



**PRISM
Media Analysis Platform
Field Upgrade
Instructions**



075-1095-00



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Field Upgrade
Instructions**

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Contacting Tektronix

Tektronix, Inc.
14150 SW Karl Braun Drive
P.O. Box 500
Beaverton, OR 97077
USA

For product information, sales, service, and technical support:

- In North America, call 1-800-833-9200.
- Worldwide, visit www.tek.com to find contacts in your area.

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Important safety information

This manual contains information and warnings that must be followed by the user for safe operation and to keep the product in a safe condition.

To safely perform service on this product, additional information is provided at the end of this section. (See page iv, *Service safety summary*.)

General safety summary

Use the product only as specified. Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. Carefully read all instructions. Retain these instructions for future reference.

This product shall be used in accordance with local and national codes.

For correct and safe operation of the product, it is essential that you follow generally accepted safety procedures in addition to the safety precautions specified in this manual.

The product is designed to be used by trained personnel only.

Only qualified personnel who are aware of the hazards involved should remove the cover for repair, maintenance, or adjustment.

Before use, always check the product with a known source to be sure it is operating correctly.

This product is not intended for detection of hazardous voltages.

While using this product, you may need to access other parts of a larger system. Read the safety sections of the other component manuals for warnings and cautions related to operating the system.

When incorporating this equipment into a system, the safety of that system is the responsibility of the assembler of the system.

To avoid fire or personal injury

Use proper power cord. Use only the power cord specified for this product and certified for the country of use.

Do not use the provided power cord for other products.

Power disconnect. The power cord disconnects the product from the power source. See instructions for the location. Do not position the equipment so that it is difficult to operate the power cord; it must remain accessible to the user at all times to allow for quick disconnection if needed.

Use proper AC adapter. Use only the AC adapter specified for this product.

Observe all terminal ratings. To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product.

Do not apply a potential to any terminal, including the common terminal, that exceeds the maximum rating of that terminal.

The measuring terminals on this product are not rated for connection to mains or Category II, III, or IV circuits.

Do not operate without covers. Do not operate this product with covers or panels removed, or with the case open. Hazardous voltage exposure is possible.

Avoid exposed circuitry. Do not touch exposed connections and components when power is present.

Do not operate with suspected failures. If you suspect that there is damage to this product, have it inspected by qualified service personnel.

Disable the product if it is damaged. Do not use the product if it is damaged or operates incorrectly. If in doubt about safety of the product, turn it off and disconnect the power cord. Clearly mark the product to prevent its further operation.

Before use, inspect test leads and accessories for mechanical damage and replace when damaged. Do not use test leads if they are damaged, if there is exposed metal, or if a wear indicator shows.

Examine the exterior of the product before you use it. Look for cracks or missing pieces.

Use only specified replacement parts.

Do not operate in wet/damp conditions. Be aware that condensation may occur if a unit is moved from a cold to a warm environment.

Do not operate in an explosive atmosphere.

Keep product surfaces clean and dry. Remove the input signals before you clean the product.

Provide proper ventilation. Refer to the installation instructions in the manual for details on installing the product so it has proper ventilation.

Slots and openings are provided for ventilation and should never be covered or otherwise obstructed. Do not push objects into any of the openings.

Provide a safe working environment. Always place the product in a location convenient for viewing the display and indicators.

Avoid improper or prolonged use of keyboards, pointers, and button pads. Improper or prolonged keyboard or pointer use may result in serious injury.

Be sure your work area meets applicable ergonomic standards. Consult with an ergonomics professional to avoid stress injuries.

Use only the Tektronix rackmount hardware specified for this product.

Service safety summary

The *Service safety summary* section contains additional information required to safely perform service on the product. Only qualified personnel should perform service procedures. Read this *Service safety summary* and the *General safety summary* before performing any service procedures.

To avoid electric shock. Do not touch exposed connections.

Do not service alone. Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect power. To avoid electric shock, switch off the product power and disconnect the power cord from the mains power before removing any covers or panels, or opening the case for servicing.

Use care when servicing with power on. Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

Verify safety after repair. Always recheck ground continuity and mains dielectric strength after performing a repair.

Terms in this manual

These terms may appear in this manual:



WARNING. *Warning statements identify conditions or practices that could result in injury or loss of life.*



CAUTION. *Caution statements identify conditions or practices that could result in damage to this product or other property.*

Symbols and terms on the product

These terms may appear on the product:

- DANGER indicates an injury hazard immediately accessible as you read the marking.
- WARNING indicates an injury hazard not immediately accessible as you read the marking.
- CAUTION indicates a hazard to property including the product.



When this symbol is marked on the product, be sure to consult the manual to find out the nature of the potential hazards and any actions which have to be taken to avoid them. (This symbol may also be used to refer the user to ratings in the manual.)

The following symbol(s) may appear on the product:



CAUTION
Refer to Manual

Kit description

This document provides instructions for replacing the mezzanine board with the new Eye mezzanine board, upgrading the firmware to version 1.6 (or above), and updating the software license. The kit applies to the following Tektronix instruments:

- PRISM MPI Media Analysis Platform
- PRISM MPX Media Analysis Platform

Supported upgrades

The following hardware upgrades are supported by this document:

- **MPI-UP PHY-12G.** Add SDI Physical Layer Measurement Package to the MPI product; includes automated measurement of 12G/3G/HD/SD-SDI Eye pattern parameters, jitter parameters and jitter waveform display.
(Option MP-FMT-4K required for 12G support)
- **MPX-UP PHY-12G.** Add SDI Physical Layer Measurement Package to the MPX product; includes automated measurement of 12G/3G/HD/SD-SDI Eye pattern parameters and jitter parameters and jitter waveform display.
(Option MP-FMT-4K required for 12G support)

Kit parts list

The following table lists the parts that are supplied with the upgrade kit.

Quantity	Part Number	Description
1	878-1285-XX	ASSEMBLY, CIRCUIT BOARD, 12G EYE MEZZ, 3895134XX
2	211-1117-XX	SCREW, MACHINE; 4-40 X 0.187, PAN HEAD, STEEL, ZINC FINISH, T-10, TORX DR
1	129-1889-XX	SPACER POST .188 HEX X .325L BNC, MEZZ BOARD MOUNTING
1	075-1095-XX	PRISM FIELD UPGRADE INSTRUCTIONS

MPI hardware upgrades

These instructions are for personnel who are familiar with servicing the product. Contact your nearest Tektronix, Inc., Service Center or Tektronix Factory Service for installation assistance.



WARNING. *Dangerous voltages may be present. To prevent electrical shock, disconnect the power cord from the unit before starting the upgrade procedure. Failure to do so could cause serious injury or death.*



CAUTION. *Many components within the instrument are susceptible to static-static discharge damage. 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.*

Recommended tool list

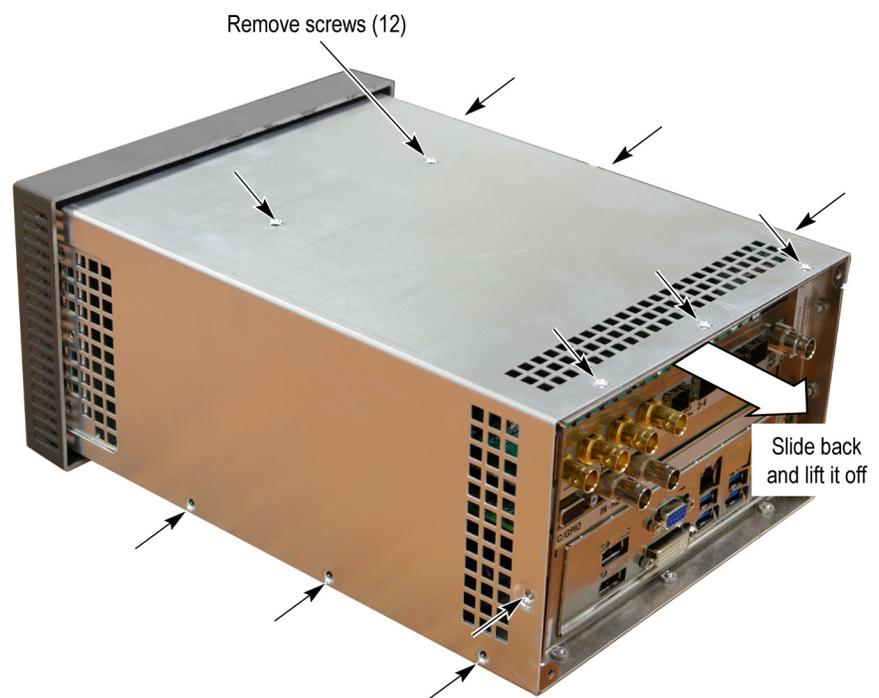
Table 1: Recommended tool list

Name	Description
9/16 inch socket nut driver	Used to removed BNC nuts.
Screwdriver handle	Accepts Torx-driver bits
T-10 TORX tip	Used for removing instrument screws. TORX-driver bit for T-10 size screw heads.
Torque driver	Used to apply precisely a specific torque to a fastener.

Upgrade the PRISM MPI Eye mezzanine board

Complete the following steps to remove the old mezzanine board from the instrument and install the new Eye mezzanine board:

1. Set the instrument so that the bottom is down on a static-free work surface.
2. Remove the top cover as follows:
 - a. Use a TORX-driver with a T-10 TORX tip to remove the twelve screws securing the cover to the instrument.
 - b. Slide the cover back and then lift it from the back to remove it from the instrument; set the cover aside.



1295-005

Figure 1: Remove the cover

3. Refer to the following figure and use the 9/16 inch socket nut driver to remove the two BNC nuts and lock washers closest to the edge of the instrument (SDI IN 1 and 2).

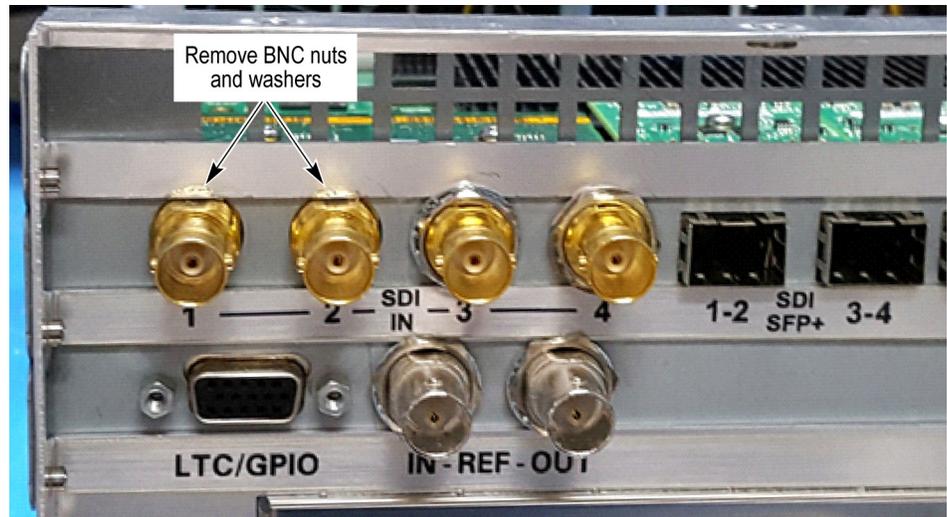


Figure 2: Remove the BNC nuts and lock washers

4. Using the TORX-driver with a T-10 TORX tip to remove the screw from the BNC mezzanine board as shown in the following figure.

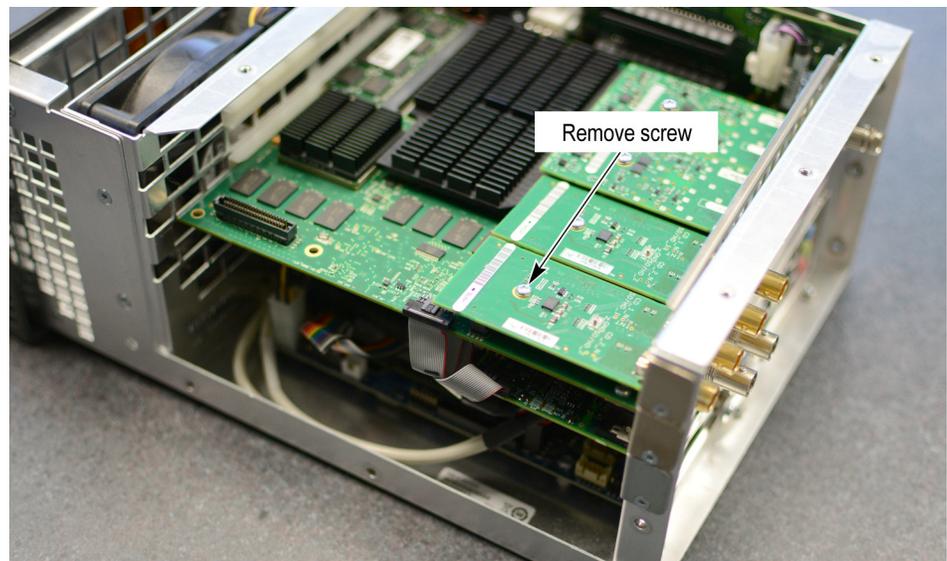


Figure 3: Remove the screw from the BNC mezzanine board

5. Gently lift the back of the BNC mezzanine board from its connector and slide it out of the instrument.



Figure 4: Mezzanine board removed

6. Refer to the following figure and install the screw from the kit (Tektronix part number 211-1117-XX) and the spacer post (Tektronix part number 129-1889-XX) into the hole closest to the front of the instrument using the following method:
 - a. Insert the screw from the bottom of the board and use a finger to hold it in place.
 - b. Install the spacer post over the screw on the board, while keeping a finger on head of the screw; tighten the spacer post.

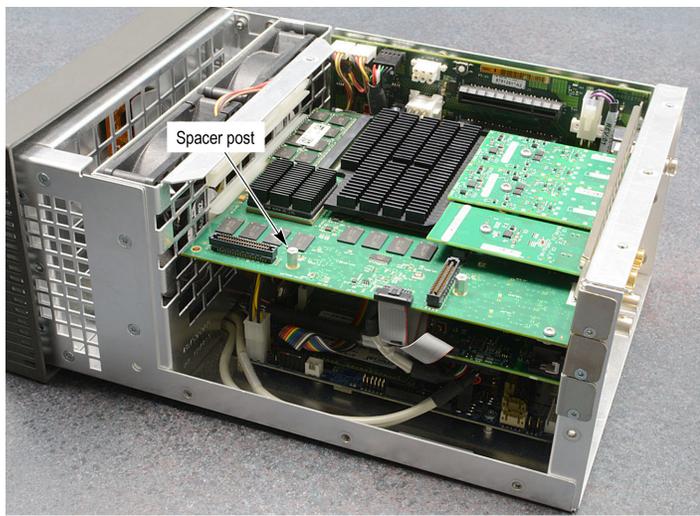


Figure 5: Spacer post installed

7. Locate the new Eye mezzanine board from the kit (Tektronix part number 878-1285-XX).
8. Slide the Eye mezzanine board in at an angle from the side of the instrument as shown in the following figure.

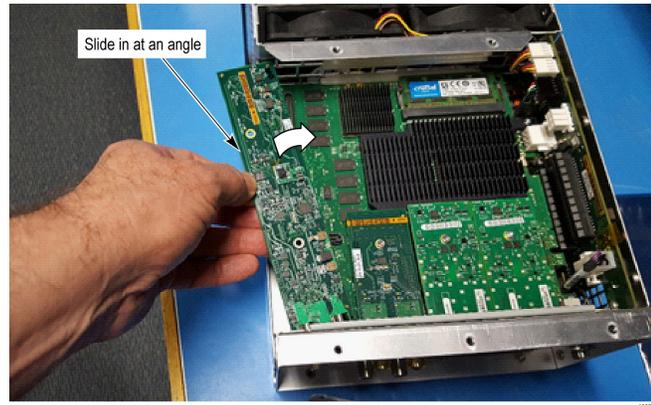


Figure 6: Eye mezzanine board placement

9. Guide the BNC connectors through the back panel and line up the two board connectors with the connectors underneath.



CAUTION. *Bending the Eye mezzanine board can damage the board or instrument. Avoid fully inserting the back connector until the front connector is properly aligned; this prevents the bending of the board.*

10. Begin by engaging the connector near the back panel as shown in the following figure. Do not fully insert.

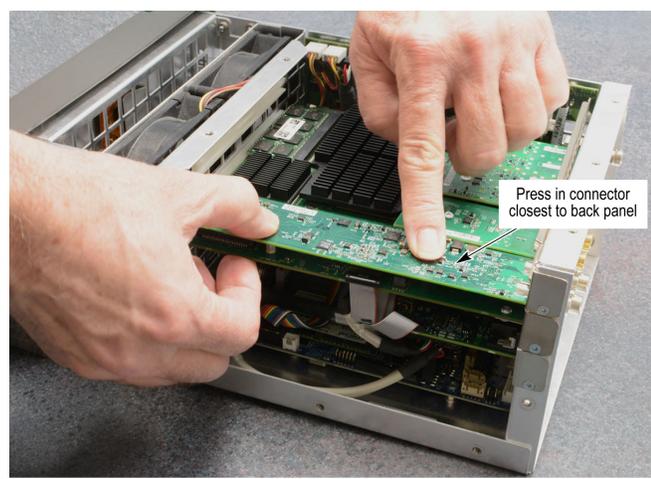


Figure 7: Board-to-board connector alignment

11. Line up the connectors near the front panel as show in the following figure. Finish inserting the connector at the back.



Figure 8: Line up the front connector

12. Insert the connector near the front panel.

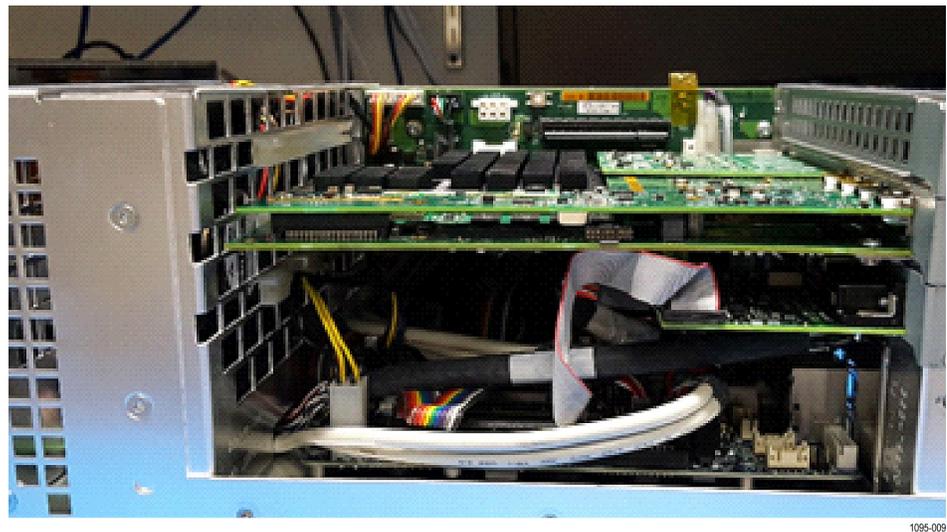


Figure 9: Both board-to-board connectors fully engaged

13. Use the TORX-driver with a T-10 TORX tip to install the two screws in the Eye mezzanine board as shown in the following figure. Tighten these screws to 0.6 N·m (5.31 in-lb).

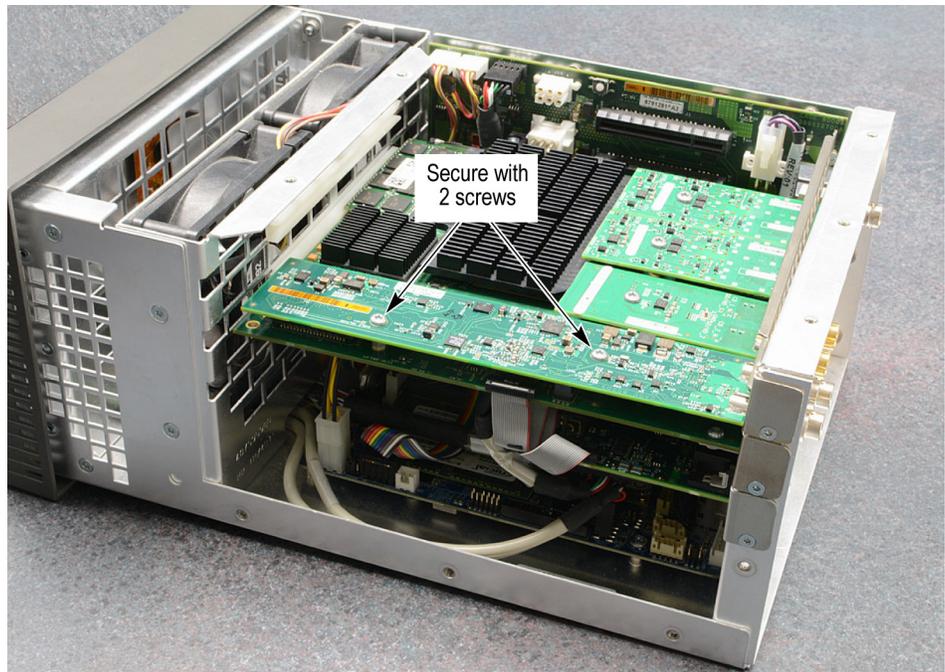


Figure 10: Finish the 12G Eye mezzanine board installation

14. Replace the two BNC nuts and lock washers. Tighten the BNC nuts to 1.0 N·m (8.85 in-lb).
15. Place the top cover over the instrument and use the TORX-driver with a T-10 TORX tip to reinstall the screws. Tighten these screws to 0.9 N·m (7.97 in-lb).

16. Apply the MPI-UP serial number label to the side panel (right side as viewed from the front of the instrument). Place the new serial number label below the labels that contain the regulatory marks.

NOTE. The MPI-UP serial number label is included in the upgrade kit. The label lets Tektronix Service know that the instrument contains the upgrade kit.



Figure 11: Installing the MPI-UP serial number label

17. Upgrade the instrument firmware. (See page 23, *Upgrade the instrument firmware.*)
18. Upgrade the software license. (See page 27, *Upgrade the software license.*)
19. Verify the upgrade. (See page 31, *Verify the hardware upgrade.*)

MPX hardware upgrades

These instructions are for personnel who are familiar with servicing the product. Contact your nearest Tektronix, Inc., Service Center or Tektronix Factory Service for installation assistance.



WARNING. *Dangerous voltages may be present. To prevent electrical shock, disconnect the power cord from the unit before starting the upgrade procedure. Failure to do so could cause serious injury or death. This product does not provide the AC Mains power switch.*



CAUTION. *Many components within the instrument are susceptible to static-static discharge damage. 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.*

Recommended tool list

Table 2: Recommended tool list

Name	Description
3/16 inch socket nut driver	Used to remove jack screws.
11/32 inch socket nut driver	Used to remove lock nuts.
BNC nut driver	Used to remove BNC nuts.
Screwdriver handle	Accepts Torx-driver bits
T-10 Torx tip	Used for removing instrument screws. Torx-driver bit for T-10 size screw heads.
Torque driver	Used to apply precisely a specific torque to a fastener.

Upgrade the PRISM MPX Eye mezzanine board

Complete the following steps to remove the old mezzanine board from the instrument and install the new Eye mezzanine board:

1. Set the instrument so that the bottom is down on a static-free surface.
2. Remove the top cover as follows:
 - a. Use a TORX-driver with a T-10 TORX tip to remove the eighteen screws securing the cover to the instrument.
 - b. Lift the cover up to remove it from the instrument and set it aside.

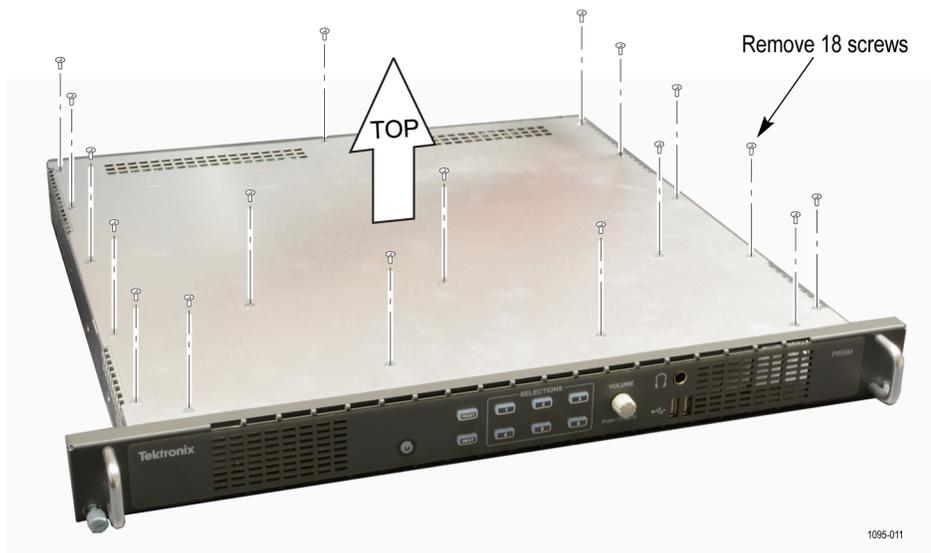


Figure 12: Remove the top cover

3. Use the BNC nut driver to remove all seven of BNC nuts and lock washers.
4. Use the 3/16 inch socket nut driver to remove the two jack screws (posts) on the D connector.

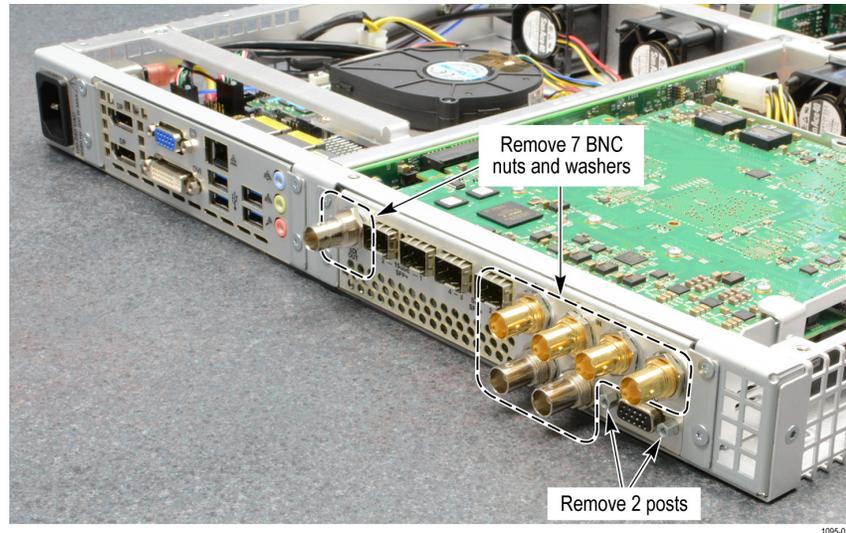


Figure 13: Remove the rear panel plate hardware

5. Use a TORX-driver with a T-10 TORX tip to remove the four screws securing the rear panel plate to the instrument.

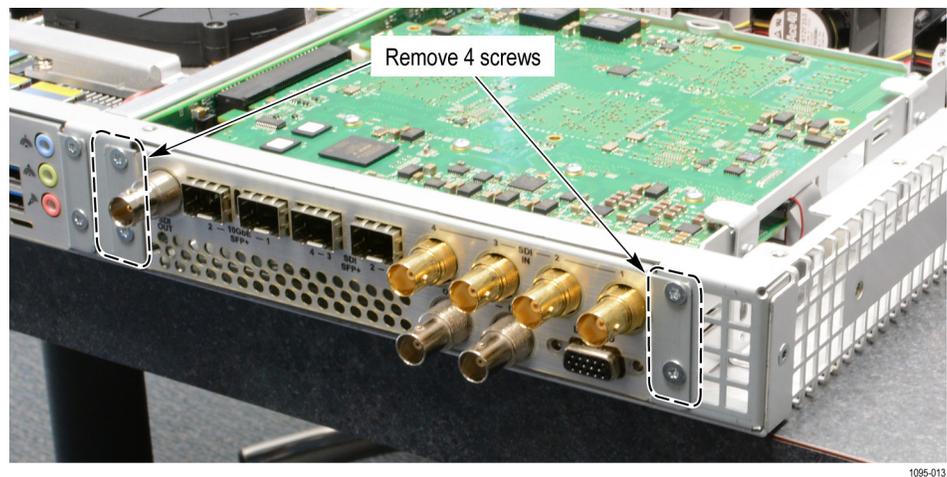
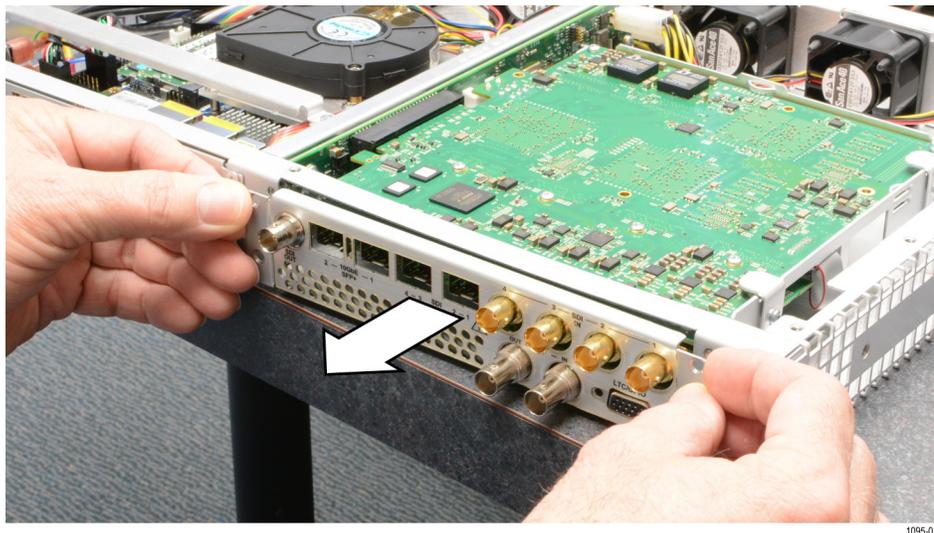


Figure 14: Remove the four rear panel plate screws

6. Pull the rear panel plate straight back as shown in the following figure.

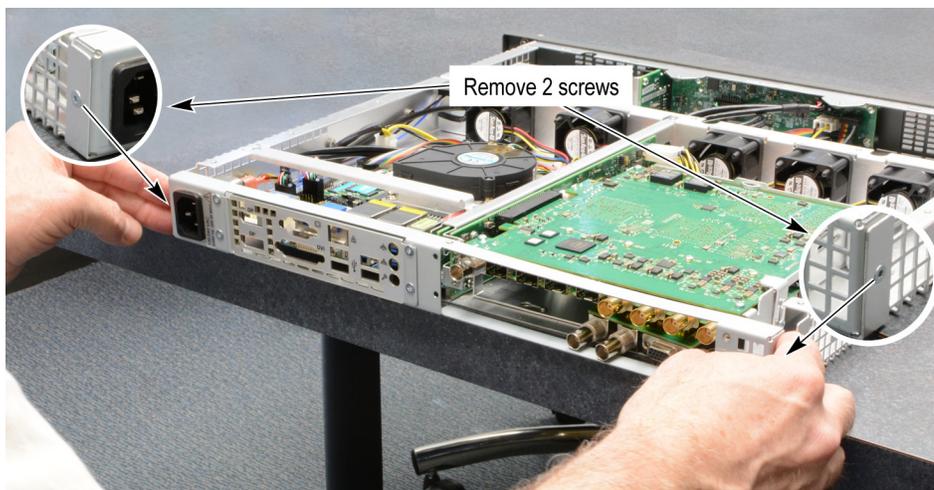
NOTE. *The GPIO board is only supported by the rear panel plate. When removing the rear panel plate be aware that the GPIO board is now loose and take steps to support it.*



1095-014

Figure 15: Remove the rear panel plate

7. Use a TORX-driver with a T-10 TORX tip to remove the two screws on either end of the back panel.
8. Remove the back panel as shown in the following figure.



1095-015

Figure 16: Remove the back panel

9. Use the 11/32 inch socket nut driver to remove the two lock nuts on the side of the Mixed Media board module.

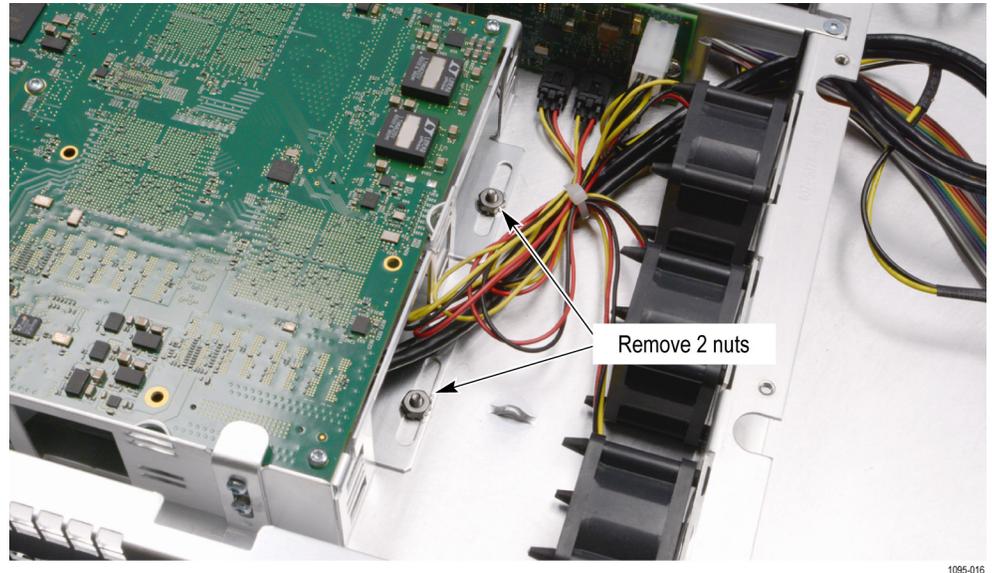


Figure 17: Remove the lock nuts securing the Mixed Media board module to the instrument

10. Lift up the two tabs on the side of the Mixed Media board and pull the module out of the instrument, disconnecting the board from the connectors.

NOTE. Make sure the back panel is pulled out enough to clear the BNC connectors on the Mixed Media module.

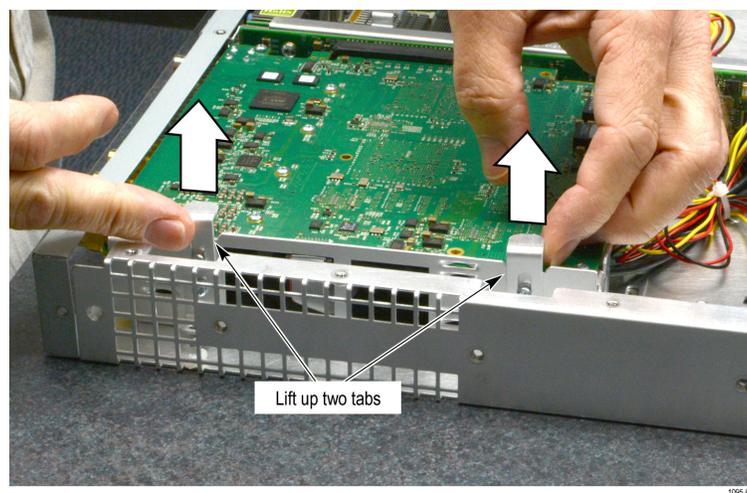


Figure 18: Lift the tabs that hold the Mixed Media module

11. Remove the GPIO board from the Mixed Media module using the following steps:
 - a. Disconnect the GPIO ribbon cable.
 - b. Disconnect the USB and remove the board.

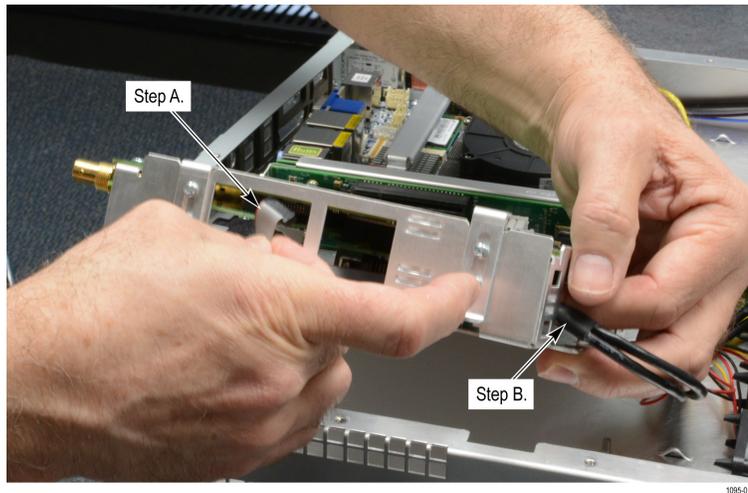


Figure 19: Remove the GPIO board

12. Use a TORX-driver with a T-10 TORX tip to remove the four screws on the corners of the Mixed Media board.
13. Slide the Mixed Media board out from between the grinsches as shown in the following figure.

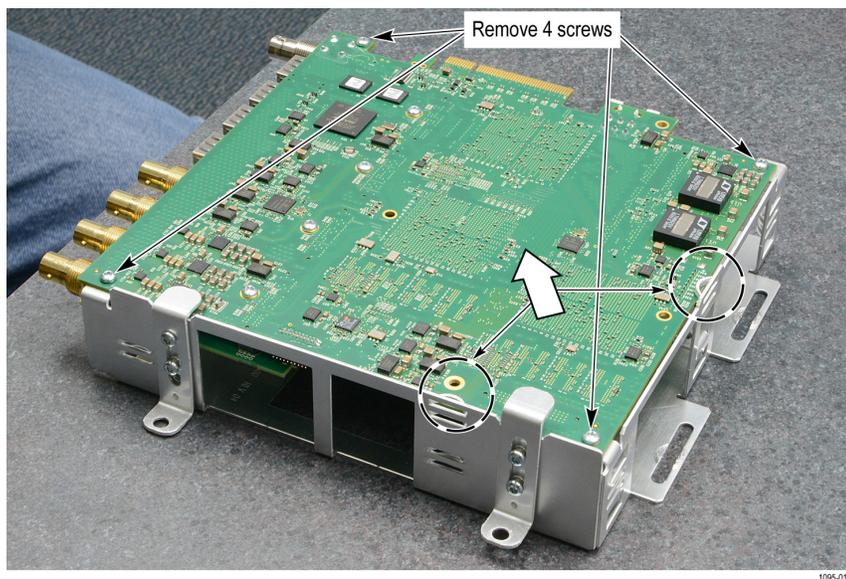


Figure 20: Remove the Mixed Media board from the bracket

14. Turn the board over and use a TORX-driver with a T-10 TORX tip to remove the screw from the mezzanine board.
15. Remove the mezzanine board from the connector and set it aside.

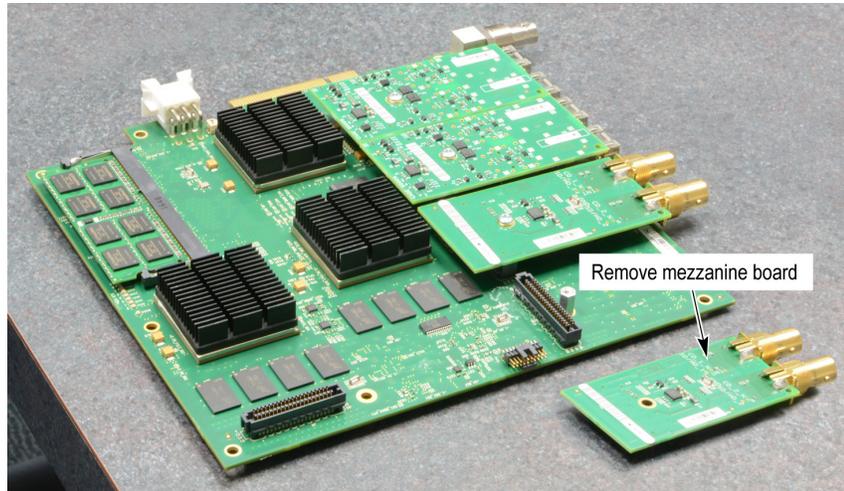


Figure 21: Remove the mezzanine board

16. Refer to the following figure and install the screw from the kit (Tektronix part number 211-1117-XX) and the spacer post (Tektronix part number 129-1889-XX) into the hole closest to second connector using the following method:
 - a. Insert the screw from the bottom of the board and use a finger to hold it in place.
 - b. Install the spacer post over the screw on the board, while keeping a finger on head of the screw; tighten the spacer post until tight.

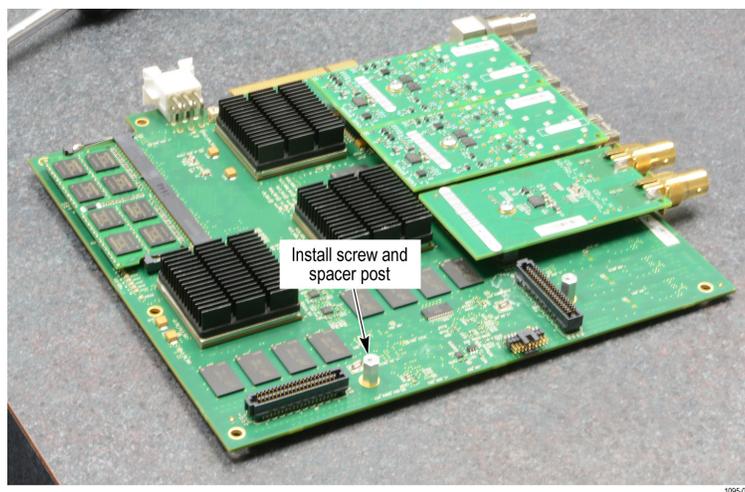


Figure 22: Install the spacer on the board

17. Locate the new Eye mezzanine board from the kit (Tektronix part number 878-1285-XX).
18. Line up the Eye mezzanine board with both of the connectors and press down until it is fully engaged as show in the following figure.



CAUTION. *Bending the Eye mezzanine board can damage the board or instrument. Avoid fully inserting the connectors until they are properly aligned; this prevents the bending of the board.*

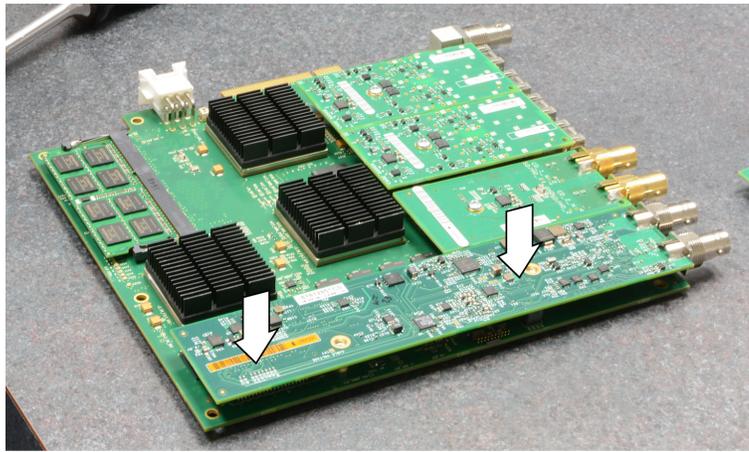


Figure 23: Install the 12G Eye mezzanine board on the main board

19. Use the TORX-driver with a T-10 TORX tip to secure the Eye mezzanine board to the main board using the two screws provided in the kit. Tighten these screws to 0.6 N·m (5.31 in-lb).

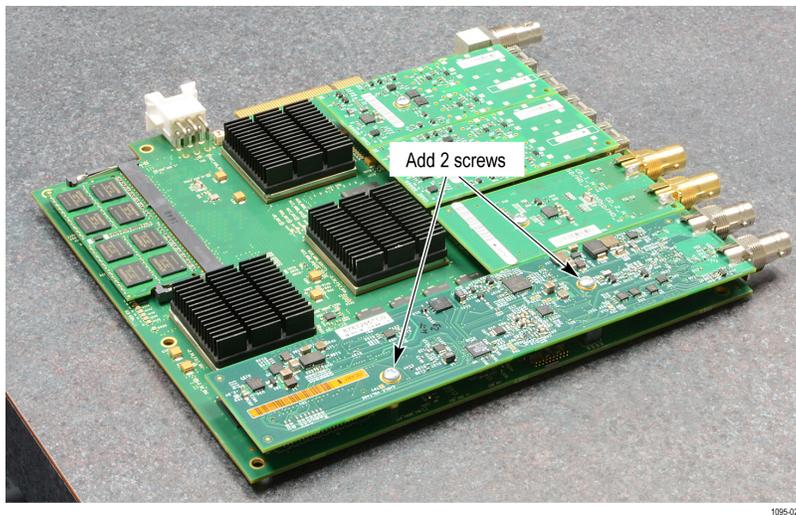


Figure 24: Attach the Eye mezzanine board

20. Perform steps 9 to 13 in reverse order to reinstall Mixed Media and GPIO board back into instrument. Tighten the four Mixed Media board bracket screws to 0.6 N·m (5.31 in-lb).
21. Slide the Mixed Media module under the fixed hardware turrets.



1095-026

Figure 25: Slide the Mixed Media module back into chassis

22. Secure the back panel to the instrument. Tighten two side screws to 0.9 N·m (7.97 in-lb).

NOTE. *With your finger, put pressure on the gasket by the processor to keep it in place before screwing in the back panel.*

23. Replace the two lock nuts on the opposite side of the Mixed Media module. Tighten these nuts to 0.9 N·m (7.97 in-lb).

24. Hold GPIO board in the rear panel plate and secure it in place with two jack screws on either side of the D connector. Tighten the two jack screws to 0.6 N·m (5.31 in-lb).

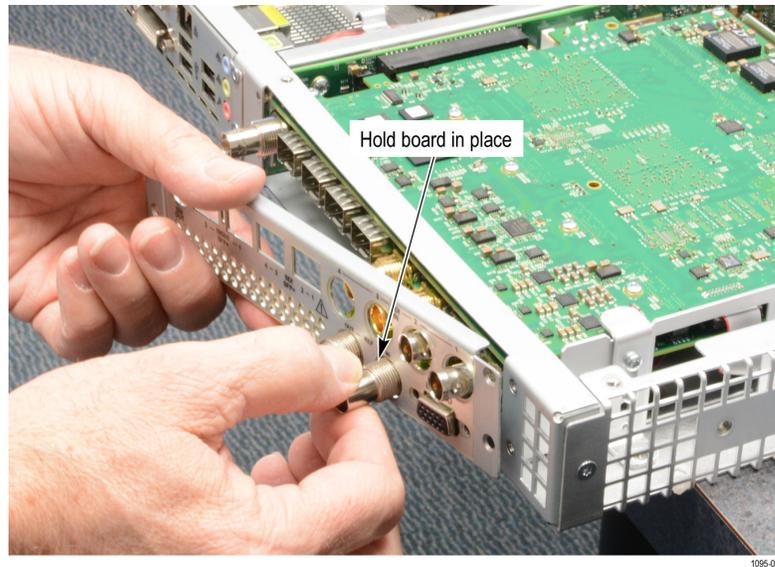


Figure 26: Secure the GPIO board on the rear plate panel

25. Replace the rear panel plate as shown in the following figure. Tighten the four rear panel plate screws to 0.9 N·m (7.97 in-lb).

NOTE. *Lift up top edge of back panel to fit the rear panel plate into place.*



Figure 27: Install the rear plate panel

26. Reinstall the rear panel hardware. Tighten the seven BNC nuts to 0.9 N·m (7.97 in-lb).
27. Place the cover over the instrument and replace the top cover screws. Tighten the cover screws to 0.9 N·m (7.97 in-lb).
28. Apply the MPX-UP serial number label below the existing MPX serial number label on the bottom of the instrument.

NOTE. *The MPX-UP serial number label is included in the upgrade kit. The label lets Tektronix Service know that the instrument contains the upgrade kit.*



Figure 28: Installing the MPX-UP serial number label



CAUTION. *The MPX-UP label is not inset and is at risk of damage. To avoid damaging the label, use caution when inserting or removing the instrument.*

29. Upgrade the instrument firmware. (See page 23, *Upgrade the instrument firmware.*)
30. Upgrade the software license. (See page 27, *Upgrade the software license.*)
31. Verify the upgrade. (See page 31, *Verify the hardware upgrade.*)

Upgrade the instrument firmware

Before you begin

Tektronix releases updates to product firmware to add new features or to fix reported problems. You should check the Tektronix Web site regularly for new firmware releases.

You do not need to perform a firmware upgrade if your instrument has firmware version 1.6 or above already installed. Perform the following steps to determine if the firmware on your instrument must be upgraded:

1. Power on the instrument.
2. Verify the current software version installed on the instrument:
 - a. Touch the **Settings** icon to open the Settings menu.
 - b. Touch **Utilities** to open the Utilities submenu.
 - c. Touch **Version** to open the Version display.
 - d. In the Software section, note the version number installed on the instrument.

Instrument Firmware version number	
------------------------------------	--

3. Verify the latest version of firmware on the Tektronix Web site:
 - a. Go to the following Tektronix Web site:
<http://www.tek.com/product-support>
 - b. Under the Tektronix Product Support page, enter a product name, such as MPX or MPI. On the landing page for your product, click the Software tab, and search for the firmware version for your instrument.
 - c. Note the latest version number of the software-upgrade package(s).

Web site Firmware version number	
----------------------------------	--

4. If the latest firmware version at the Web site is newer than the version on your instrument, you should upgrade the firmware.
5. Select the newer firmware release and click the **Download File** button.

NOTE. *If you are not logged into tek.com, click the **Login to access this content** button. If it is the first time you are downloading firmware, you are asked to enter your company name and address. This information is required before downloading the firmware.*

6. The upgrade files will have a .bin file extension and there may also be a readme.txt file.

The time required to complete the upgrade is about 15 minutes.



CAUTION. *Removing the power from the instrument during the upgrade process will corrupt the flash. If the flash is corrupted, the instrument will have to be sent to a Tektronix factory service center to have the system firmware restored. DO NOT remove power from the instrument during the upgrade process.*

NOTE. *If power to the instrument is lost before it begins erasing the internal flash, restart the firmware upgrade after the instrument reboots.*

Firmware upgrade procedure

Perform the following steps to upgrade the instrument firmware:

1. Copy the upgrade file with a .bin file extension from the upgrade package to a USB memory device. You will need approximately 320 MB of available space on the USB device.

NOTE. *If the upgrade package included a readme.txt file, read the file before performing the upgrade. The file will contain important information about the firmware release.*

2. Insert the USB memory device into a USB port on the PRISM monitor.
3. On the PRISM monitor, touch the **Settings** icon to open the Settings menu.
4. Touch **Utilities** to open the Utilities submenu.
5. Touch **Firmware Upgrade**. The display will list all of the files on the USB device with a .bin file extension.
6. Touch the desired file in the list to select it, and then touch **Install** to start the upgrade.

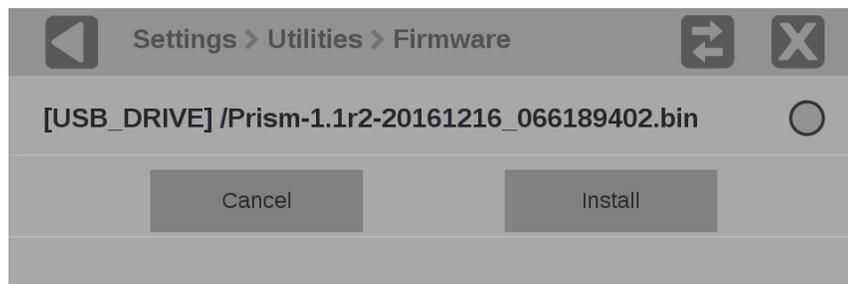


Figure 29: Selecting the firmware upgrade file

7. While the upgrade is in process, the message box shown below appears stating that the firmware installation is in progress.



CAUTION. Removing the USB device or powering off the instrument before the upgrade is complete can cause upgrade failure. To prevent upgrade failure, wait until the **Installation Complete** message box is displayed before performing these actions. The upgrade may take up to five minutes.

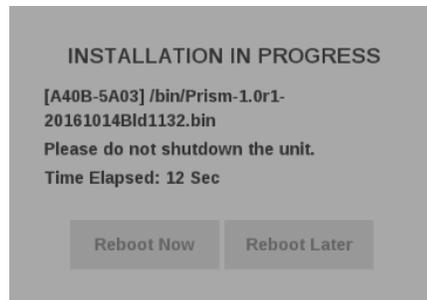


Figure 30: Upgrade Installation In Process message box

8. When the upgrade is complete, the following message box appears. Perform one of the following actions:
 - Touch **Reboot Now** to reboot the PRISM monitor and complete the installation of the upgrade.

NOTE. It is strongly recommended that you select **Reboot Now** after the upgrade files are installed. If the instrument does not reboot, remove and then reapply power to the instrument to cause it to reboot.

- Touch **Reboot Later** to maintain instrument operation with the older version of firmware. The upgraded firmware will be automatically installed the next time the instrument is rebooted.

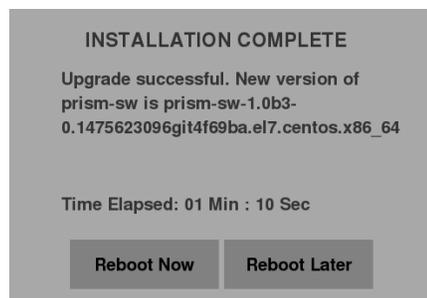


Figure 31: Upgrade Installation Complete message box

9. Remove the USB device from the PRISM monitor.

Verify the firmware upgrade

Perform the following procedure to verify the firmware upgrade:

1. Touch the **Settings** icon to open the Settings menu.
2. Touch **Utilities** to open the Utilities submenu.
3. Touch **Version** to open the Version display.
4. Verify the displayed firmware version matches the firmware version that you installed.

Upgrade the software license

A software license upgrade is required after the installation of a hardware upgrade. The following upgrade options include licenses for added software capability:

- **MP-IP-STD-UP.** Adds SMPTE 2022-6 and PTP (IEEE1588, SMPTE 2059-2) support, includes IP Status application – Node locked License.
- **MP-IP-MEAS-UP.** Requires Option MP-IP-STD. Adds a node locked license for IP Measurement feature sets: IP Graph, IP/PTP Session, and IP PIT Histogram applications (SMPTE 2022-6 and PTP).
- **MP-IP-CAP-UP.** Requires Option MP-IP-MEAS. Adds a node locked license for IP stream capture.
- **MP-FMT-4K-UP.** Enable 12G-SDI, adds a node locked license for 4K formats.
- **MP-PROD-UP.** Adds a node locked license for Production Tools Sets (Stop waveform, HDR Graticules, Average Luminance Level marker).
- **MP-PHY-12G.** Adds 6G/12G-SDI format support for SDI physical layer measurement, tied to MPI PHY-12G, MPX PHY-12G, MPI-UP PHY-12G and MPX-UP PHY-12G. Node locked license.

Obtain the software license upgrade file

Perform the following procedure to obtain a software license upgrade file from Tektronix:

1. On the PRISM monitor you want to upgrade, note the instrument serial number. The serial number is located on the rear panel of the MPI instrument or the top panel of the MPX instrument.

NOTE. *If the instrument serial number is not easily located (for example, if the instrument is installed in an equipment rack), obtain the serial number by performing steps 1 to 4 in the Install the software license upgrade procedure. (See page 28.)*

2. Provide the serial number of the PRISM monitor you are upgrading when you contact Tektronix to place your software license upgrade order. After your upgrade order is processed, you will be sent a notification e-mail with details on how to download the software license upgrade file.
3. Follow the e-mail instructions to download the upgrade file. As noted in the e-mail, you must access your MyTek account to download the upgrade file.

Install the software license upgrade

Perform the following procedure to install the software license upgrade:

1. On the PRISM monitor, open the **Settings > Network** menu page to view the **Control IP Port** address of the instrument which you are going to upgrade.
2. Copy the software license upgrade file you downloaded to a location on the computer.
3. On your computer, enter the following in the URL box of your Web browser, where xxx.xxx.xxx.xxx is the IP address of the Control IP Port of the instrument you are upgrading. The IP address is case sensitive.

`http://xxx.xxx.xxx.xxx:9000/licensePortal.html`

4. This opens the Tektronix PRISM License Installation Web page as shown below. The Web page shows the Host ID (a string that uniquely identifies the instrument) and the instrument serial number.

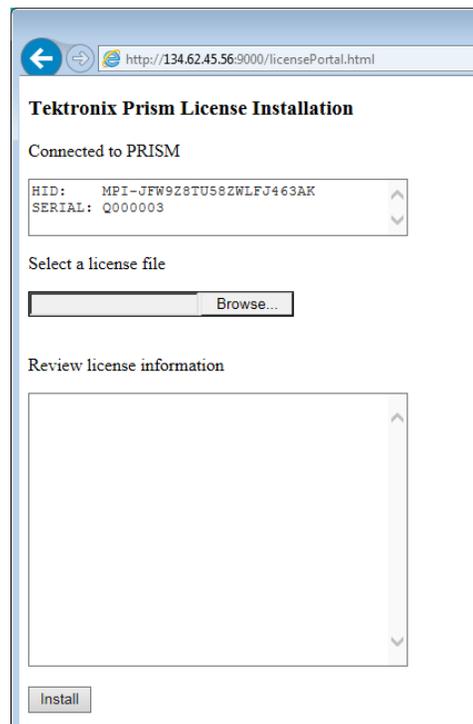


Figure 32: PRISM License Installation Web page – initial view

5. Click the **Browse...** button, and then navigate to the location of the software license file.
6. Select the software license file and click **Open**.
7. The license installation Web page displays the new license information in the **Review license information** box. The example below shows an instrument that is being upgraded with two software options: MP-IP-STD and MP-IP-MEAS.

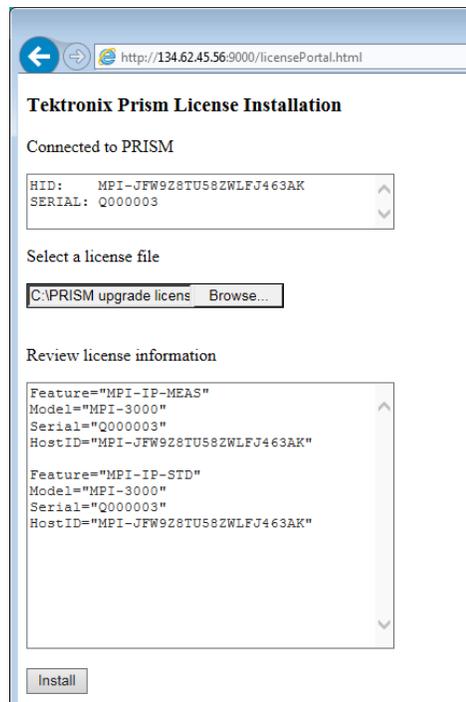


Figure 33: PRISM License Installation Web page – license upgrade information review

8. If the license information is correct, click **Install** to start the license installation.

9. When the license(s) is installed, the bottom of the license installation Web page displays a message that the license was installed successfully.

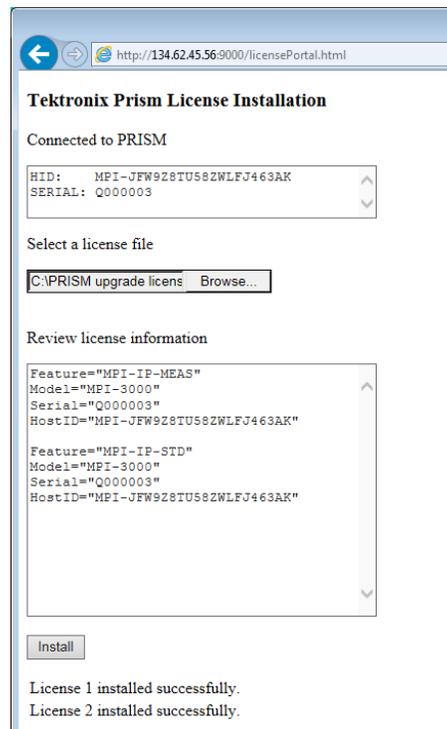


Figure 34: PRISM License Installation Web page – license install message

10. After the upgrade is installed, close the PRISM License Installation Web page.

Verify the software license upgrade

Perform the following procedure to verify the software license upgrade:

1. Touch the **Settings** icon to open the Settings menu.
2. Touch **Utilities** to open the Utilities submenu.
3. Touch **Options** to open the Options display.
4. Verify that the displayed option(s) match the option(s) you installed.



Figure 35: Verifying the software license upgrade

Verify the hardware upgrade

Table 3: Required equipment

Test equipment	Requirements	Example
Video test signal generator	HD 1080 59.94i ■ 100% color bars	Tektronix TG8000 with SDI7 module
75 Ω coaxial cables	RG-6 type coaxial cable with male 75 Ω BNC connectors, 1 to 2 m long, suitable for use to 6000 MHz.	1694A. Tektronix part number 012-0159-01.
Computer monitor and cable (for use with MPX)	Any standard 1080-capable monitor with Display Port connector and cable.	
Mouse with USB interface (for use with MPX)	Any standard USB computer mouse	

1. Apply power to the instrument.
2. MPX only: Connect the external display.
3. Connect the TG8000 SDI7 module output to the SDI 1 IN input on the PRISM monitor.
4. Set the SDI7 module to HD 1080 59.94i format using the following steps:
 - a. On the TG8000, push the front-panel **MODULE** button until the SDI7 module main menu appears.
 - b. Push the down (\blacktriangledown) arrow button to access the output mode menu.
 - c. Use the left (\blacktriangleleft) or right (\blacktriangleright) arrow button to scroll through the available output modes.
 - d. Select the HD output and push the **ENTER** button.

NOTE. *The dot will appear in front of the output mode on the display, to indicate that it is now the selected output mode.*

- e. To select the signal format, push the **FORMAT** button.
- f. Use the left (\blacktriangleleft) or right (\blacktriangleright) arrow button, or push the **FORMAT** button repeatedly, to select the 1080 59.94i signal format.

- g. Push the **ENTER** button to confirm the selection.

NOTE. *The dot will appear at the left of the second line to indicate that the format was selected.*

- h. Push the **BACK** button to exit FORMAT mode.
- 5. Select the 100% Color Bars signal using the following steps:
 - a. On the TG8000, push the front-panel **BARS** test signal button.
 - b. Use the left (◀) or right (▶) arrow button, or push the **BARS** test signal button repeatedly to select 100% Color Bars.

NOTE. *100% Color Bars is the factory default signal.*

- 6. Configure the SDI input using the following steps:
 - a. Touch the **Settings** icon (⚙️) to open the Settings menu.
 - b. Select **Inputs** to open the Inputs submenu.

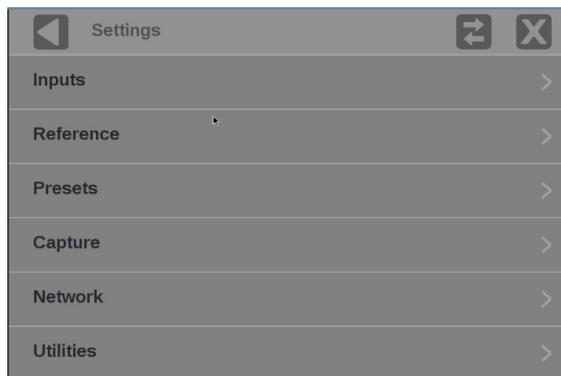


Figure 36: Settings menu

- c. Select an SDI input.

NOTE. In the following figure there are six virtual inputs to choose from. Inputs can be given any meaningful name.

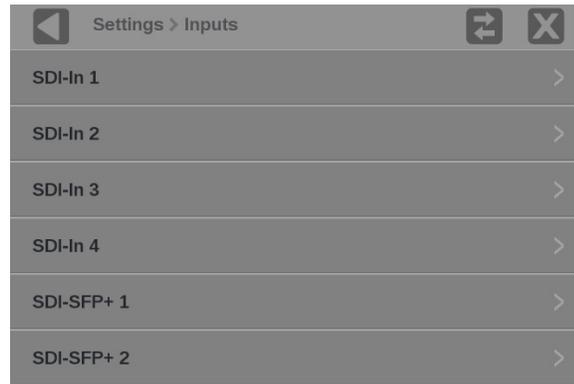


Figure 37: Settings inputs submenu

- d. Select one of the four physical SDI inputs to monitor. The TG8000 SDI7 module output is connected to the SDI 1 input.



Figure 38: SDI signal configuration

- e. Select **Save** and close the menu.
7. Double-tap any tile to display it full screen.
 8. Press and hold anywhere on screen to display the application banner. Select Eye Pattern Display from the drop-down list.

9. Press and hold anywhere on screen to display the application banner. Touch the Tool icon and select Align from the Jitter HP Filter drop-down list.
10. Check for a stable eye diagram. Eye Amplitude and the actual wave shape depend on the generator signal. Eye Amplitude is typically 720 mV to 880 mV. Eye Risetime and Eye Falltime are typically 500 ps to 1500 ps.

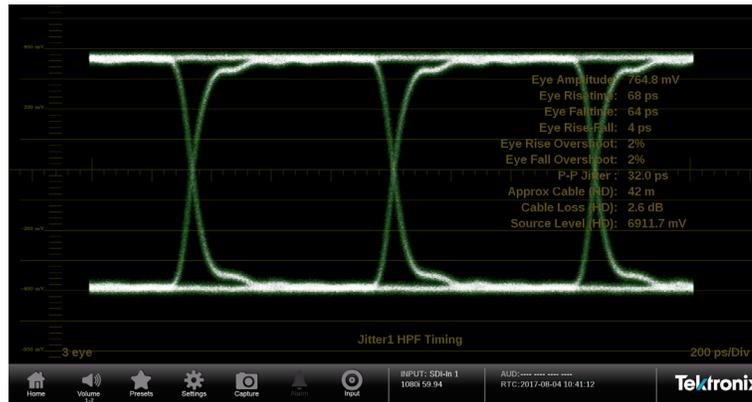


Figure 39: Eye diagram example

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