Kraken CR Quick Start Guide
Kraken CR Encoder/Transcoder

This Quick Start Guide provides the steps required to install and connect to your Kraken CR (Compact Rugged) H.264/HEVC encoding/transcoding appliance.

For detailed Kraken configuration and operation information, please refer to the User's Guide (available on the InfoCenter at https://doc.haivision.com).

For the default credentials, refer to the *Important Notice* (postcard shipped with the appliance). You may download the *Important Notice* as well as the latest software and Release Notes through the Download Center on the Haivision Support Portal (http://support.haivision.com).

Guide Contents

Safety Guidelines

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.

Waste Electrical and Electronic Equipment (WEEE) Disposal

In accordance with the European Union (EU) WEEE Directive, Haivision products that fall within the scope of the WEEE, are labeled with the above symbol, and customers are encouraged to responsibly recycle their equipment at the time of disposal. Haivision also offers its customers the option of returning Haivision equipment to facilitate its environmentally sound disposal.

For more information, please visit our website at: https://www.haivision.com/environment.

Physical Installation

1. Open the box, verify the contents, and visually inspect the items for any shipping damage. If necessary, contact Haivision for return instructions.

2.
> **ℹ Note**
>
> The Kraken CR is an indoor appliance and should be kept in a dry, dust free environment.

> **⚠ Caution**
>
> When mounting in a server rack, refer to your rack vendor's documentation as well as the included rack mount instructions in the rail kit provided with your system. Improper rack mounting could cause serious harm to equipment and/or people near the rack. Please be sure to properly and securely mount your hardware.
>
> The Kraken CR takes in fresh air from the top rear air vent and pushes it out the front. Do not stack the units or block the air flow in any way as it can cause the unit to overheat.

> **⚠ Caution**
>
> This equipment is susceptible to damage by static electricity. Proper handling and grounding is essential. Use a grounded antistatic wrist strap, foot strap, or equivalent safety equipment to prevent Electrostatic discharge (ESD) when you install the appliance.
>
> Do not open the appliance. There are no user-serviceable parts inside the unit. Making unauthorized changes will void the warranty.
>
> Do not remove the SSD card while the appliance is running.

> **⚠ Caution**
>
> **Hot surface. Avoid contact.** The chassis can achieve a surface temperature 75°C in poorly ventilated environments, and may cause personal injury if touched.
>
> *Surface chaude. Éviter le contact. Le châssis peut atteindre une température de surface de 75°C dans des environnements mal ventilés et peut causer des blessures en cas de contact.*

> **⚠ Warning**
>
> This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security.
>
> *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.*

Ethernet and Serial Connections (Front panel)
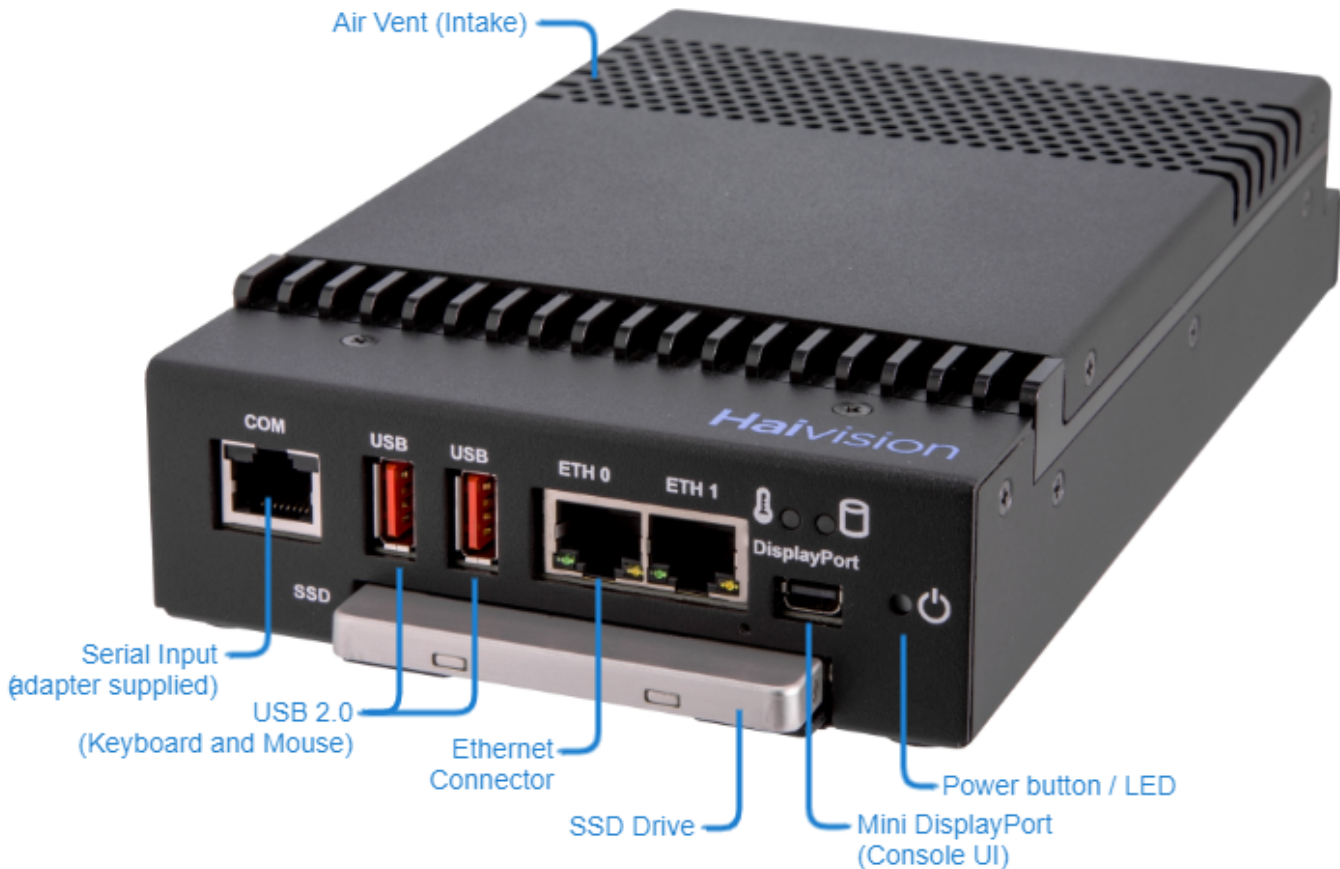
1. To connect to the unit via the Web interface or SSH, connect an RJ45 Ethernet cable (CAT5) to the **Eth 0** connector on the Kraken CR front. Connect the other end of the cable to the network.
2. To capture CoT or KLV metadata from the serial port, connect the **COM** port to the serial port of a computer.
   Use the RS-232 DB9 to RJ45 Serial adapter (included in the package, shown following) and a standard straight Ethernet cable. For the pinouts, see COM Serial Port RJ45 Pinout and Serial Adapter DB9 Pinout.
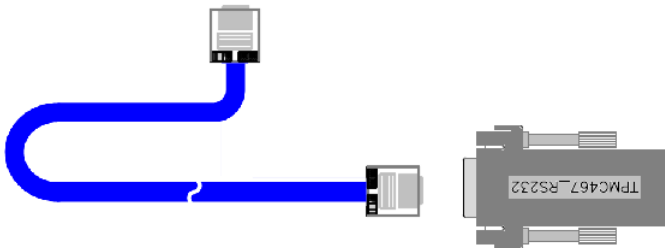
> **ℹ Note**
>
> To capture metadata from the serial port, set the terminal parameters as follows to communicate with Kraken:
>
> | Parameter | Setting |
> |---|---|
> | Baud Rate | 115,200 bps |
> | Data Bits | 8 |
> | Parity | None |
> | Stop Bits | 1 |
> | Flow Control | None |

3. To directly connect to the Kraken CR console UI:
   - Connect the Mini **DisplayPort** to a monitor. Use an HDMI or DVI adapter, if required.
   - Connect a mouse and keyboard to the **USB** ports.

> **ℹ Note**
>
> The unit is preconfigured to turn On when power is applied.
>
> | Power LED Indications | |
> |---|---|
> | GREEN | Kraken CR is On. |
> | OFF | Kraken CR is Off. |
> | **Power button Usage** | |
> | Soft Shutdown | Depress Power button. |
> | Hard Shutdown | Depress Power button and hold for 4 seconds. |

A/V and Power Connections (Rear panel)

1. To capture HD/SD-SDI digital video, connect your video source cable to the **SDI** input (BNC connector).
2. To capture Analog Composite video, connect your video source cable to the **COMP** input (BNC connector)
3. Plug the DC connector into the power connector at the rear of the unit.
4. Plug the power cord into the AC adapter.
5. Plug the cord into a grounded AC power source. (Refer to Caution under Physical Installation.)

> **ℹ Note**
>
> The unit is preconfigured to turn On when power is applied.

Changing the Network Settings

> ⚠ **Note**
>
> After first boot, the device is configured for a static IP address as defined in the *Important Notice*. Prior to accessing the main Web interface, you must configure the device with a valid IP address and gateway to work in your environment. The following section takes you through the steps to update your network settings using the Console UI.

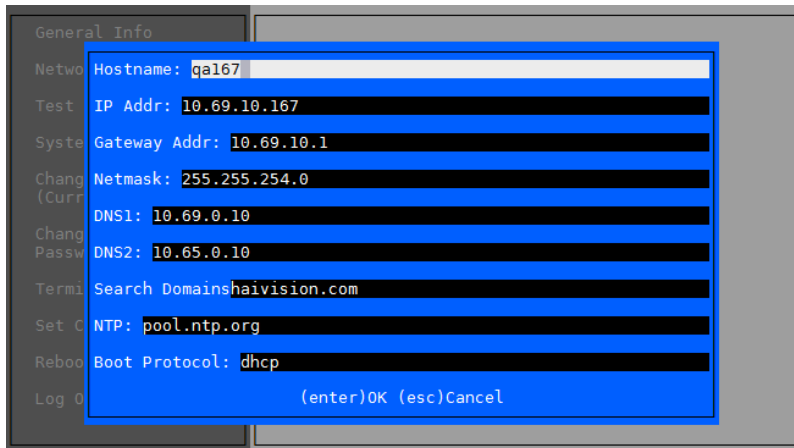To change the network settings of the device:

1. Once the Console UI welcome screen appears on the attached monitor, locate the IP Address assigned to the device as noted on the welcome screen.
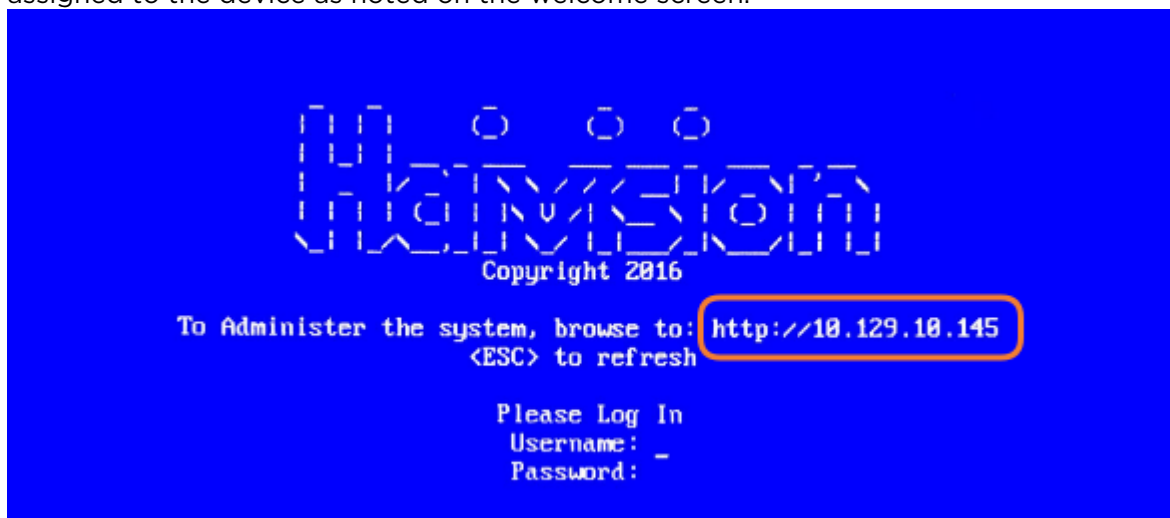
2. Log in to the Console UI using the credentials provided in the *Important Notice*.
3. In the navigation sidebar, use the ↑↓ (up and down arrow) keys to highlight **Network Settings**, and then press the **Enter** key.
4. Using the ↓ (down arrow) to step through all the Network Settings, change the Hostname, IP Address, Gateway Address, Boot Protocol (DHCP or static), and any other settings as necessary.
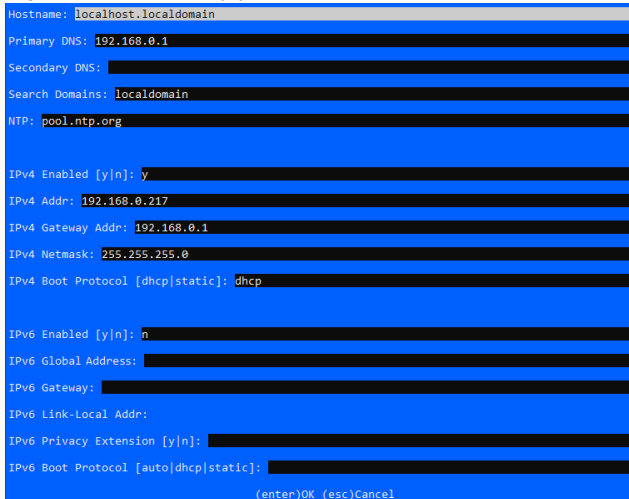
> ⚠ **Note**
>
> • In the Boot Protocol textbox you must type either 'dhcp' or 'static'.
> • Depending on your SSH client settings, the console window might not display all the available settings. For instance, "Boot Protocol" may not be visible if your screen height is not large enough.

> ⚠ **Note**
>
> If your device supports IPv6, the network settings page contains both IPv4 and IPv6 settings:
>
>

5. Press the **Enter** key to save your changes and return to the main screen.

> ⚠ **Note**
>
> After pressing Enter, it takes a few seconds for the settings to be saved. The system may seem unresponsive during this time.

6. Select **Log Out** and then press the **Enter** key to exit the Console UI.

For more details, refer to Using the Console UI with Haivision Hardware.

Accessing the Web Interface

To access the device's Web interface:

1. On another computer connected to the same network, open a Web browser.
2. Enter the device's assigned IP address. For example, if the IP Address is 10.5.1.4, enter a URL of https://10.5.1.4.
3. When a browser accesses the website, it requests a security certificate to confirm that the site is trusted.
   The device ships with a self-signed SSL certificate key set which works with any configured server hostname. However, Web browsers do not consider self-signed certificates to be trusted, because they are not signed by a Certificate Authority. Consequently, when accessing the website with a self-signed certificate, users see a security warning and are prompted for authorization as shown below. Responses may vary depending upon the browser used.
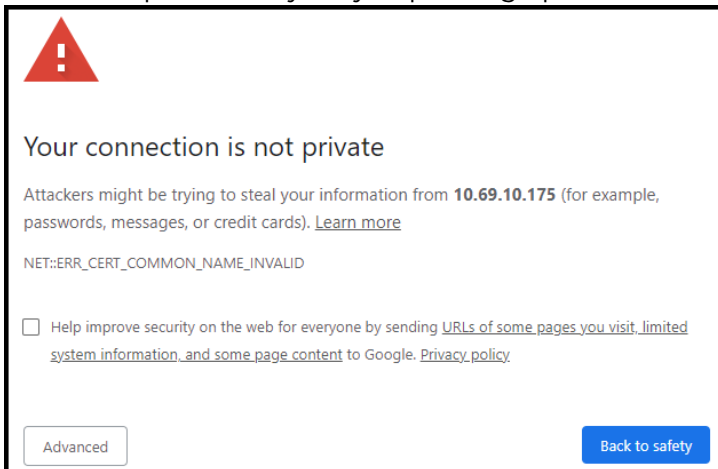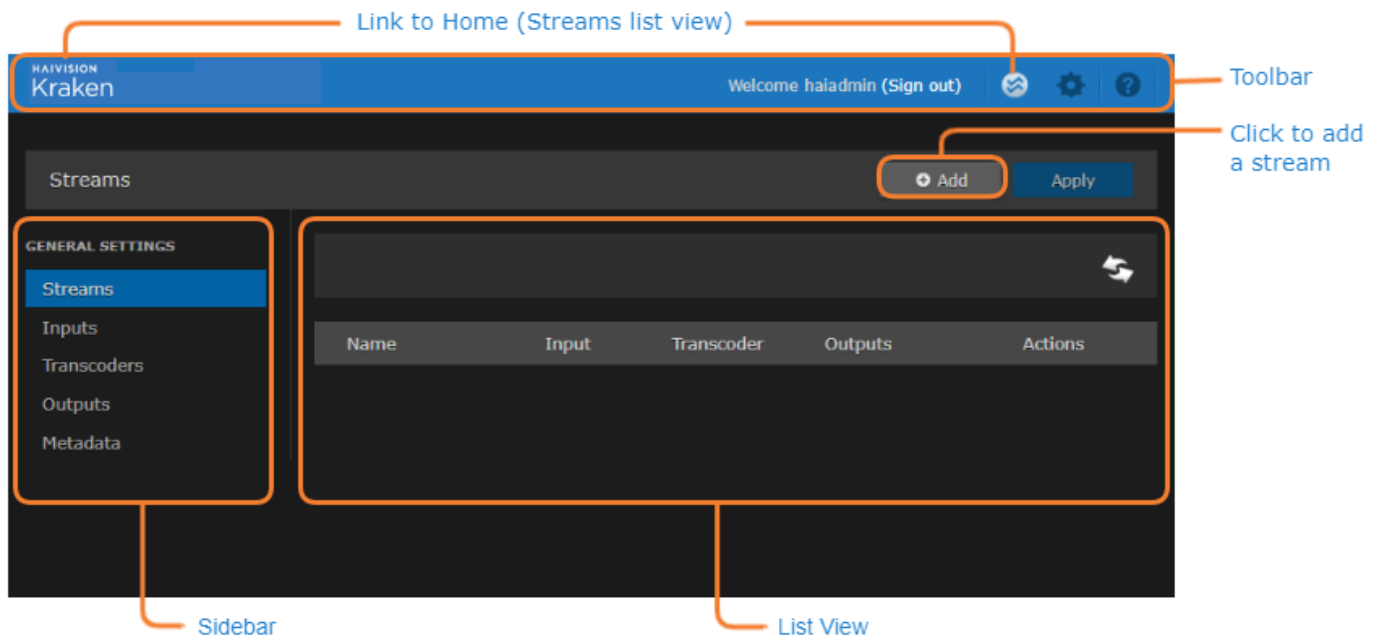

> ⓘ **Important**
>
> Before proceeding or adding an exception for the site, check with your administrator on the correct response.

4. Sign in using one of the credentials provided on the *Important Notice* included with your device.

> ✅ **Tip**
>
> For security purposes, be sure to change the default passwords! See Changing Your Password in the User's Guide.

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The Web interface opens to the Streams List View.

Setting Up Transcoding and Encoding

To set up transcoding, you need to define:

- **Inputs** – the source URL, or an SDI or Analog Composite Input (applicable hardware server or appliance, cloud or virtual machine instance) for baseband input encoding
- **Transcoders** – audio and video characteristics to change
- **Outputs** – one or more output URLs
- **Streams** – select from defined Inputs, Outputs, Transcoders, and (optionally) Metadata sources.

You may optionally configure Kraken to capture KLV or CoT **Metadata** from a UDP network source or from the SDI or Serial Input interface.

For detailed configuration and operation information, please refer to the Kraken User's Guide.

Technical Specifications (Kraken CR)

This section lists the technical specifications for Kraken CR.

> ⓘ **Note**
>
> References to Kraken CR include variants of Kraken CR that provide HEVC hardware acceleration.

Encoding   Transcoding   Video Processing   Networking   Management   Appliance

Encoding

Video Input: • Composite NTSC/PAL • SD-SDI SMPTE 259-M • HD-SDI SMPTE 292M, 274M, 296M

Encoding   **Transcoding**   Video Processing   Networking   Management   Appliance

Transcoding

Sources: • IP MPEG-2, H.264 or HEVC input • MJPEG from L-3 Vortex	
Input H.265/HEVC: • Up to Level 4 (1080p30) • Main Profile • MPEG Transport Stream, SRT or RTSP • Up to 10Mbps • CBR, VBR	Output H.265/HEVC: • Main Profile • Up to Level 4 (720p30) • MPEG Transport Stream or SRT • Up to 6Mbps • Transport Stream Shaping, VBR
Input H.264/AVC: • Up to Level 4.2 (1080p60) • Baseline, Main, High Profile • MPEG Transport Stream, SRT or RTSP • Up to 20Mbps • CBR, VBR	Output H.264/AVC: • Baseline, Main, High Profile • Up to Level 4 (1080p30) • MPEG Transport Stream or SRT • Up to 10Mbps • Transport Stream Shaping, VBR
Input MPEG-2: • MainProfile@MainLevel (SD) • MainProfile@HighLevel (HD) • MPEG Transport Stream • Up to 20Mbps	
Input Audio: • MPEG1 Layer 2 • AAC 2 channel and 5.1	Output Audio: • AAC 2 channel • Audio Sync Preserved
Input Metadata: • KLV or CoT over serial RS-232 • KLV or CoT over IP • KLV over HD-SDI	Metadata (Processing): • CC 608/708 pass-through • CoT to KLV conversion • CoT Relay • Insertion and KLV edits • KLV pass-through • SMPTE 336M compliant • MISB 0601 compliant

Encoding   Transcoding   **Video Processing**   Networking   Management   Appliance

Video Processing

- De-interlacing
- Down Scaling
- Aspect Ratio Preserved
- Configurable Frame Rate
- Optional QSV HW Acceleration

| Encoding | Transcoding | Video Processing | Networking | Management | Appliance |

Networking

- Single Program Transport Stream (SPTS)
- Unicast/Multicast
- TS over UDP
- Session Announcement (SAP)

| Encoding | Transcoding | Video Processing | Networking | Management | Appliance |

Management

- Web User Interface (HTTPS)
- REST API
- Console UI

| Encoding | Transcoding | Video Processing | Networking | Management | Appliance |

Appliance

Dimensions (H x W x D)	44.45mm H x 124.968mm W x 213.868mm D (1.75" H x 4.92" W x 8.42" D)
Weight	2.6 lbs (1.18 Kg)
Power Requirements	12-28VDC, 45W 100-240VAC external locking power supply
Temperature	Operating: 0ºC to 50ºC (32ºF to 122ºF) Non-Operating: -40ºC to 50ºC (-40ºF to 122ºF)

Topics Discussed

- COM Serial Port RJ45 Pinout
- Serial Adapter DB9 Pinout

COM Serial Port RJ45 Pinout

Pin #	Signal RS-232
1	Not connected
2	Not connected
3	Not connected
4	Signal Ground
5	Received Data
6	Transmitted Data
7	Not connected
8	Not connected

Serial Adapter DB9 Pinout

The Serial Management adapter has the following pinouts:

Management Port (RJ-45 Jack)		Serial Port (DSub-9 Female Connector)	
Pin #	Signal	Pin #	Signal
1	RI (Ring Indicator)	9	RI (Ring Indicator) N/C
2	DCD (Data Carrier Detect)	4	DTR (Data Terminal Ready)
3	DTR (Data Terminal Ready)	6	DSR (Data Set Ready)
4	GND (Ground)	5	GND (Ground)
5	RXD (Receive Data)	3	TXD (Transmit Data)
6	TXD (Transmit Data)	2	RXD (Receive Data)
7	CTS (Clear to Send)	7	RTS (Request to Send)
8	RTS (Request to Send)	8	CTS (Clear to Send)
		1	DCD (Data Carrier Detect)
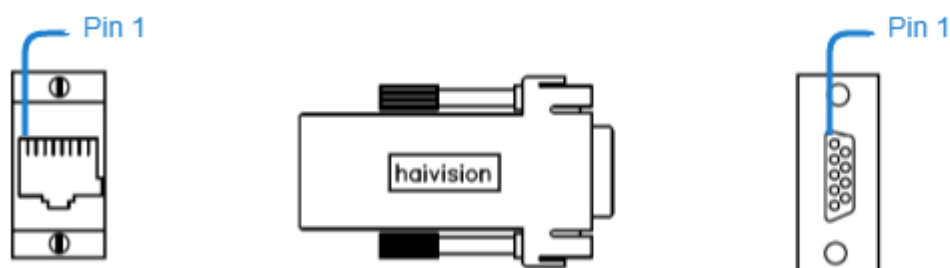
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Product Information	info@haivision.com