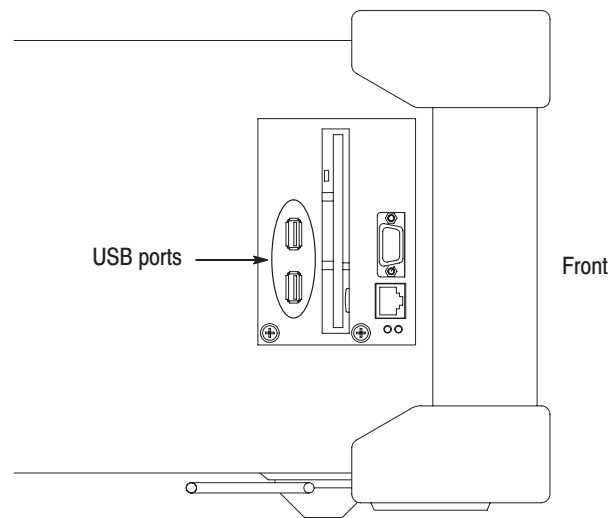
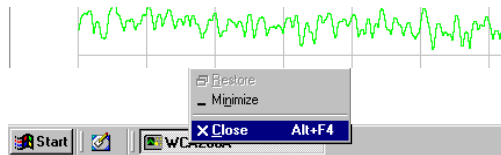


Figure 11: USB ports (side panel)

3. *Display the Windows 98 desktop on the analyzer screen:*
 - a. With the mouse, move the pointer to the bottom of screen. The task bar appears.
 - b. Place the pointer on the icon indicating the analyzer model name (WCA230A, WCA280A, RSA3303A, or RSA3308A) located on the task bar, and click on it with the right button of the mouse. A menu opens.



- c. Select **C**lose from the menu.
The analyzer system program stops, and the Windows 98 desktop displays.
4. *Edit the Option.cal file:*
 - a. Open the file *D:__RtsaCalData__\Option.cal* using Windows Notepad.
 - b. Add "03" to the line "Option=" as the following examples:
Examples:
"Option=" to "Option=03"
"Option=02,1R" to "Option=02,1R,03"
 - c. Save the *Option.cal* file.
5. Close all the windows on the desktop.
6. Turn off the analyzer.

Verifying Operation

1. Turn on the analyzer.
2. Press the **SYSTEM** key on the front panel.
3. Press the **Versions and Installed Options...** side key.
4. Check that Option 03 is added in the installed options list on screen (see Figure 12 below).

The screenshot shows the Tektronix WCA 280A analyzer interface. At the top, it displays 'Tektronix WCA 280A', the date and time '03/07/28 14:13:14', and 'FREE RUN'. Below this, it shows measurement parameters: Frequency: 1.5 GHz, Span: 15 MHz, Input Att: 20 dB, RBW: 80 kHz, Trace 1: (Normal), and Trace 2: (Off). The main display area contains the following text:

WCA280A Wireless Communication Analyzer
Copyright (C) Tektronix Japan, Ltd. All rights reserved.

Serial Number: A003
Main System: 1.2
Sub System: 1.4

Option	Version	Description	Option Key
02		256 Mbyte Data Memory with Extended Trigger	Not Required
03		IQ Input Function	Not Required
22	1.2	W-CDMA-DL	Present
23	1.2	W-CDMA-UL	Present
24	1.2	GSM/EDGE	Present

Below the table, it shows: Python 2.0 (#8, Oct 16 2000, 17:27:58) [MSC 32 bit (Intel)] on win32
Copyright (c) 2000 BeOpen.com.
All Rights Reserved.

An arrow points to the row for Option 03 with the text 'Option 03 added'.

Figure 12: Checking the installed option

Calibrating the Analyzer

Perform the auto calibration, referring to *Auto Calibration* located in the *Adjustment Procedures* section of the *WCA230A and WCA280A Service Manual* (Tektronix part number 071-1257-XX) or *RSA3303A and RSA3308A Service Manual* (Tektronix part number 071-1412-XX).

NOTE. *Perform the auto calibration to meet warranted limits and optimize the performance of the analyzer.*

■ End of document ■