

# Makito X4 Decoder Quick Start Guide

## Makito X4 Decoder 1.0



This Quick Start Guide provides the steps required to install and get started configuring the Makito X4 decoder to set up video decoding from a Haivision encoder (Makito X4, Makito X, or Makito “Classic”) or a third party compatible encoder.

- For detailed configuration and operation information, please refer to the *User’s Guide* (available at <https://doc.haivision.com>).
- For the default credentials, refer to the *Important Notice* document (postcard shipped with the appliance or available on the Haivision Support Portal at <http://support.haivision.com>).
- For information on the MB6 (6-slot) or MB21 (21-slot) chassis, refer to the [MB6 Chassis Installation Guide](#) or the [MB21 Chassis Installation Guide](#).

## Install the Decoder

1. Unpack the box and visually inspect the package contents for any evidence of shipping damage. [See the *Important Notice* postcard in the box for list of contents.]
2. Install the Makito X4 as a desktop unit on a flat, well-ventilated surface.

## Before You Begin

Use the following guidelines when unsafe conditions exist or when potentially hazardous voltages are present:

- Always use caution and common sense.
- To reduce the risk of electrical shock, do not operate equipment with the cover removed.
- Repairs must be performed by qualified service personnel only.

Improper handling and/or installation practices of sensitive equipment may VOID the warranty.

### ⚠ Caution

When handling components, or when setting switch options, always use an antistatic wrist strap connected to a grounded equipment frame or chassis. *If a wrist strap is not available, periodically touch an unpainted metal surface on the equipment.* Never use a conductive tool, such as a screwdriver or a paper clip, to set switches.

**! Important**

Refer to the following safety and disposal notices:

- [Safety Guidelines](#)
- [Laser Safety With SFP+ Optical Modules](#)
- [Waste Electrical and Electronic Equipment \(WEEE\) Disposal](#)

## Connect to the Network

**⚠ Warning**

**Laser Radiation - SFP Port:** Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Refer to the [Laser Safety With SFP+ Optical Modules](#) notice.

To connect the Network Interface:

1. Connect the Makito X4 Decoder's network port to the IP network using an Ethernet UTP cable (type Cat 5 or higher).



2. You can now telnet to the unit or connect via the Web interface.

### Related Topics

- [System Interfaces](#)

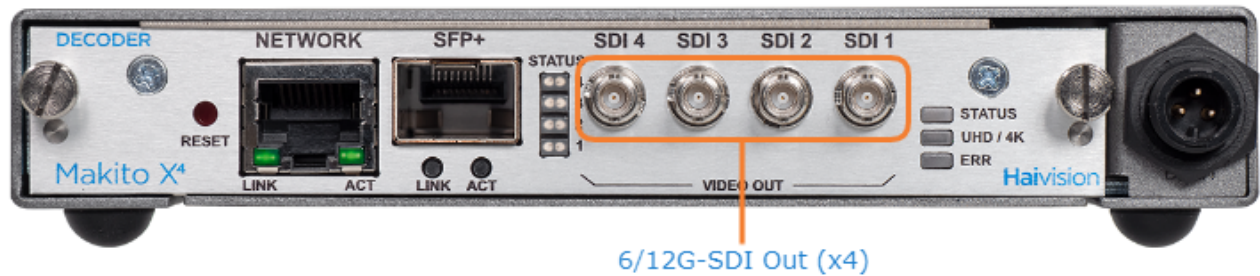
## Connect to A/V Displays

**Note**

The Makito X4 decoder is shipped with four (4) HD-BNC to BNC adapter cables.

To connect to Audio/Video displays:

- Connect one (or more) of the decoder's video outputs to TV or display monitors, using the HD-BNC to BNC adapter cable(s).



The Makito X4 decoding capability may be spread across all four decode channels. All ports are 6/12G-SDI capable. The following video configurations are available: Primarily one (1) UHDp60, or two (2) UHDp30 or four (4) 1080p60 channels.

<p><b>Single channel mode (up to UHDp60)</b></p> <ul style="list-style-type: none"> <li>• Decodes one stream only for a single channel.</li> <li>• Up to a 3840x2160p23.98/24/25/29.97/30/50/59.94/60 signal may be output from a 6G/12G-SDI port only (See SMPTE 2081 and 2082), or from the 4 x 3G-SDI ports supporting the two (2) sample interleaved (2SI) reduced resolution modes as per SMPTE 435.</li> </ul>
<p><b>Dual channel mode (up to 2 x UHDp30)</b></p> <ul style="list-style-type: none"> <li>• Decodes two streams using two channels.</li> <li>• Up to a 3840x2160p23.98/24/25/29.97/30 signal may be output from one or both 6G/12G-SDI ports.</li> </ul>
<p><b>Triple channel mode (one UHDp30 and up to 2 x 1080p60)</b></p> <ul style="list-style-type: none"> <li>• Decodes three streams using three channels.</li> <li>• Up to a 3840x2160p23.98/24/25/29.97/30 signal may be output from the 6G/12G-SDI port only (See SMPTE 2081 and 2082) and up to two (2) 1920x1080p60 signals may be output from any two (2) SD/ED/HD/3G-SDI HD-BNC ports as per SMPTE 424 and SMPTE 425 (or SD/ED/HD/3G-SDI)</li> </ul>
<p><b>Quad channel mode (up to 4 x 1080p60)</b></p> <ul style="list-style-type: none"> <li>• Decodes four streams using four channels.</li> <li>• Up to a 1920x1080p60 signal may be output from any SD/ED/HD/3G-SDI HD-BNC port as per SMPTE 424 and SMPTE 425 (or SD/ED/HD/3G-SDI)</li> </ul>

Changes to a given decode channel configuration do not impact other unmodified decode channels so long as the aggregate decoding capability of the device is not exceeded.

You can select the stream for each channel from the Web Interface. In case of over-subscription, video decoding resources are prioritized with the lower decoder numbers (starting with decode channel 0) having higher priority. For details, see [Oversubscription of Decoder Channels](#).

## Related Topics

- [Audio/Video Interface](#)

## Power Up the Decoder

Once all the cables are in place, the decoder is ready to be powered up.

### **Caution**

To prevent damage to the Makito X4 and/or power supply, be sure to connect the power supply to the chassis first and then to the AC source.

Always use the AC power cord and power supply provided with the unit. The single and dual-height chassis have different power supply units and chassis connectors.

### **Important**

There is no power switch on the Makito X4 appliance. The power is automatically on when the unit is plugged in. When using the AC/DC power adapter, the power supply cord is used as the main disconnect device. Ensure that the AC socket outlet is located near the equipment and is easily accessible.

To power up the decoder:

1. Insert the 3-pin connector on the 12V power supply into the Power input jack at the rear of the Makito X4.
2. Connect the power cord to the power supply and plug the cord into a grounded AC power source. The status LED will start blinking green, indicating that the decoder is booting up.
3. Wait until the Status LED stays solid green, indicating that the decoder is ready for operation.



Connect Power Supply here  
(Power Input Jack)

**Power Adapter 12VDC with Conxall 3-pin Connector**



Conxall 3-pin Connector

**Related Topics**

- [Power Connector Pinouts \(Single-Height Chassis\)](#)
- [LED Status Indicators](#)

## Access the Web Interface

1. Open a Web browser of your choice, such as Chrome, Firefox, Safari, or Edge.

**Note**

Internet Explorer is not supported on the Makito X4 decoder.

2. Type the IP address for the decoder into the browser’s address bar and press Enter. The Makito X4 decoder comes pre-configured with the following default settings:

IP Address	Subnet Mask	Gateway
10.5.1.2	255.255.0.0	10.5.0.1

**Note**

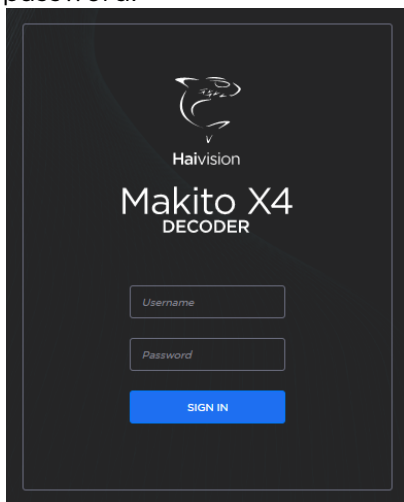
To access the Web interface, your computer must be in the same IP Address range (subnet). You may have to temporarily change your computer’s IP Address to be in the same subnet as the decoder. Only then will you be able to access the Makito X4 and change its IP address, and then afterwards change your computer’s IP address back. For details, see [Configuring Network Settings](#) in the User’s Guide.

3. The first time you try to access the Web interface from a new browser, the browser may not recognize the Makito X4’s https connection, and you may get a Security Certificate Warning (such as “This Connection is Untrusted.” or “The site’s security certificate is not trusted.”). You must accept the Makito X4’s self-signed certificate in order to access the Web interface.

**Note**

The Makito X4 identity certificate and trusted root certificates may be managed using the CLI `certificate` command. See [certificate](#) in the User’s Guide.

4. Sign in to the Makito X4 decoder Web interface, using the default administrative user name and password.



Please refer to the *Important Notice* (postcard included in the box or available from the [Download Center](#) on the Haivision Support Portal) for the default login credentials.

**Important**

Makito X Series devices ship from the factory with only the `admin` account enabled. For security reasons, the two default user accounts (`user` and `operator`) are locked at the factory as well as after a factory reset. An administrator must unlock them and change the passwords to use them for the first time.

**Tip**

For security purposes, be sure to change the default passwords! See [Changing Your Password](#) in the User's Guide.

The Web interface opens to the Control Center.

Side menu

Click to expand/collapse side menu

Click to open InfoCenter

Click arrows to expand/collapse configuration panels

Decoder status/configuration with Preview thumbnails

Stream status/configuration

Click to add a stream

Stream Name	Connection	Protocol	Status
1) (None)	10.65.131.104 → 4500	TS over UDP	Active
2) (None)	10.65.131.104 → 4510	TS over RTP	Active

**Tip**

The donut chart on each Decoder panel shows the resources used per decoder (darker green slice), as well as globally (lighter green slice). For more information including the color coding for the status bars, see [Donut Charts](#).

## Related Topics

- [Getting Started with the Web Interface](#)

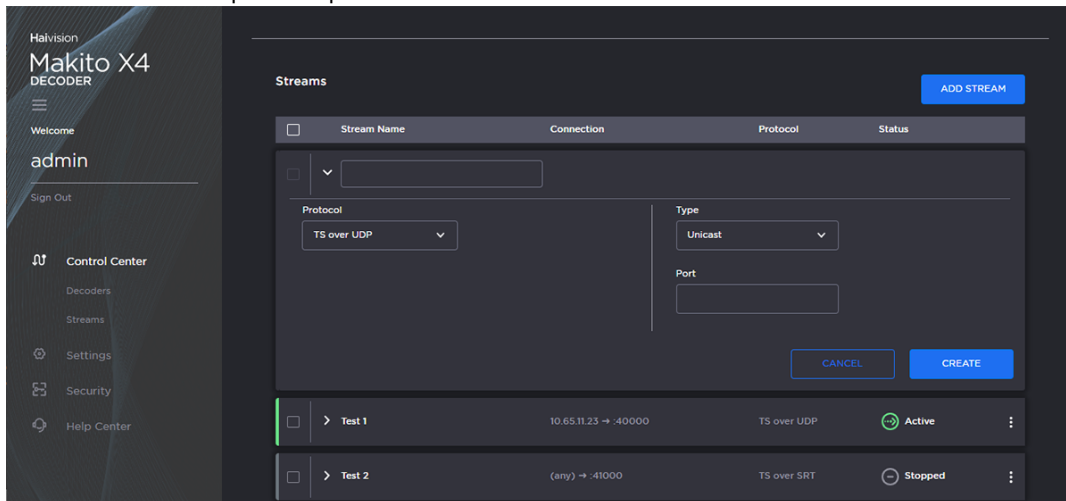


## Set Up Streams

Decoder and Stream configuration is all on one page. You can expand or collapse panels on the Control Center by clicking the arrow ( ▶ ) to view and configure the Decoder and Stream settings.

The first step is to create one or more streams to map the decoder inputs to output interfaces.

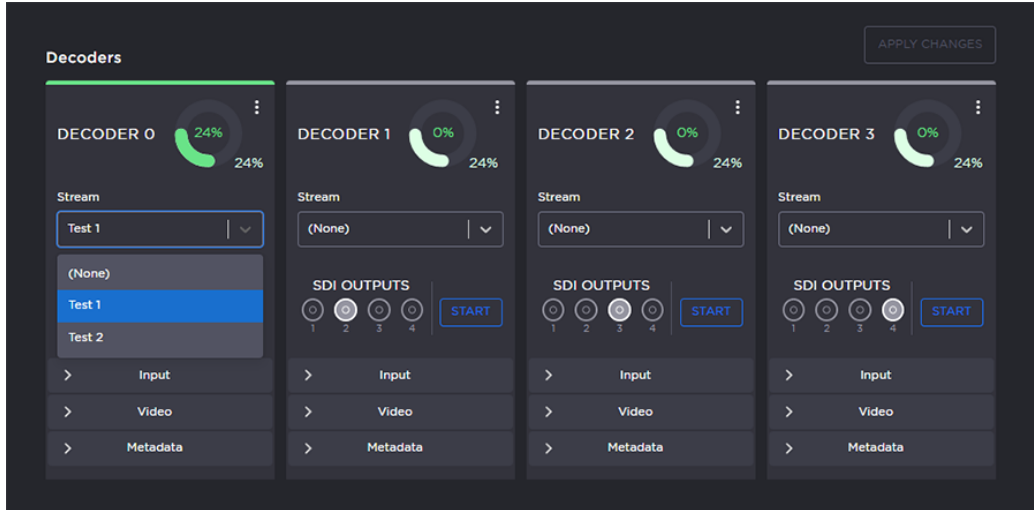
1. On the Control Center, click **Add Stream** to add the first stream.  
The New Stream panel opens.



2. Type a name for the stream in the Name field.
3. Select the stream Protocol, for example, **TS over UDP** .
4. Select the stream Type, either Unicast or Multicast.
5. For Multicast streams, type in the Multicast Address, for example, **225.2.2.2** .
6. Type in the Port number, for example, **5000** .
7. Click **Create**.  
The new stream is active and is added to the Streams List.
8. To add another stream, click **Add Stream** and follow the previous steps (Step #2 - #7) to configure the stream.

Next assign each stream to a decoder.

1. Beginning with Decoder 0, on the Decoders panel, select the stream from the Stream drop-down list.



2. Select the Output port(s) for the decoder (if not using the default selection). You can route the decoded video and audio to any set of physical outputs to specify which interfaces you want to see the video on.

**Important**

Decoder 0 has highest priority, and the video decoding resources are prioritized with the lower decoder numbers (i.e., 0, then 1, 2, and 3) having higher priority. For more information, see [Oversubscription of Decoder Channels](#).

3. Click **Start** to begin decoding the stream.

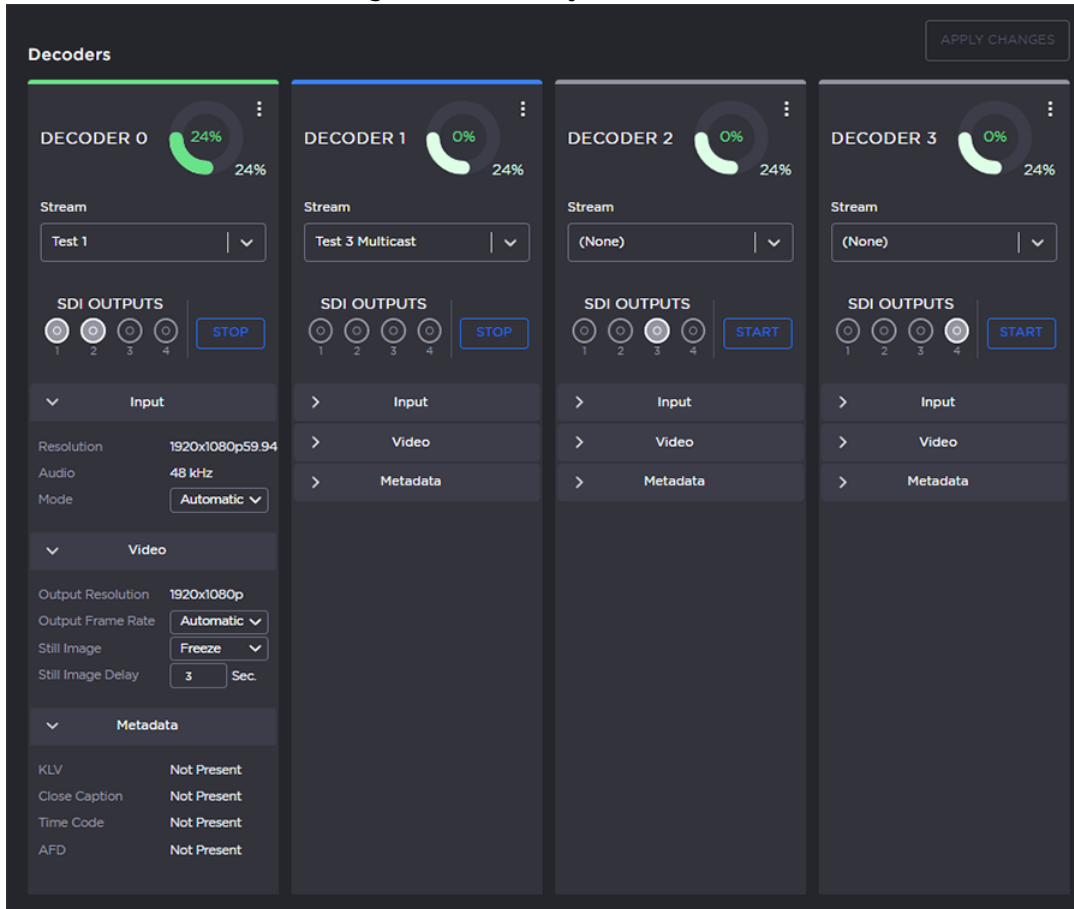
**Related Topics:**

- [Configuring Streams](#)

# Configure Decoder Outputs

To adjust the Decoder settings:

1. On the Decoders panel, again starting with Decoder 0, click the Input, Video and Metadata arrows ( > ) to expand the configuration panels.  
Some of the Decoder settings are read-only.



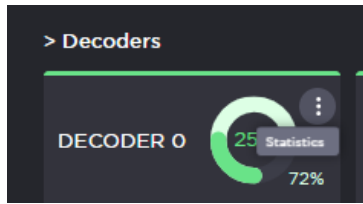
**Tip**

The donut chart on each Decoder panel shows the resources used per decoder (darker green slice), as well as globally (lighter green slice). For more information including the color coding for the status bars, see [Donut Charts](#).

**Note**

The decoder will display the Still Image if it is no longer receiving video (for example, if the encoder stream has stopped or the network connection is lost).

3. To start or stop video decoding, click **Start** or **Stop** (as applicable).
4. To view statistics for the decoder, click the More Options ("three dots") menu icon and select **Statistics**.



#### Related Topics:

- [Configuring Decoder Outputs](#)

## Start to Decode

Once you have created one or more streams and bound the video and audio to your streams, the decoder is ready to start decoding.

1. (If not already created) Create a stream from a Haivision encoder (Makito X4, Makito X, or Makito "Classic") with this decoder as the destination. [Make sure the encoder is on the same network segment.]
2. Start the stream from the encoder and you should see video on your decoder displays.
3. Click the More Options ("three dots") menu icon on the Decoders panel and select **Statistics** to display helpful information about the decoding session.

#### **Note**

In order to optimize your decoder's performance, it is recommended that *only* the required network services be enabled. Please review the network services to make sure services used for your application are enabled or disabled as appropriate. See [Enabling and Disabling Network Services](#) in the User's Guide.

#### **Important**

Clicking **Apply Changes** does not save your changes and they will be lost after a reboot. Saving configurations as presets provides a way for you to save groups of settings and apply them to other streams. For more information, see [Saving and Loading Presets](#) in the User's Guide.

#### Related Topics

- [Managing the Decoder](#)

## Safety Guidelines

### Warning

This product is intended for installation in a restricted area. Limited access areas are protected by a specific mechanism, lock and key or other security device.

**ATTENTION** Ce produit est destiné à être installé dans une zone d'accès restreint. Les zones d'accès limité sont protégées par un mécanisme spécifique, une serrure et une clé ou tout autre dispositif de sécurité.

### Warning

When using the AC/DC power adapter, the power cord is the main disconnect device. Ensure that the socket-outlet is located/installed near the equipment and is easily accessible.

**ATTENTION** Quand on utilise l'adaptateur AC à DC, le cordon d'alimentation est utilisé comme interrupteur général. La prise de courant doit être située ou installée à proximité de l'équipement et être facile d'accès.

### Warning

The installation of the equipment must comply with local and national electrical regulations.

**ATTENTION** L'installation de l'équipement doit être conforme aux réglementations électriques locales et nationales en vigueur.

### Warning

Any power supply shipped with a Haivision Makito X Series encoder or decoder is to be used *only* with that product. Haivision supplied power supplies are *not* for general use.

**ATTENTION** Tout bloc d'alimentation électrique livré avec un encodeur ou un décodeur de la série Haivision Makito X doit être utilisé uniquement avec ce produit. Les blocs d'alimentation fournis par Haivision ne sont pas destinés à un usage général.

## Antistatic Precautions

Electrostatic discharge (ESD) results from the buildup of static electricity and can cause computer components to fail. Electrostatic discharge occurs when a person whose body contains a static buildup touches a computer component.

The equipment contains static-sensitive devices that may be easily damaged, and proper handling and grounding is essential. Use ESD precautionary measures when installing systems or cards, and keep the parts and cards in antistatic packaging when not in use. If possible, use antistatic floor pads and workbench pads.

### Caution

When handling components, or when setting switch options, always use an antistatic wrist strap connected to a grounded equipment frame or chassis. *If a wrist strap is not available, periodically touch an unpainted metal surface on the equipment.* Never use a conductive tool, such as a screwdriver or a paper clip, to set switches.

## EMC Warnings

### Notice with respect to Class A (FCC)

Changes to equipment without the permission of Haivision may result in its failure to comply with the FCC requirements for Class A digital devices. If applicable, your rights to use the equipment may be limited by the FCC rules and you may be able to remedy, at your own expense, any interference with radio or television equipment. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference that may occur when the equipment is used in a commercial environment. This equipment generates, uses and can radiate radio frequency energy. If not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Use of this equipment in residential areas may cause harmful interference. If necessary, users will have to resolve these issues at their own expense.

### Avis relatif aux appareils de classe A (FCC)

Toute modification de l'équipement sans l'autorisation de Haivision peut entraîner sa nonconformité aux exigences de la FCC concernant les appareils numériques de classe A. Le cas échéant, vos droits d'utilisation de l'équipement seront susceptibles d'être limités par les règlements de la FCC et vous pourrez être amené à remédier, à vos frais, aux éventuelles interférences avec des dispositifs radiophoniques ou télévisuels. Cet équipement a été testé et jugé conforme aux limites d'un périphérique numérique de classe A en vertu de la partie 15 des règlements de la FCC. Ces limites ont pour but de fournir une protection raisonnable contre les interférences nuisibles susceptibles de se produire, lorsque l'équipement est utilisé dans un environnement commercial. Cet équipement génère, utilise et peut émettre de l'énergie radioélectrique. S'il n'est pas installé ni utilisé conformément au manuel d'instructions, il peut provoquer des interférences nuisibles aux communications radio. L'utilisation de cet équipement dans les zones résidentielles est susceptible de causer des interférences nuisibles. Le cas échéant, les utilisateurs devront résoudre ces problèmes à leurs frais.

### Notification for Class A (Canada)

This Class A digital apparatus complies with Canadian ICES-003.

### Notification pour les appareils de classe A (Canada)

Cet appareil numérique de Classe A est conforme à la norme NMB-003 du Canada.

### Safety instructions for Class A for CISPR32

**WARNING:** This product is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may need to take appropriate measures.

### Consigne de sécurité relative à la Classe A pour CISPR32

**ATTENTION:** Il s'agit d'un produit de Classe A. Dans un environnement domestique, ce produit peut entraîner des perturbations radioélectriques, auquel cas l'utilisateur devra éventuellement prendre des mesures adéquates.

# Laser Safety With SFP+ Optical Modules

This section provides safety information and warnings for Small Form-factor Pluggable (SFP+) modules.

**Warning**

**Laser Radiation** Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments.

**Class 1M Laser Radiation** Class 1M laser radiation when open. Do not view directly with optical instruments.

**Unterminated Fiber Cable** Invisible laser radiation may be emitted from the end of the unterminated fiber cable or connector. Do not view directly with optical instruments. Viewing the laser output with certain optical instruments (for example, eye loupes, magnifiers, and microscopes) within a distance of 100 mm may pose an eye hazard.

**CE: Class 1 and Class 1M Laser** Class I (CDRH) and Class 1M (IEC) laser products.

**Attention**

**Rayonnement laser** Les fibres ou connecteurs débranchés risquent d'émettre des rayonnements laser invisibles à l'œil. Ne regardez jamais directement les faisceaux laser à l'œil nu, ni d'ailleurs avec des instruments optiques.

**Rayonnement laser pour les appareils de classe 1M** Radiation laser de classe 1M en cas d'ouverture. Ne pas observer directement avec des instruments optiques.

**Câble de fibre optique sans terminaison** Des émissions de radiations laser invisibles peuvent se produire à l'extrémité d'un câble en fibre ou d'un raccord sans terminaison. Ne pas fixer du regard le rayon ou l'observer directement avec des instruments optiques. L'observation du laser à l'aide certains instruments optiques (loupes et microscopes) à une distance inférieure à 100 mm peut poser des risques pour les yeux.

**CE: Laser pour les appareils de classes 1 et 1M** Produits laser catégorie I (CDRH) et catégorie 1M (IEC).

## Obtaining Documentation

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## Getting Help

<p><b>General Support</b></p>	<p>North America (Toll-Free)  <b>1 (877) 224-5445</b></p> <p>International  <b>1 (514) 334-5445</b></p> <p><i>and choose from the following:</i>  Sales - 1, Cloud Services - 3, Support - 4</p>
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<b>Managed Services</b>	U.S. and International 1 (512) 220-3463
<b>Fax</b>	1 (514) 334-0088
<b>Support Portal</b>	<a href="https://support.haivision.com">https://support.haivision.com</a>
<b>Product Information</b>	<a href="mailto:info@haivision.com">info@haivision.com</a>