



**PRISM MPI-MPX  
Media Analysis Platform  
Field Upgrade Instructions**

[www.telestream.net](http://www.telestream.net)

075-1133-00

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# Important compliance and safety information

## United States of America Compliance Notices

### **Class A Interference Statement**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### **FCC Caution**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

### **Safety**

UL 61010-1: 2012 R4.16: Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements.

### **Environmental**

Perchlorate Materials: this product contains one or more type CR lithium batteries. According to the state of California, CR lithium batteries are classified as perchlorate materials and require special handling.

See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate) for additional information.

## Canada Compliance Notices

### **Department of Communications Radio Interference Regulations**

This digital apparatus does not exceed the Class A limits for radio-noise emissions from a digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications. This Class A digital apparatus complies with Canadian ICES-003.

### **Règlement sur le brouillage radioélectrique du Québec des**

## **Communications**

Cet appareil numérique respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du Quadstere des Communications du Canada. Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.

## **Safety**

CAN/CSA-22.2 NO. 61010-1-12 + Gil + G12:: Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements.

## **Sécurité**

CAN / CSA-22.2 NO. 61010-1-12 + Gil + G12 :: Exigences de sécurité pour l'électricité Matériel de mesure, de contrôle et d'utilisation en laboratoire - Partie 1: Généralités Exigences.

## **European Union and European Free Trade Association (EFTA) Compliance Notices**

This equipment may be operated in the countries that comprise the member countries of the European Union and the European Free Trade Association. These countries, listed in the following paragraph, are referred to as The European Community throughout this document:

AUSTRIA, BELGIUM, BULGARIA, CYPRUS, CZECH REPUBLIC, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, IRELAND, ITALY, LATVIA, LITHUANIA, LUXEMBOURG, MALTA, NETHERLANDS, POLAND, PORTUGAL, ROMANIA, SLOVAKIA, SLOVENIA, SPAIN, SWEDEN, UNITED KINGDOM, !CELANO, LICHTENSTEIN, NORWAY, SWITZERLAND

## **Declaration of Conformity**

Marking by the “CE” symbol indicates compliance with the Essential Requirements of the EMC Directive of the European Union 2014/30/EU

This equipment meets the following conformance standards:

## **Safety**

EN 61010-1: Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements  
Low Voltage Directive 2014/35/EU

## **Emissions**

EN 55032: 2012 + AC: 2013, CISPR 32: 2015, EN 61000-3-2: 2014,  
EN 61000-3-3: 2013

## Immunity

EN 55103-2: 2009, EN 61000-4-2: 2009,  
EN 61000-4-3: 2006 + A1: 2008 + A2: 2010, EN 61000-4-4: 2004 + A1: 2010,  
EN 61000-4-5: 2006, EN 61000-4-6: 2009, EN 61000-4-11: 2004  
Environments: E2

## Warnings



Warning! This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take appropriate measures.



Achtung! Dieses ist ein Gerat der Funkstorgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerates Rundfunkstörungen auftreten, in welchen Fallen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.



Attention! Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.

### Notes:

1. For Compliance with the EMC standards listed here, high quality shielded interface cables should be used.
2. Emissions which exceed the levels required by this standard may occur when this equipment is connected to a test object.

## Environmental Compliance

This section provides information about the environmental impact of the product.

### *Product end-of-life handling*

Observe the following guidelines when recycling an instrument or component:

### *Equipment recycling*

Production of this equipment required the extraction and use of natural resources. The equipment may contain substances that could be harmful to the environment or human health if improperly handled at the product's end of life. To avoid release of such substances into the environment and to reduce the use of natural resources, we encourage you to recycle this product in an appropriate system that will ensure that most of the materials are reused or recycled appropriately.



This symbol on the product or its packaging indicates that this product complies with the applicable European Union requirements according to Directives 2012/19/EU and 2006/66/EC on waste electrical and electronic - equipment (WEEE) and batteries.



It also indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner

that protects human health and the environment. For more information about where you can drop off your waste for recycling, please contact your local authority, or where you purchased your product.

*Battery Recycling*

This product may contain a rechargeable battery, which must be recycled or disposed of properly. Please properly dispose of or recycle the battery according to local government regulations.

*Transporting Batteries or products with Batteries in them*

The capacity of the lithium ion secondary battery shipped with this product is under 100 Wh. The lithium content of the installed primary battery is under 1 g. Each battery meets the applicable requirements of UN Manual of Tests and Criteria Part III Section 38.3. Battery quantity is under the limit for shipment according to Section II of the relevant Packing Instructions from the IATA Dangerous Goods Regulations. Consult your air carrier for applicability and determination of any special lithium battery transportation requirements.

*Restriction of Hazardous Substances*

This product is classified as an industrial monitoring and control instrument, and is not required to comply with the substance restrictions of the RoHS 3 Directives 2011 /65/EU and EU 2015/863 until July 22, 2021. This product does, however, comply with the RoHS 2 Directive 2011/65/EU.

## Korea Compliance Statement

<p>A급 기기 (업무용 방송통신기자재)</p>	<p>이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.</p>
<p>Class A (Broadcasting Communication Equipment for Office Use)</p>	<p>As an electromagnetic wave equipment for office use (Class A), this equipment is intended to use in other than home area. Sellers or users need to take note of this.</p>

## Taiwan Compliance Statement

<p>警告使用者： 這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。</p>
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This is a Class A product based on the standard of the Bureau of Standards, Metrology and Inspection (BSMI) CNS 13438, Class A. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

## Japan Compliance Statement

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

This is a Class A product based on the standard of the VCCI Council (VCCI 32: 2016). If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

## 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, see the Service safety summary that follows the General 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.

### **Comply with local and national safety 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.

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.

*Ground the product:* This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded. Do not disable the power cord grounding connection.

*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.

*Observe all terminal ratings:* To avoid fire or shock hazard, observe all rating 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.

*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 voltage probes, test leads, and accessories for mechanical damage and replace when damaged. Do not use probes or 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 manual's installation instructions 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.

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

Use only the Telestream 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 the 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.

## 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.

## Symbols on 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



Protective Ground  
(Earth) Terminal



Standby



WARNING  
High Voltage



Disconnect all  
Power Sources



Do not  
Tip Rack

## General Safety Product Specific Statements

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.

Comply with local and national safety 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.

Use personal protective equipment to prevent shock and arc blast injury where hazardous live conductors are exposed.

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



**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.*

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**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.*

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**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.*

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# 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 PRISM instruments:

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

## Supported upgrades

These 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

This 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	075-1133-XX	PRISM FIELD UPGRADE INSTRUCTIONS

# MPI hardware upgrades

These instructions are for personnel who are familiar with servicing the product. Contact your nearest Telestream Video Products Service Center or Telestream Factory Service for installation assistance.



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**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.*

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**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.*

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## Recommended tool list

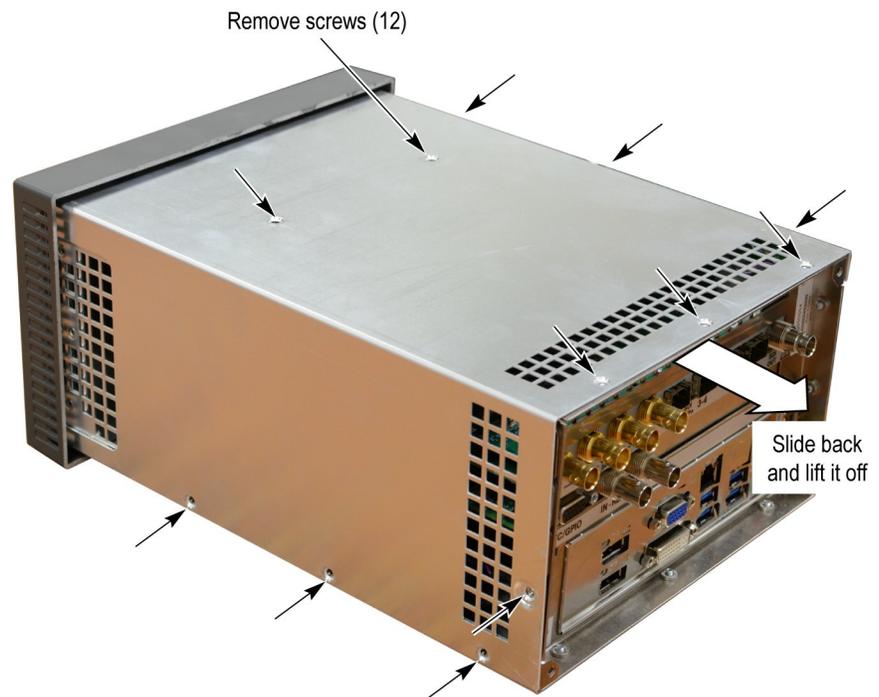
Table 1: Recommended tool list

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:

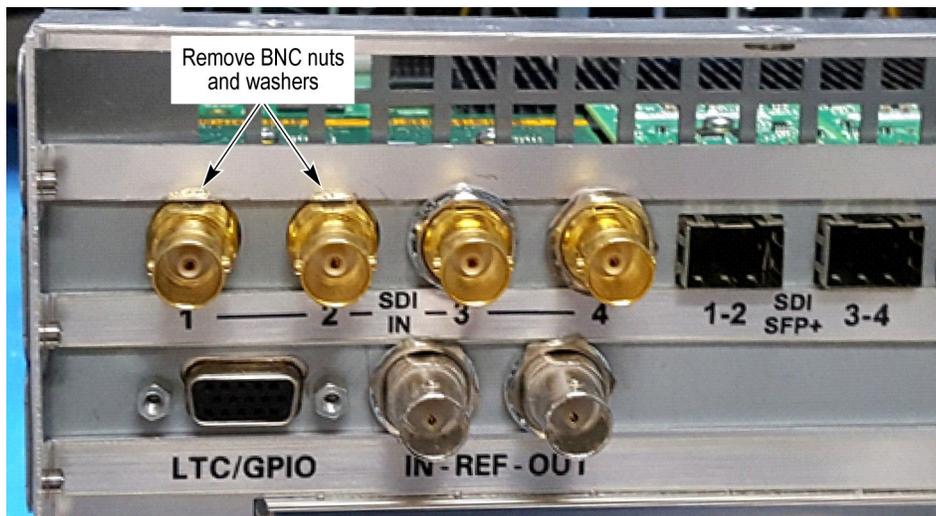
1. Set the instrument so that the bottom is down on a static-free work surface.
2. Remove the top cover as follows:
  - a. Use a TORX-driver with a T-10 TORX tip to remove the twelve screws securing the cover to the instrument.
  - b. Slide the cover back and then lift it from the back to remove it from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



1295-005

Figure 1: Remove the cover

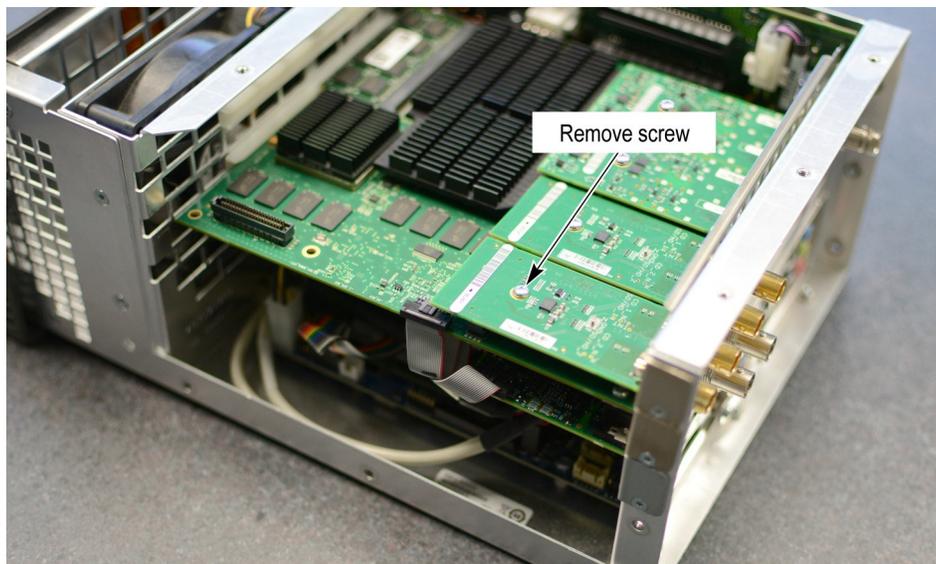
3. Refer to the following figure and use the 9/16 inch socket nut driver to remove the two BNC nuts and lock washers closest to the edge of the instrument (SDI IN 1 and 2).



1095-002

**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.



1095-003

**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.

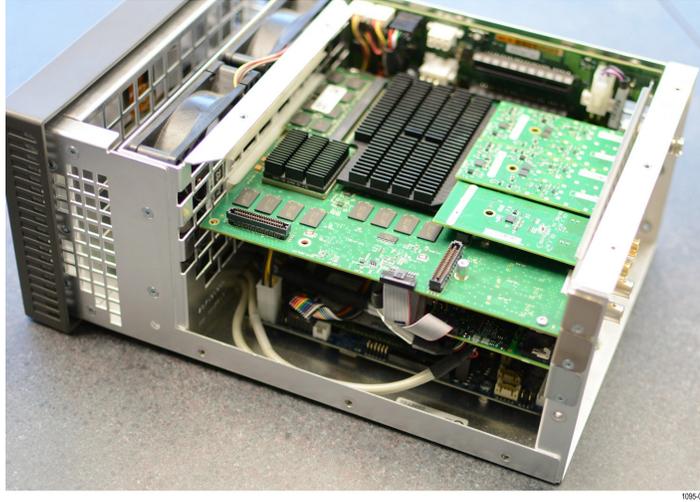


Figure 4: Mezzanine board removed

6. Refer to the following figure and install the screw from the kit (part number 211-1117-XX) and the spacer post (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.

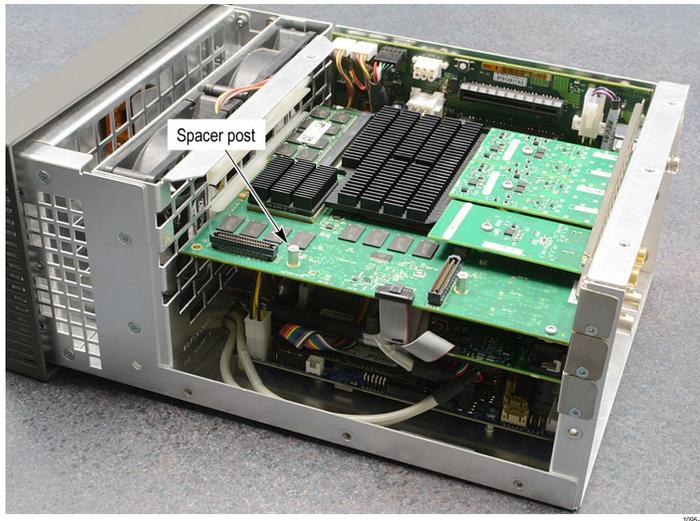


Figure 5: Spacer post installed

7. Locate the new Eye mezzanine board from the kit (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.

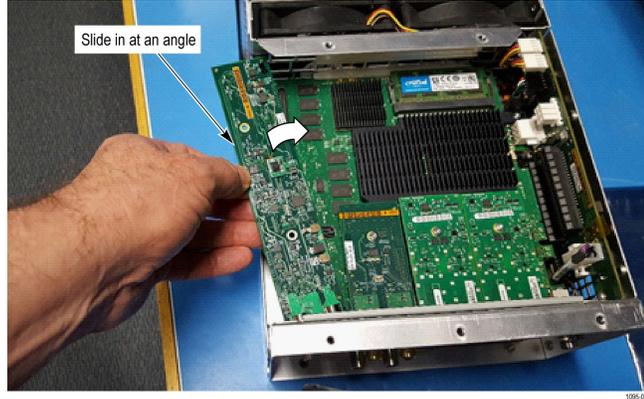


Figure 6: Eye mezzanine board placement

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.

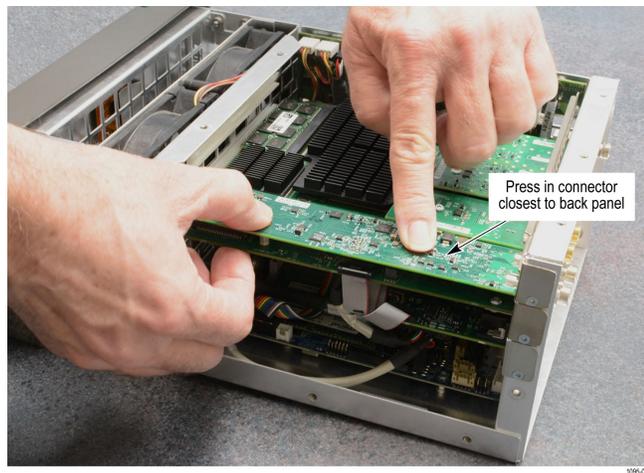


Figure 7: Board-to-board connector alignment

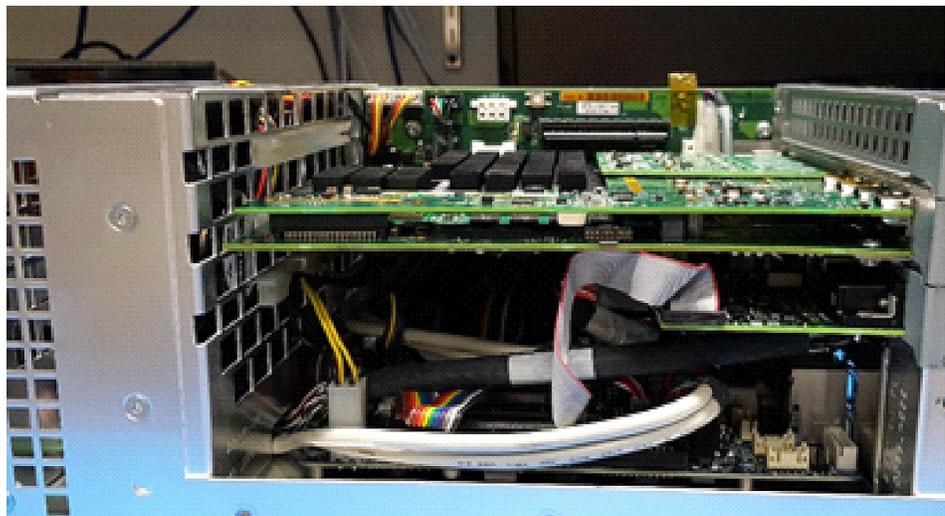
11. Line up the connectors near the front panel as show in the following figure. Finish inserting the connector at the back.



1095-008

Figure 8: Line up the front connector

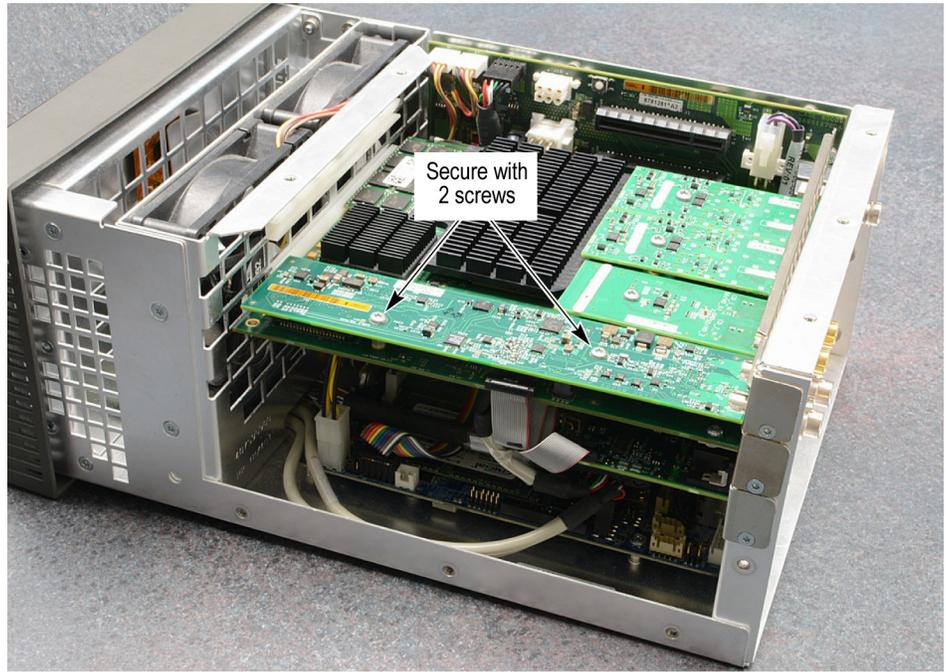
12. Insert the connector near the front panel.



1095-009

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.

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

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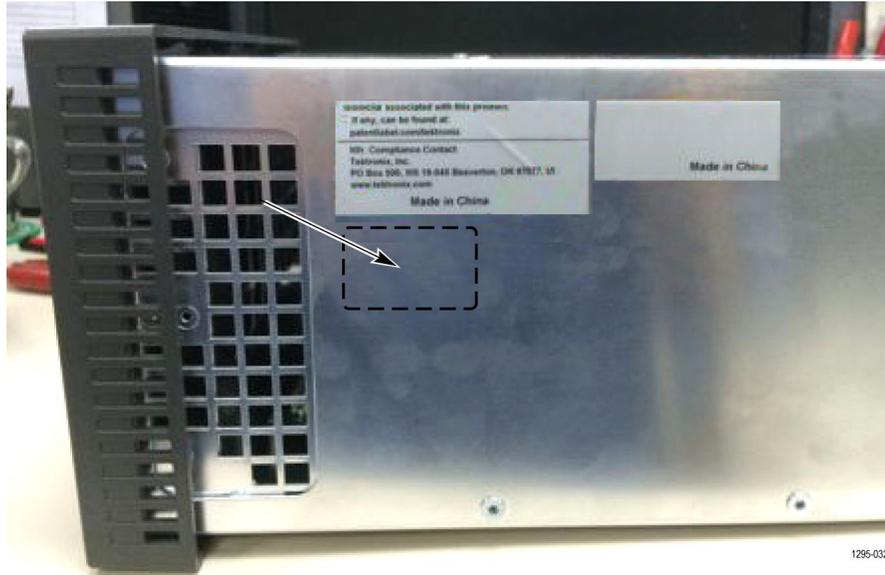


Figure 11: Installing the MPI-UP serial number label

17. Upgrade the instrument firmware. ([See Upgrade the instrument firmware.](#))
18. Upgrade the software license. ([See Upgrade the software license.](#))
19. Verify the upgrade. ([See Verify the hardware upgrade.](#))

# MPX hardware upgrades

These instructions are for personnel who are familiar with servicing the product. Contact your nearest Telestream Video Products Service Center or Telestream Factory Service for installation assistance.



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**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.*

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**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.*

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## 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.

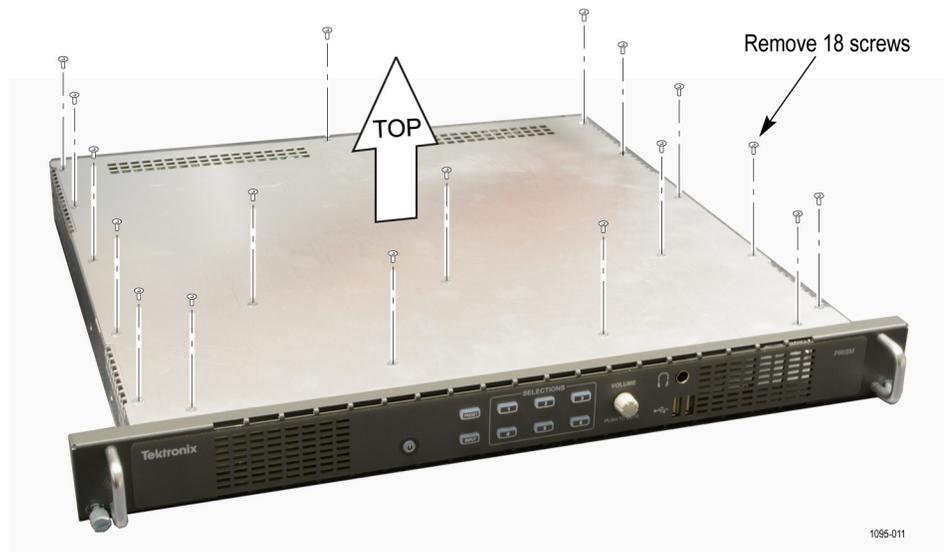


Figure 12: Remove the top cover

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.

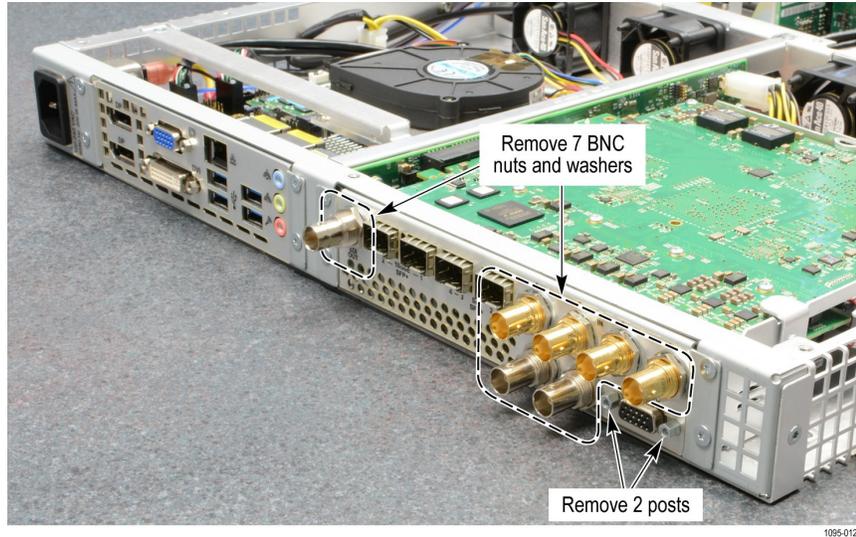


Figure 13: Remove the rear panel plate hardware

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

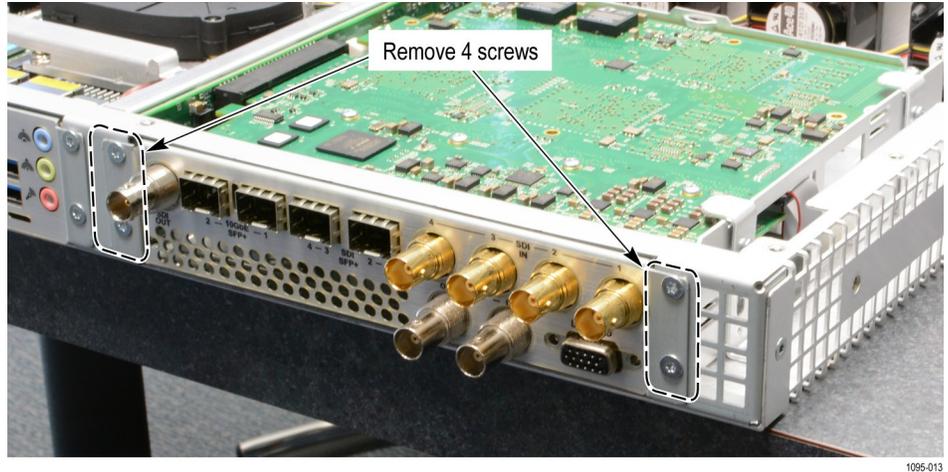


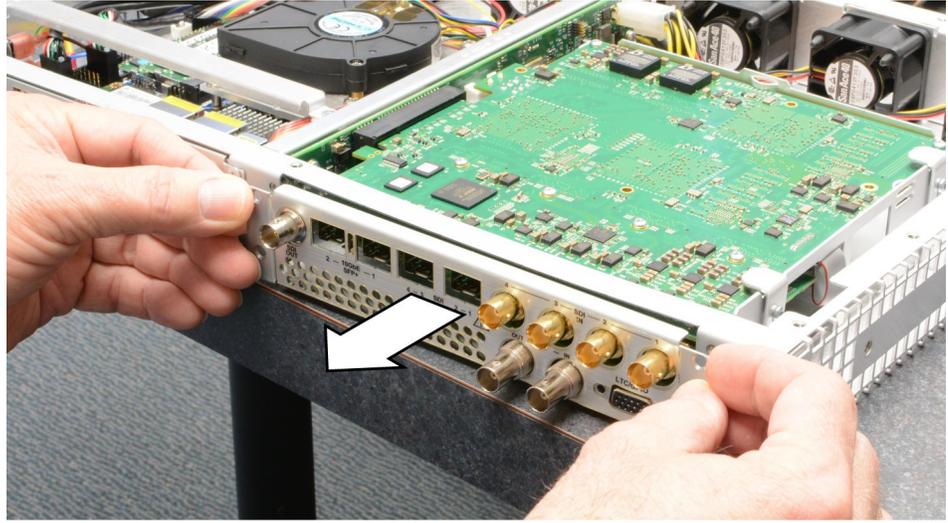
Figure 14: Remove the four rear panel plate screws

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

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**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.

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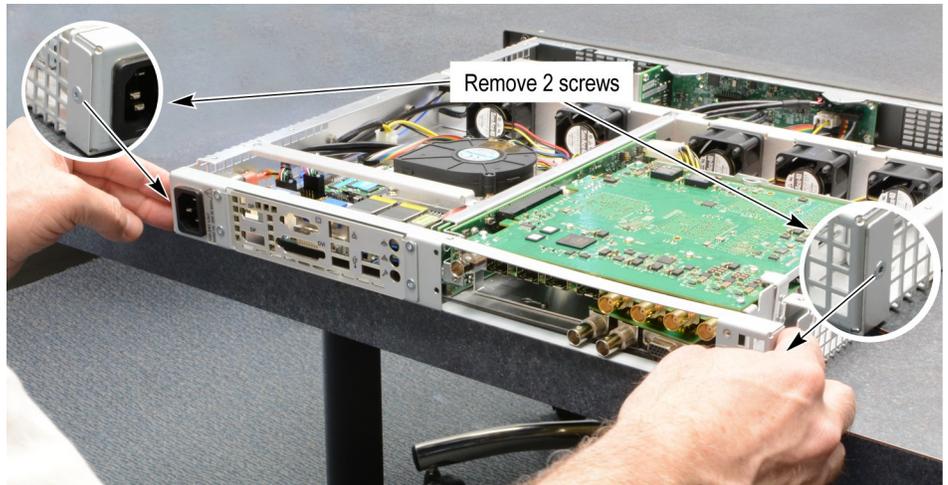


1095-014

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.

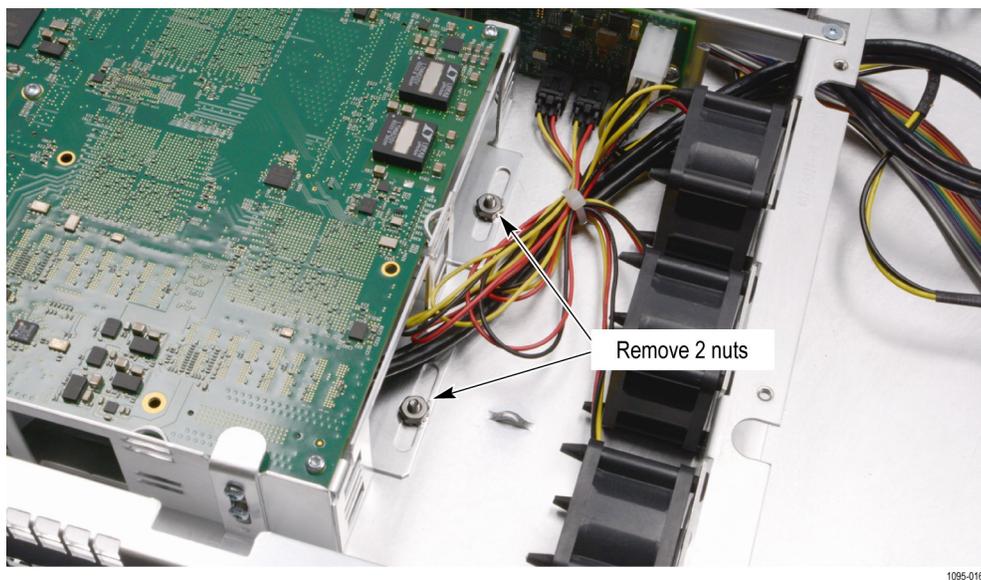


Figure 17: Remove the lock nuts securing the Mixed Media board module to the instrument

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.

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

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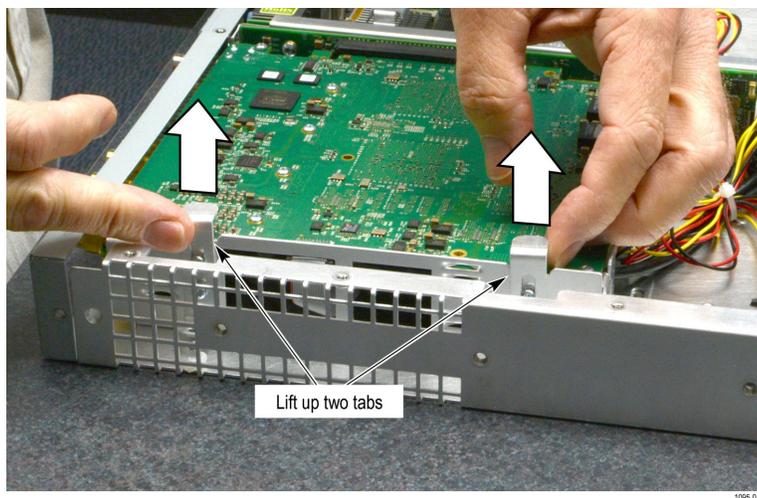


Figure 18: Lift the tabs that hold the Mixed Media module

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.

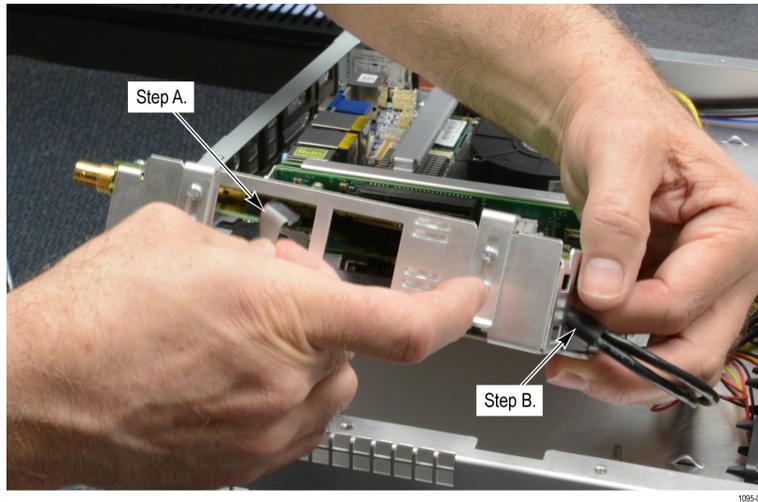


Figure 19: Remove the GPIO board

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.

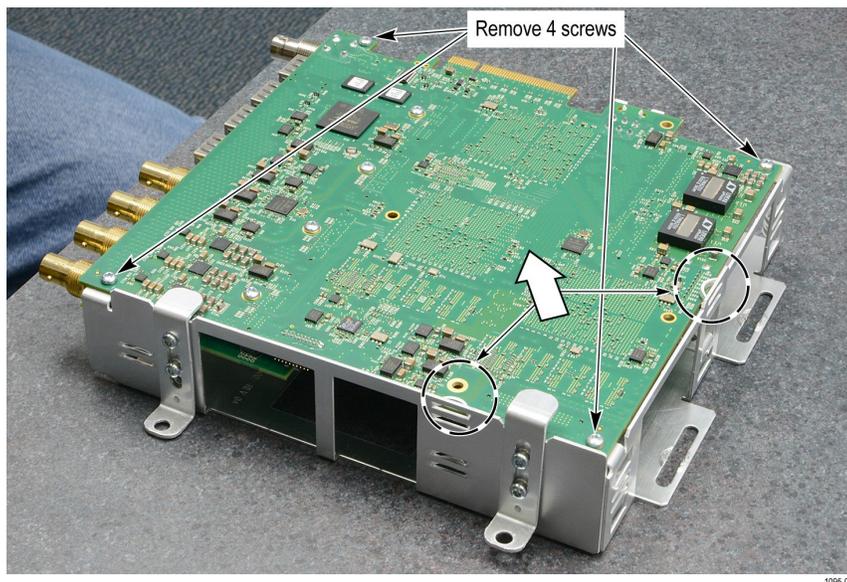
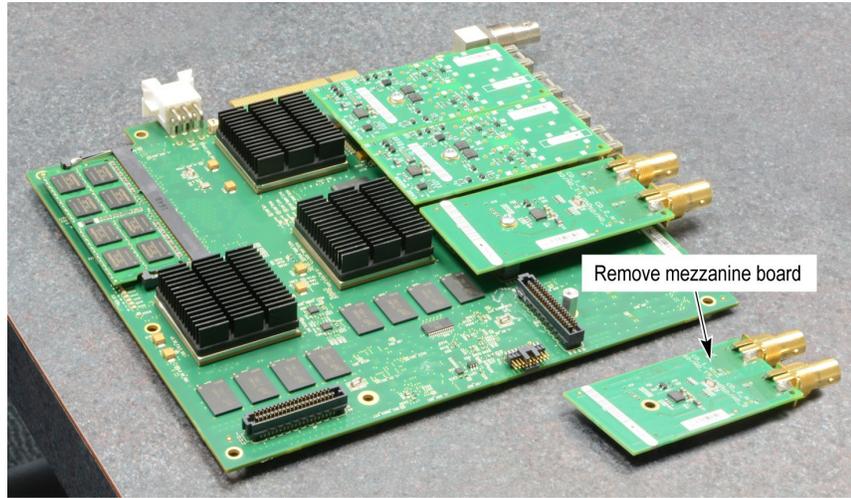


Figure 20: Remove the Mixed Media board from the bracket

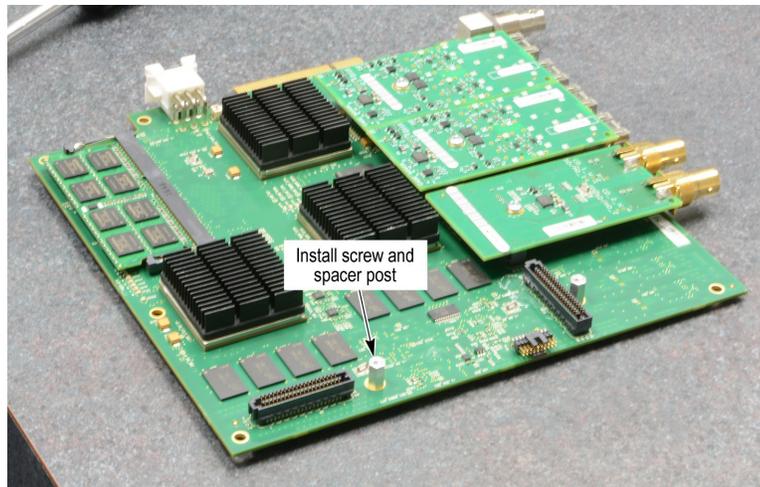
14. Turn the board over and use a TORX-driver with a T-10 TORX tip to remove the screw from the mezzanine board.
15. Remove the mezzanine board from the connector and set it aside.



1095-020

Figure 21: Remove the mezzanine board

16. Refer to the following figure and install the screw from the kit (part number 211-1117-XX) and the spacer post (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.



1095-021

Figure 22: Install the spacer on the board

17. Locate the new Eye mezzanine board from the kit (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.*

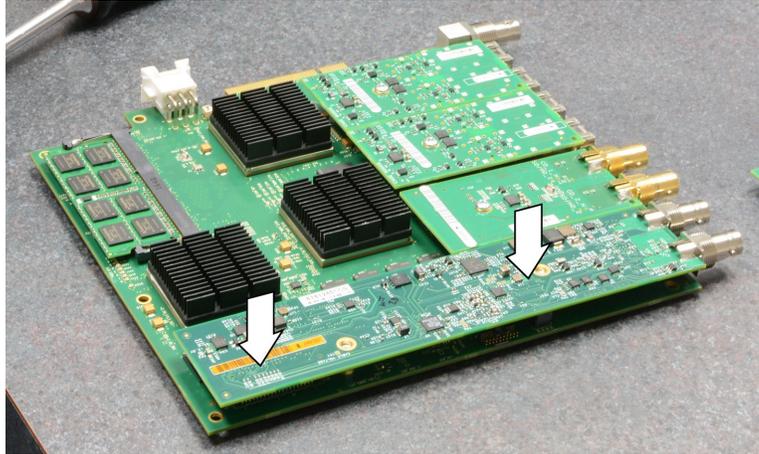


Figure 23: Install the 12G Eye mezzanine board on the main board

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).

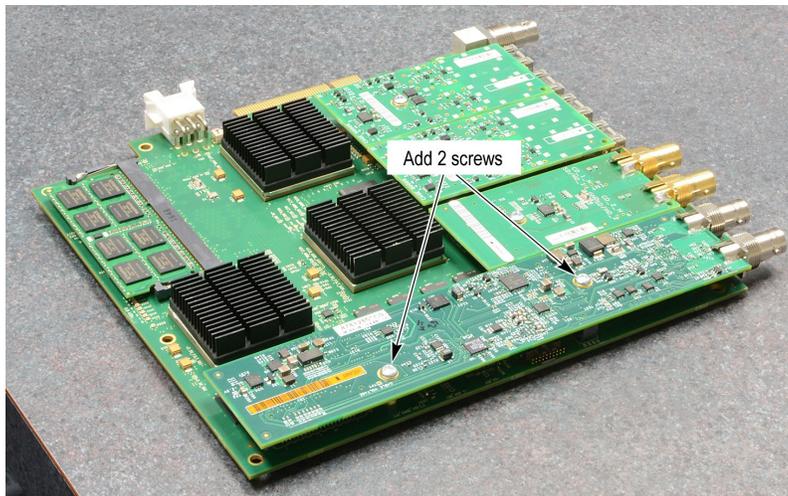


Figure 24: Attach the Eye mezzanine board

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).

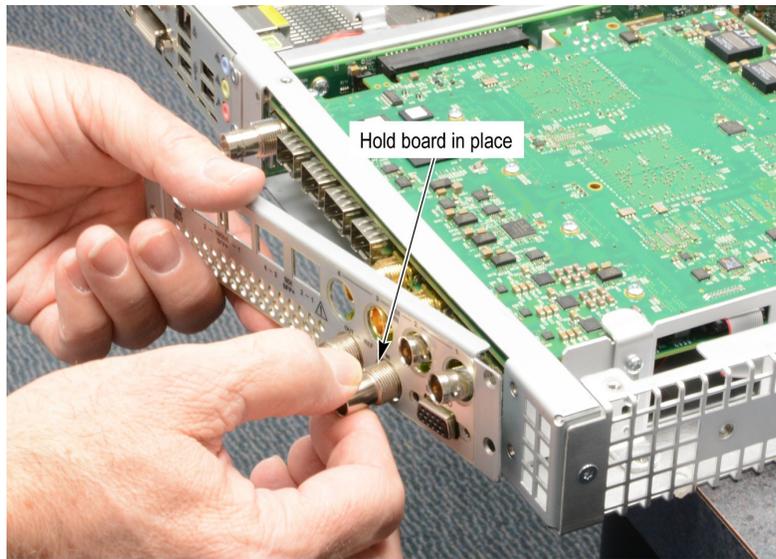
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**NOTE.** *With your finger, put pressure on the gasket by the processor to keep it in place before screwing in the back panel.*

---

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.

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

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Figure 28: Installing the MPX-UP serial number label



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**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.

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29. Upgrade the instrument firmware. ([See Upgrade the instrument firmware.](#))
30. Upgrade the software license. ([See Upgrade the software license.](#))
31. Verify the upgrade. ([See Verify the hardware upgrade.](#))

# Upgrade the instrument firmware

**Before you begin** Telestream releases updates to product firmware to add new features or to fix reported problems. Check the Telestream website regularly for new firmware releases.

You do not need to perform a firmware upgrade if your instrument has the latest version of firmware already installed. 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. Select the **Settings** icon to open the Settings menu.
  - b. Select **Utilities** to open the Utilities submenu.
  - c. Select **Version** to open the Version display.
  - d. In the Software section, make a note of the version number installed on the instrument.

Instrument firmware version number	
------------------------------------	--

3. Verify the latest version of firmware at the Telestream website:
  - a. Use a web browser on a PC and go to the Telestream website software page:  
[www.telestream.net/video/resources.htm#Software](http://www.telestream.net/video/resources.htm#Software).
  - b. Click the product and model title that best matches your instrument (such as PRISM) and in the list, find the software-upgrade package for your instrument.
  - c. Note the latest version number of the software-upgrade package(s).

Website firmware version number	
---------------------------------	--

4. If the latest firmware version at the website is newer than the version on your instrument, you should upgrade the firmware.
5. Click the Firmware Release version for your instrument to download the update.
6. Go to the [Firmware upgrade procedure](#).

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

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If you want the details of what has changed in the release, download the Release Notes for the version.



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**CAUTION.** After the instrument has started the upgrade process, **DO NOT** remove power from the instrument. If you do so, the instrument flash will be corrupted. The instrument will have to be sent to a Telestream factory service center to have the system firmware restored.

---

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

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## Upgrade the Firmware

1. Copy the upgrade file with a .bin file extension from the upgrade package onto a USB memory device. You need approximately 1 GB of available space on the USB device.

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**NOTE.** If the upgrade package included a readme.txt file, read the file before performing the upgrade. The file contains 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, select the **Settings** icon (⚙️) to open the Settings menu.
4. Select **Utilities** to open the Utilities submenu.
5. Select **Firmware Upgrade**. After the USB device has been scanned, the display lists all of the files on the USB device with a .bin file extension.
6. Select the file in the list, and then select **Install** to start the upgrade. (See Figure 76.)

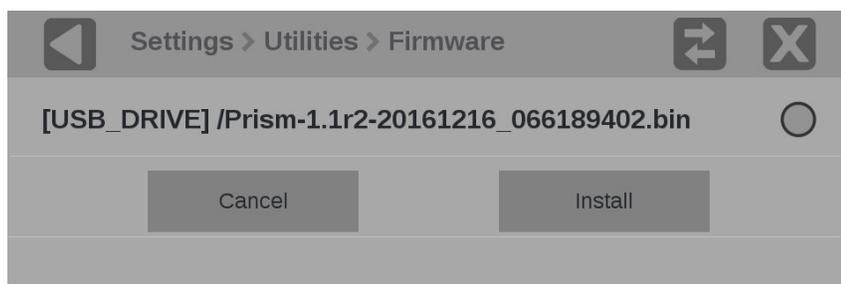


Figure 29: Selecting the firmware upgrade file

7. While the upgrade is in process, a message box appears stating that the firmware installation is in progress. (See Figure 77.)



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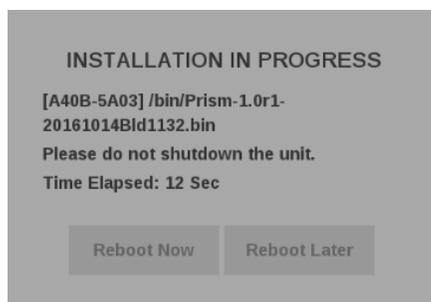
**CAUTION.** *Removing the USB device or powering off the instrument before the upgrade is complete can cause upgrade failure. To prevent upgrade failure, wait until the Installation Complete message box is displayed before performing these actions. The upgrade may take up to five minutes.*

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**NOTE.** *The upgrade may take up to five minutes.*

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**Figure 30: Upgrade Installation In-Process message box**

8. Remove the USB device from the PRISM monitor.

### Verify the firmware upgrade

1. Select the **Settings** icon () to open the Settings menu.
2. Select **Utilities** to open the Utilities submenu.
3. Select **Version** to open the Version display.
4. Verify the displayed firmware version number matches the version of the firmware upgrade package you installed.

# Upgrade the software license

A software license upgrade allows you to add optional software features to your instrument. Go to [www.telestream.net](http://www.telestream.net) for the latest list of features that can be licensed.

## Install the software license upgrade

To activate your licenses your instrument must be accessible by another computer on your local network. Your instrument does not need to access the internet.

To activate your licenses:

1. Connect your PRISM instrument to a local network and turn on power.
2. After the instrument has booted, find the IP address: select **Settings**, then **Network**, and finally select the **STATUS** tab.
3. Copy the IP address of the instrument under the CONTROL IP PORT heading.
4. Open a web browser and enter in the address bar the instrument *IP address/licensePortal.html*, for example,  
*10.233.24.160/licensePortal.html*.
5. Use the instructions in the Telestream License Activation section at the top of the web page. It's only possible to activate one license at a time.

For further assistance, contact our technical support team:  
[www.telestream.net/telestream-support/video/support.htm](http://www.telestream.net/telestream-support/video/support.htm)

## Verify the software license upgrade

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

# Verify the hardware upgrade

Table 3: Required equipment

Test equipment	Requirements	Example
Video test signal generator	HD 1080 59.94i ■ 100% color bars	Telestream TG8000 with SDI7 module
75 $\Omega$ coaxial cables	RG-6 type coaxial cable with male 75 $\Omega$ BNC connectors, 1 to 2 m long, suitable for use to 6000 MHz.	1694A. Telestream 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.

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- 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.

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

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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.

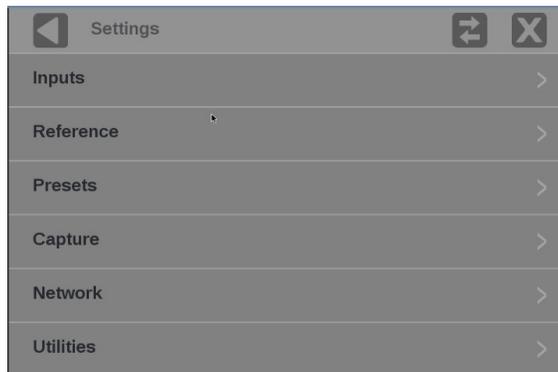


Figure 34: Settings menu

- c. Select an SDI input.

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

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**Figure 35: 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 36: 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 Risettime and Eye Falltime are typically 500 ps to 1500 ps.

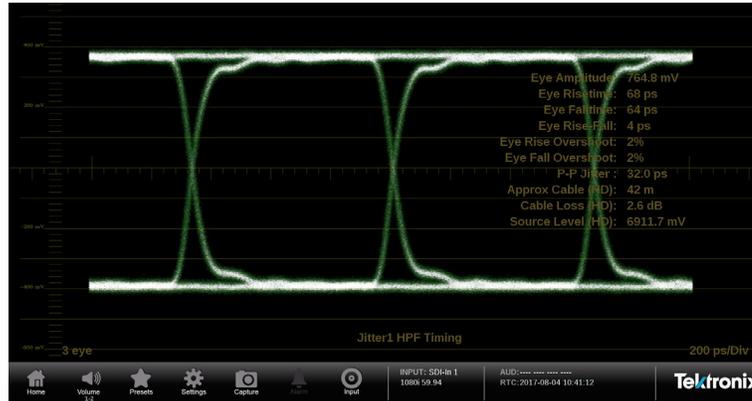


Figure 37: Eye diagram example