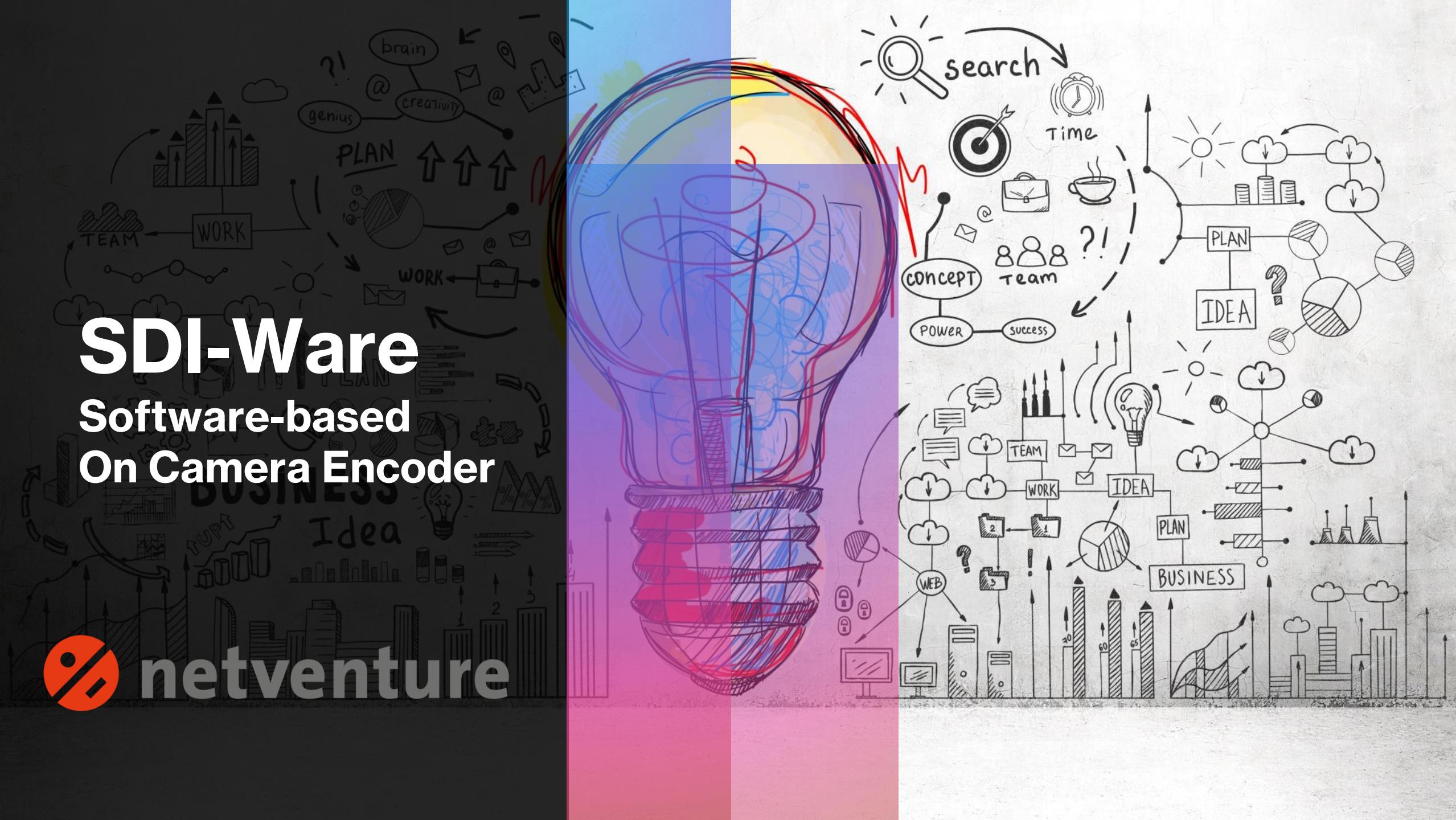


SDI-Ware

Software-based On Camera Encoder



On Camera NDI Encoder “must have” features

- Tally Support
- Tally On Screen feature
- Tally Output Connector
- Intercom capability
- Ret function

Tally

This feature is mandatory for a correct live production, both the talent and the camera operator must be aware if the camera is on air.

Tally support guideline:

1. Tally light should show the Program or Preview status
When the camera is selected in the preview row of the vision mixer the tally light is usually **Green**
When the camera is selected in the program row of the vision mixer the tally light is usually **Red**
2. Tally on screen is a very useful feature for the camera operator, it is generally a colored border in the camera viewfinder.
3. Connector for external Tally light (GPO)

On Screen Tally

Camera not in use



Camera in Preview



Camera in Program Out



External Tally

Many Camera Field Monitors have embedded Tally Light.
A GPI control is used to manage the Tally light



External Tally

As an option, it could be possible to directly drive an external led based Tally Light.
Single color (RED) for PGM Out support only, or dual color (GREEN and RED) for PVW and PGM



Intercom

The on-camera NDI encoder/viewfinder could increase the value significantly with the intercom capability.

This feature could be implemented in different ways:

Using NDI audio,

Typically, a camera supports four mono audio channels; outgoing talkback communication can utilize an additional channel available in the NDI stream.

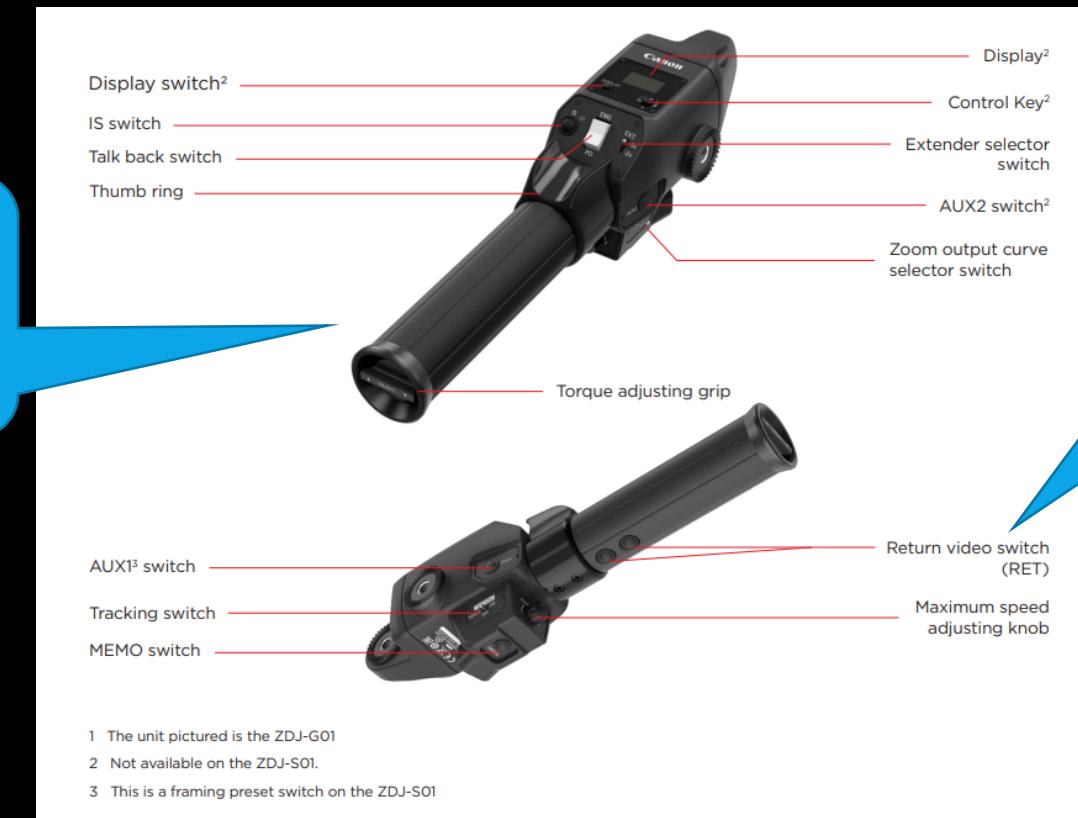
The same goes for the intercom feed from the director to the camera. This could be a single NDI stream with audio only or one of the audio channels part of the video return feed from the NDI-based Vision Mixer to the camera encoder.

Using an audio over IP solution (Dante Audio, Ravenna, AES 67)

Ret. feature

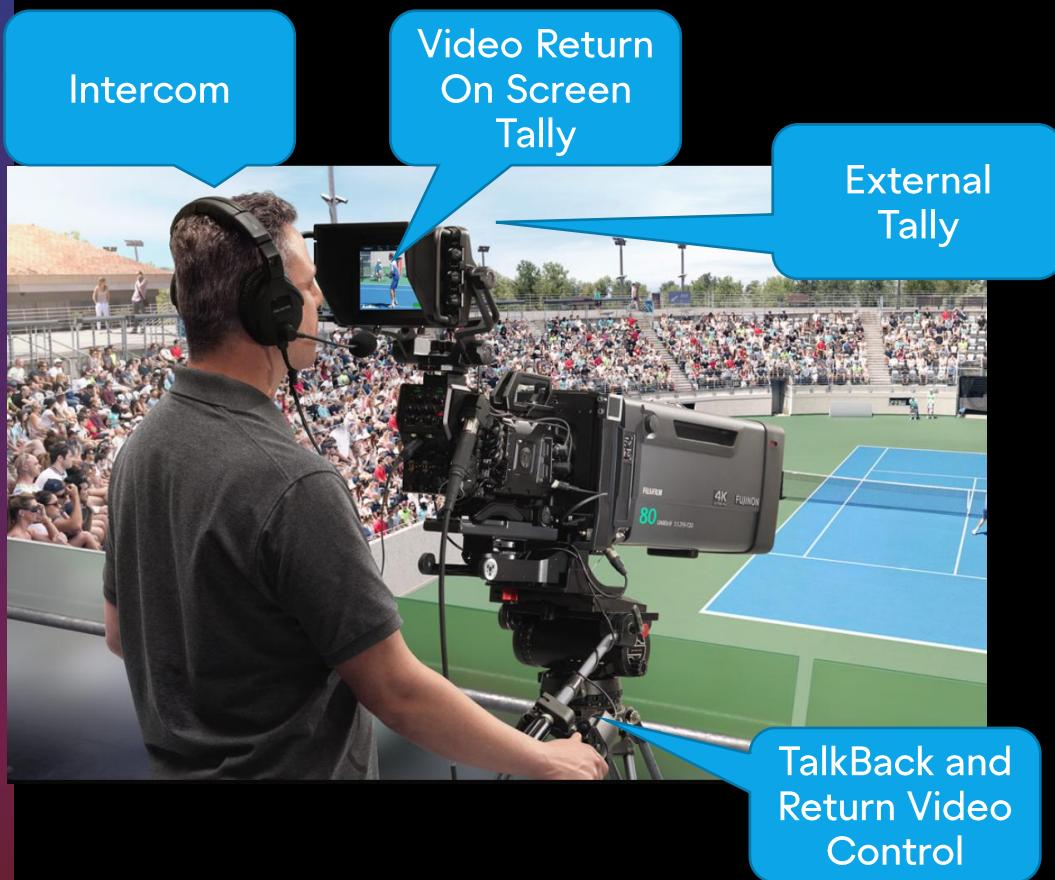
Return video feed is a very important feature for camera operators.
This enables the user to temporarily visualize the vision mixer program out in the camera viewfinder.
With this function the camera operator can propose an alternative shot to the one currently on air.

This is a typical
Zoom remote
used by camera
operator

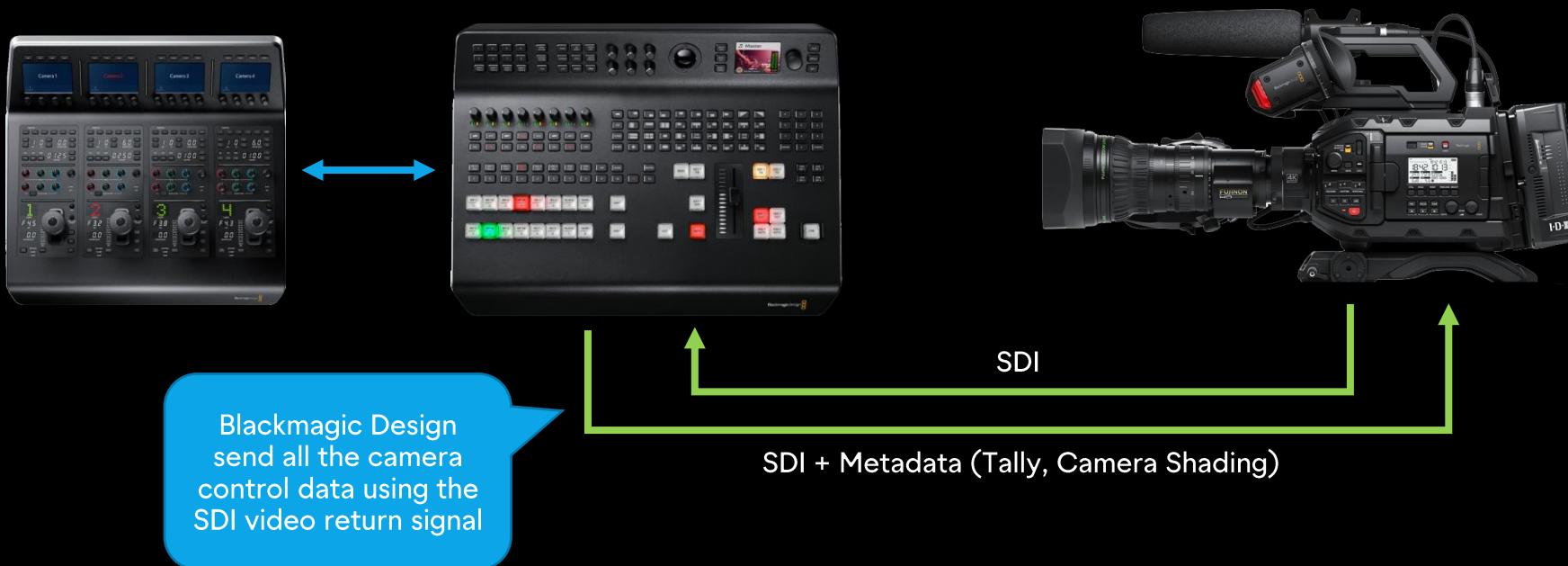


Here the Ret function
which, by pressing it
the Viewfinder will
display the Program
Output of the
production video
mixer

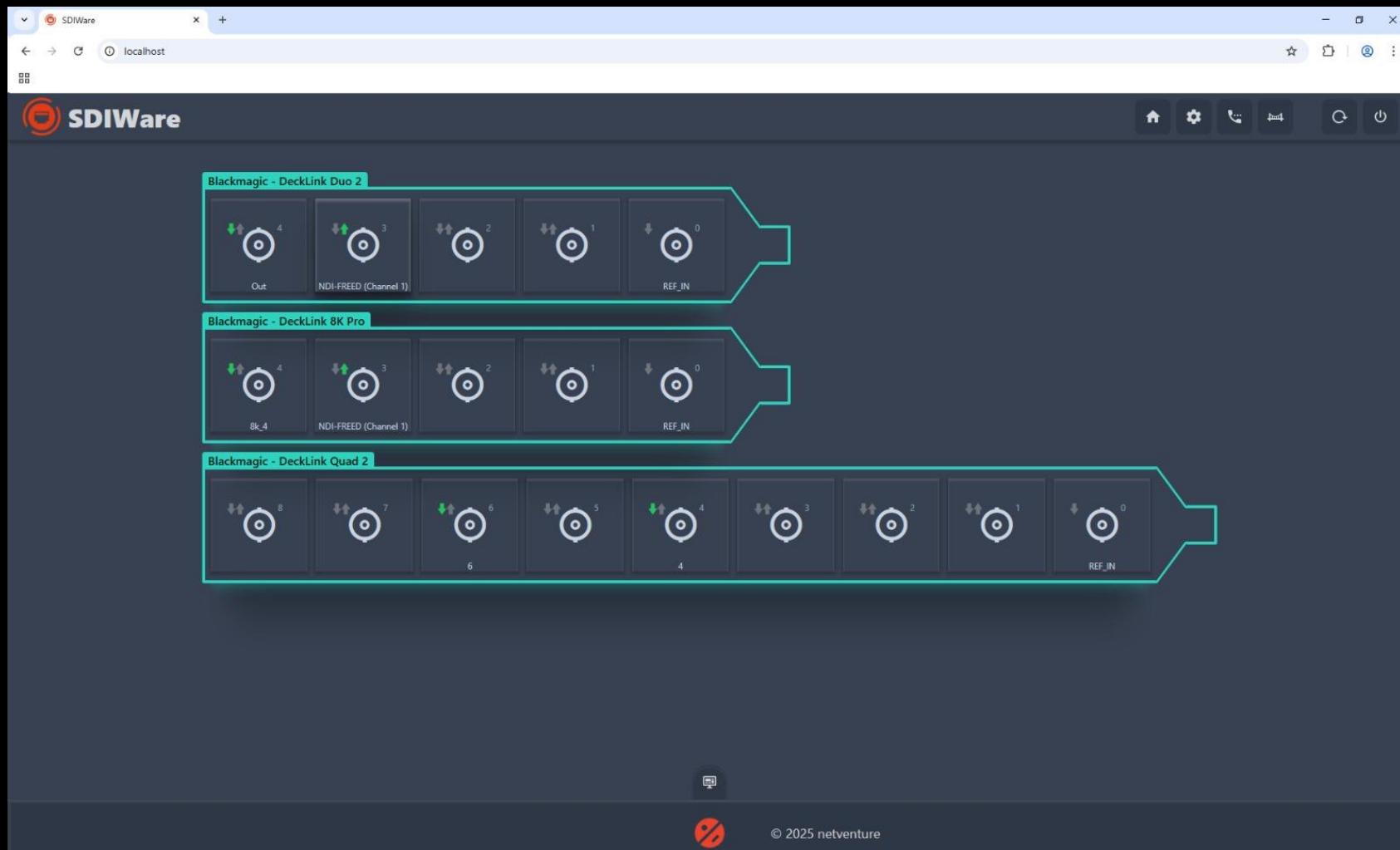
Competition example in the SDI domain: Blackmagic Design



Competition example in the SDI domain: Blackmagic Design

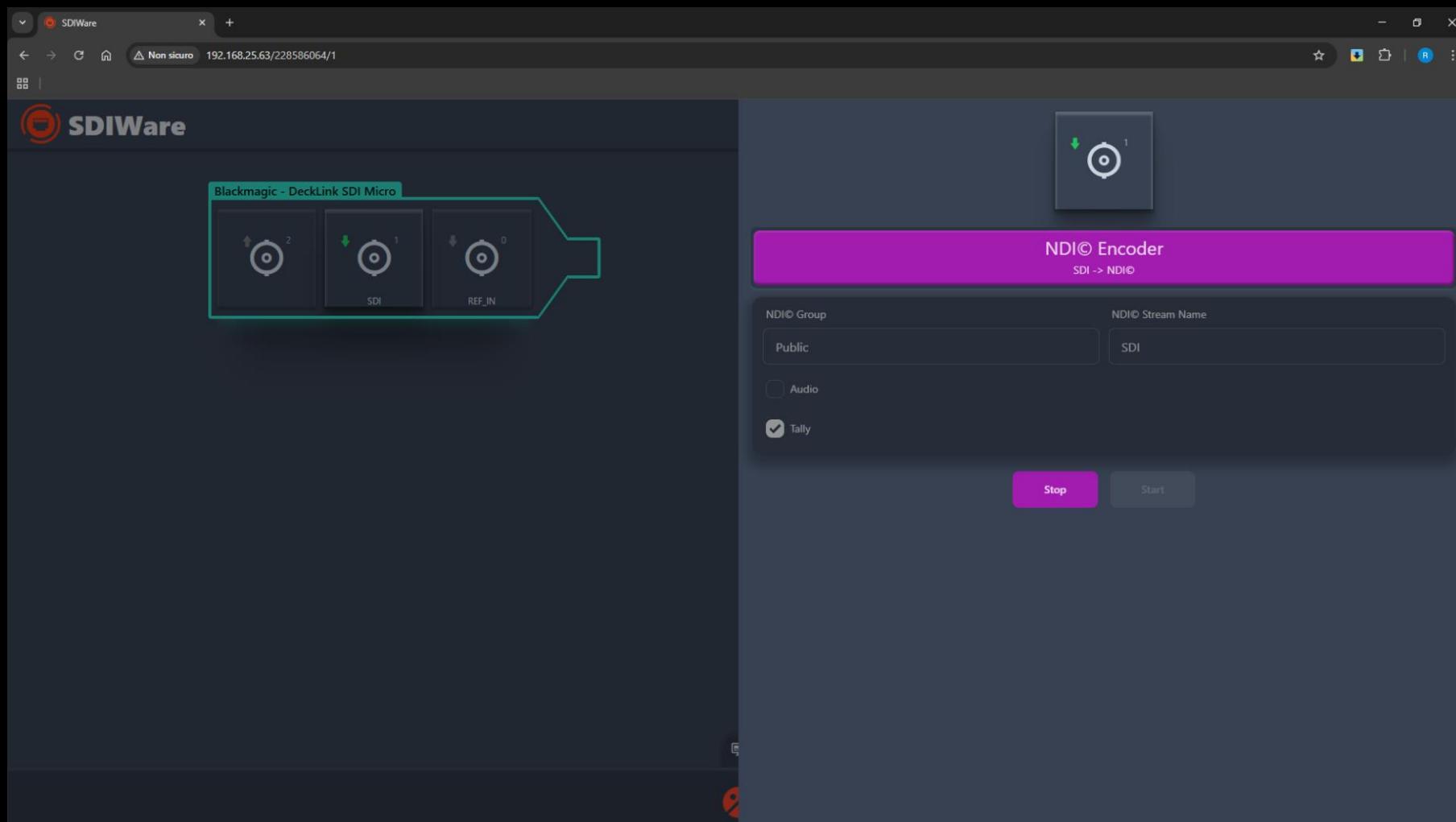


Web UI – main page



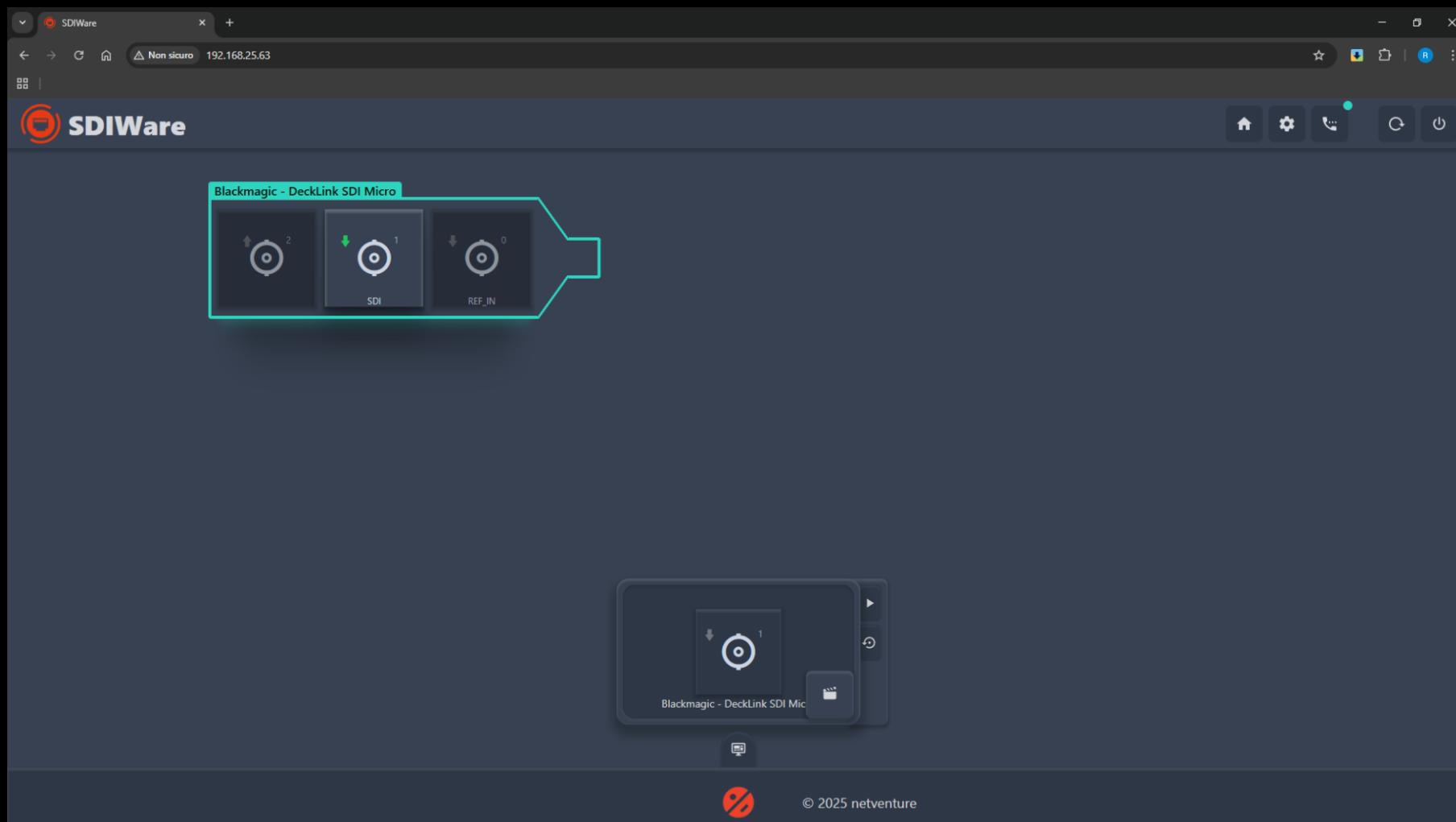
The main page of SDI Ware allows you to manage the input/output interfaces installed in the system.

Web UI – main page



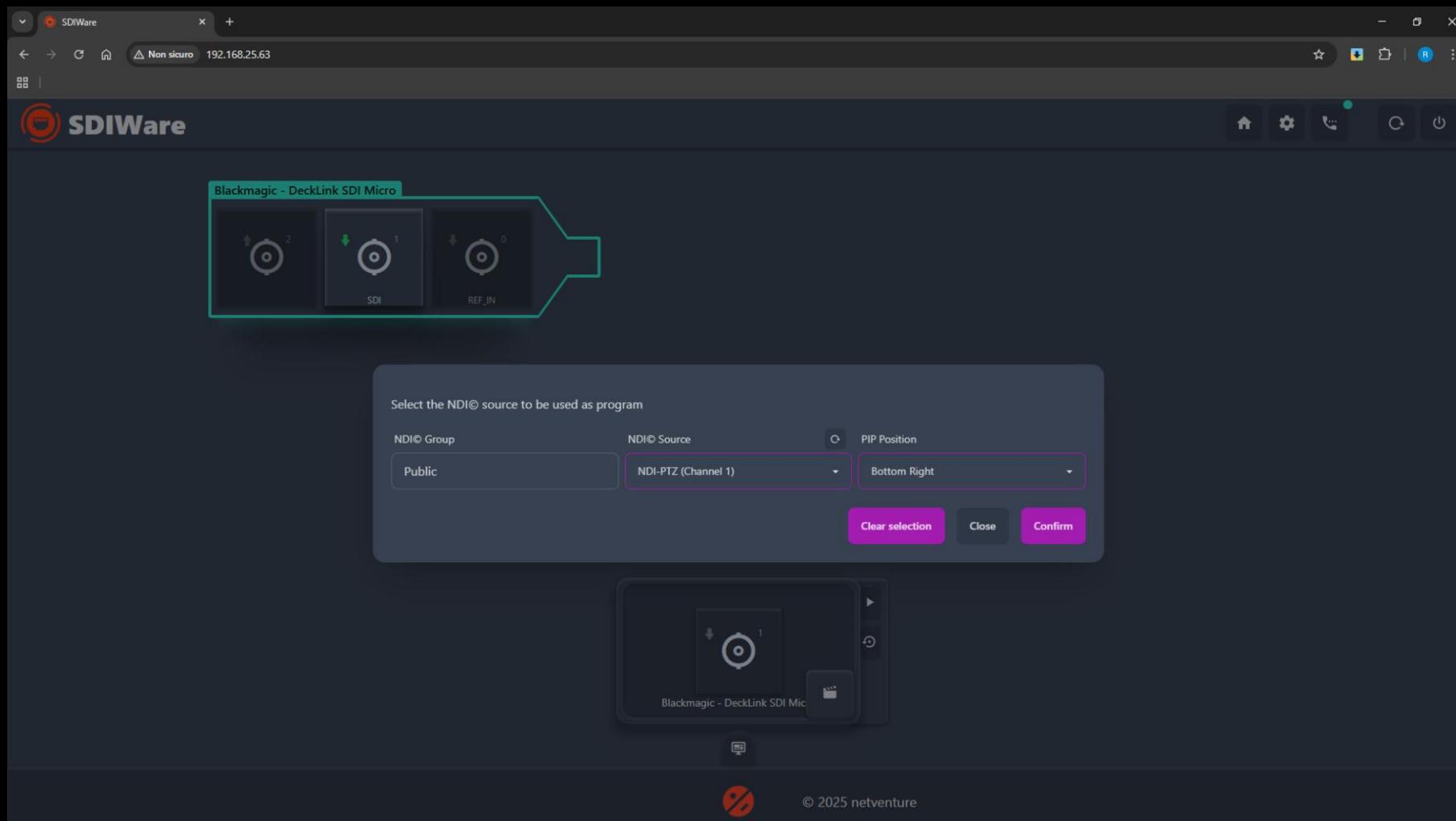
By selecting one of the audio device's connectors, you can configure and start NDI streaming.

Web UI – main page



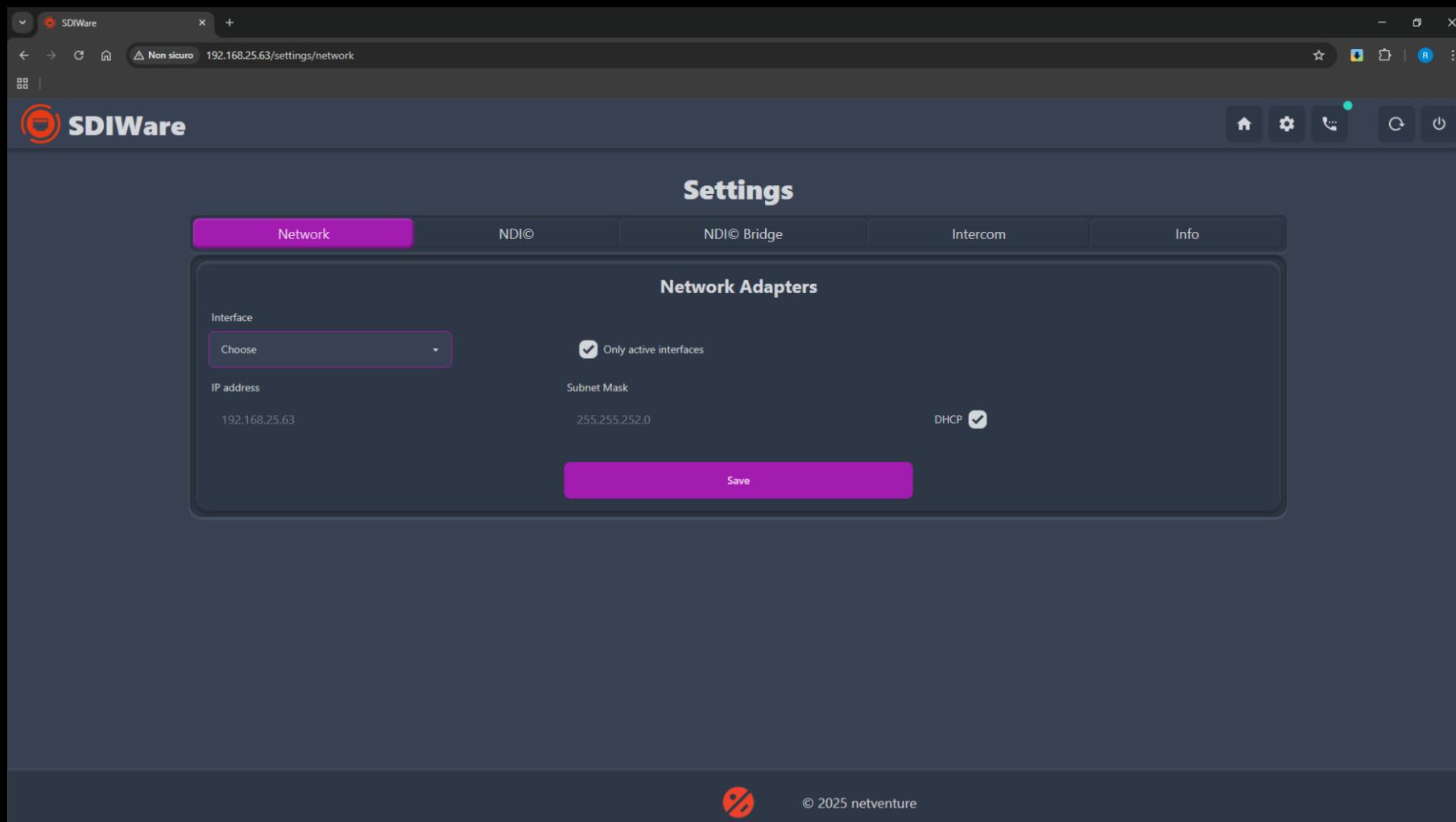
With SDI Ware, monitoring your SDI source has never been easier. Simply open the preview interface, drag the video connector icon to the monitor panel, and hit play, your SDI signal instantly appears on your computer screen.

Web UI – RET video feed Setup



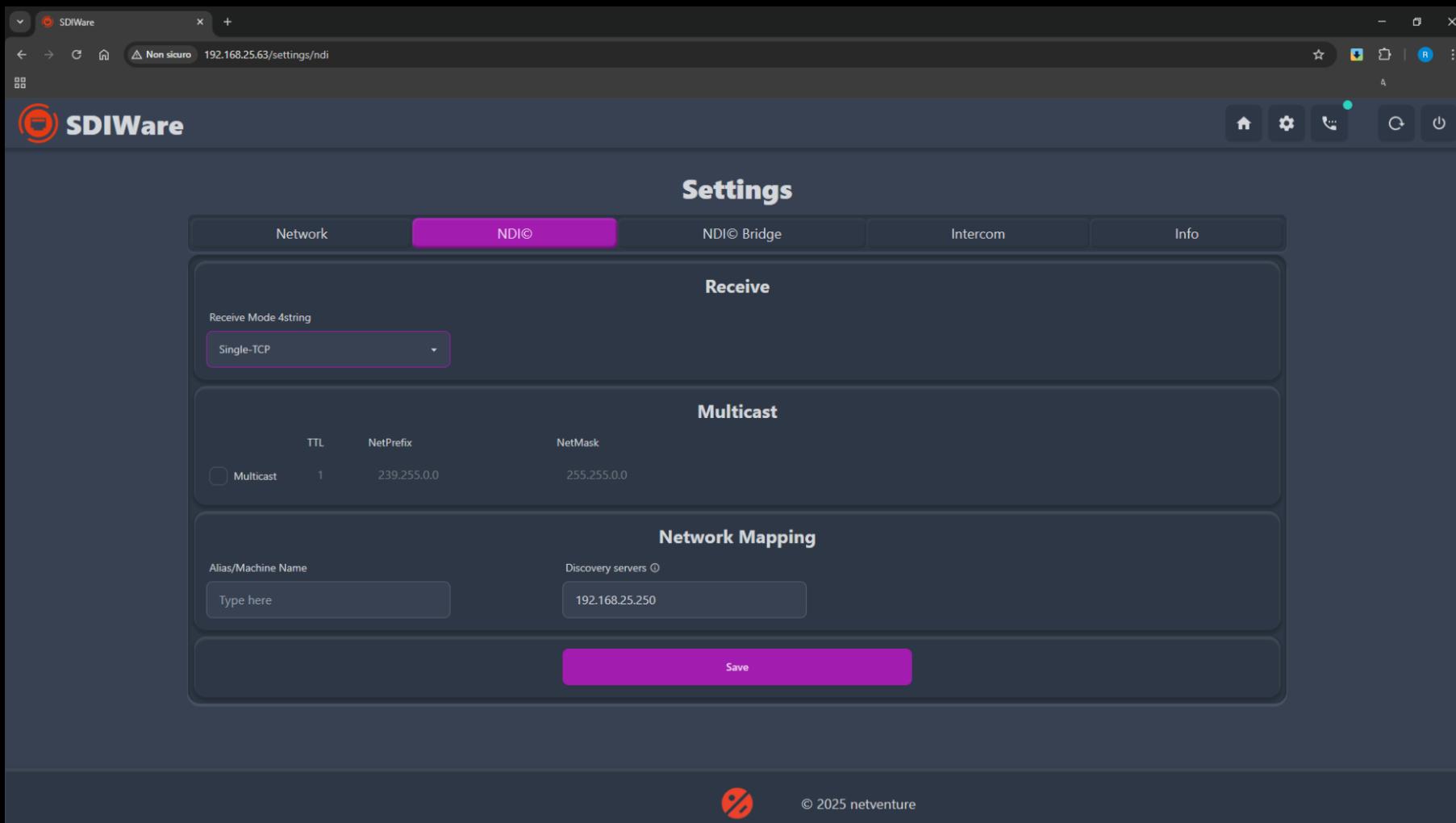
The application provides a return video feed feature: you can define an NDI stream and display it directly on the computer running SDI Ware. The feed can be shown in full screen or as a picture-in-picture overlay on top of the selected video source.

Web UI – Network Setup



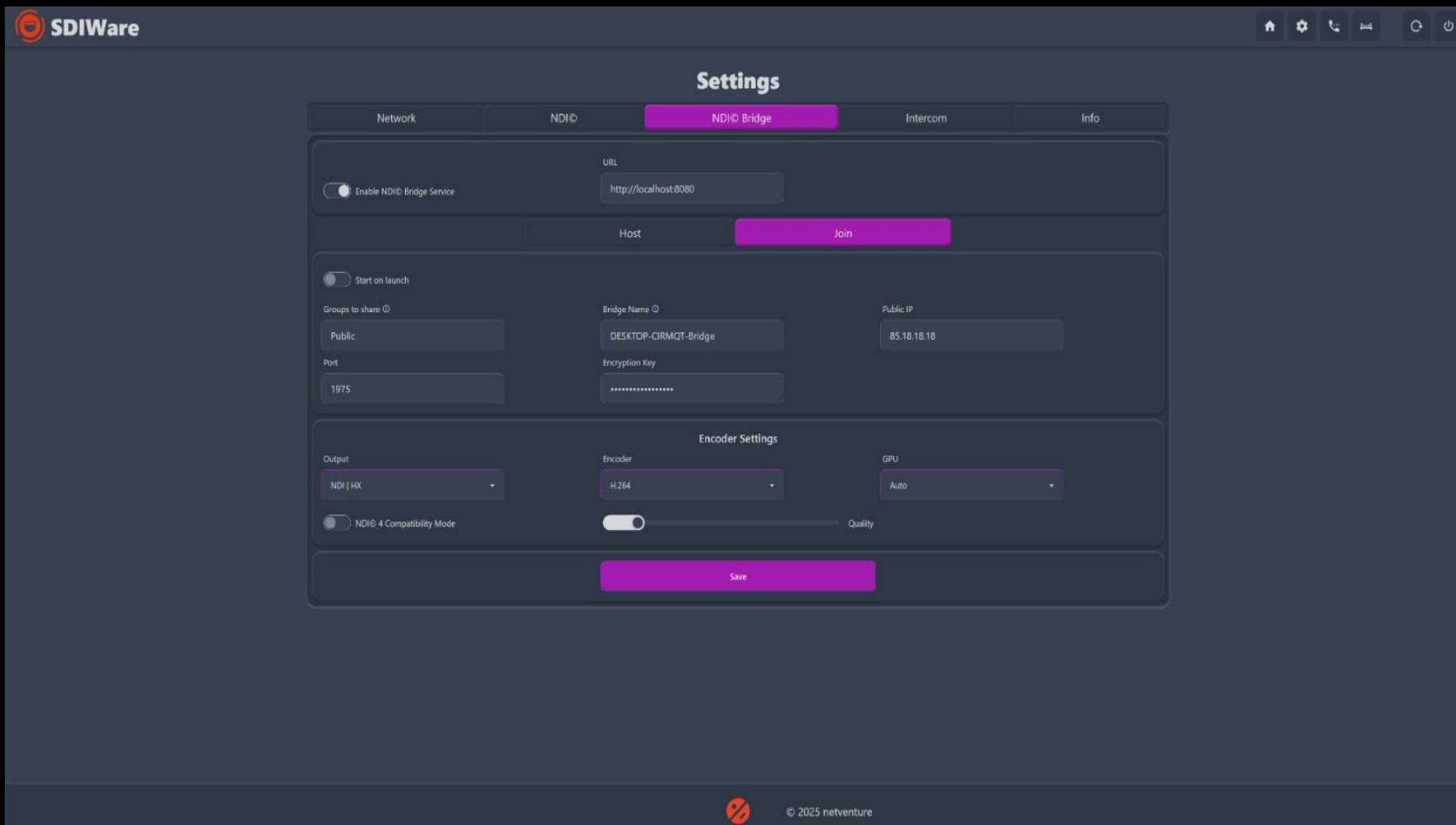
The network settings can be directly configured from the web UI

Web UI – NDI Settings



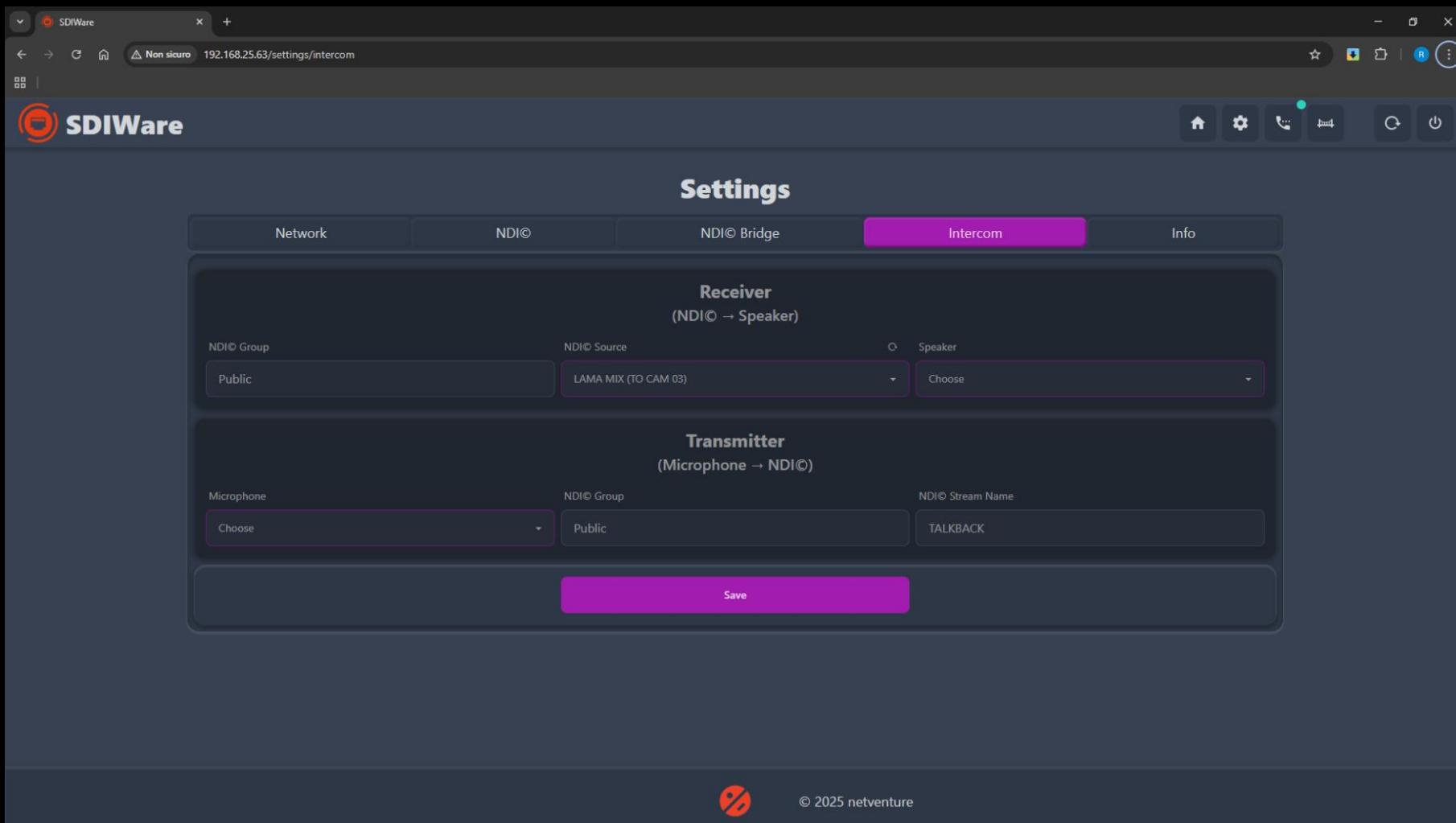
All the NDI settings are available in the Web UI, The user does not need to operate on the NDI access manager in the local machine.

Web UI – Bridge as a service



SDI Ware provides integration with NDI Bridge as a Service. If the software is installed and activated on the system, it can be configured directly from the SDI Ware web interface.

Web UI – Audio and Intercom Setup



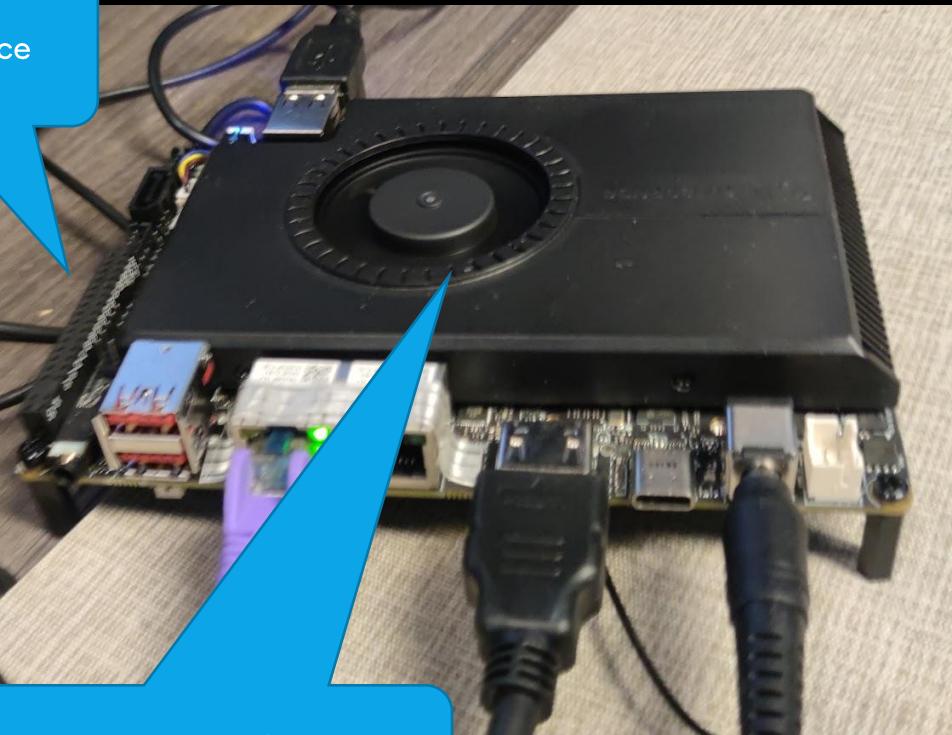
The application includes an intercom feature that leverages NDI audio streams for both monitoring and talkback. Any audio interface installed on the system can be used for the intercom.

**PoC
SDI Ware
at the
ISU Grand Prix
of Figure
Skating 2024**



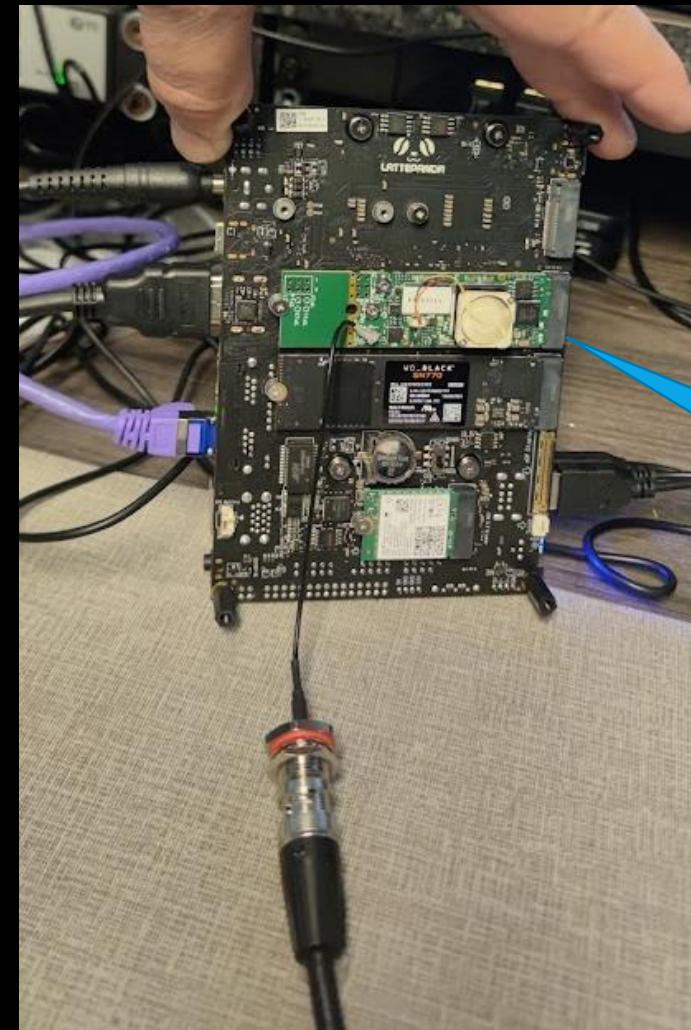
PoC for ISU Grand Prix of Figure Skating

Arduino Interface



Single Board Computer Lattepanda Sigma
<https://www.lattepanda.com/lattepanda-sigma>

BMD Decklink M.2 Card



PoC for ISU Grand Prix of Figure Skating



mounted behind the
Camera viewfinder



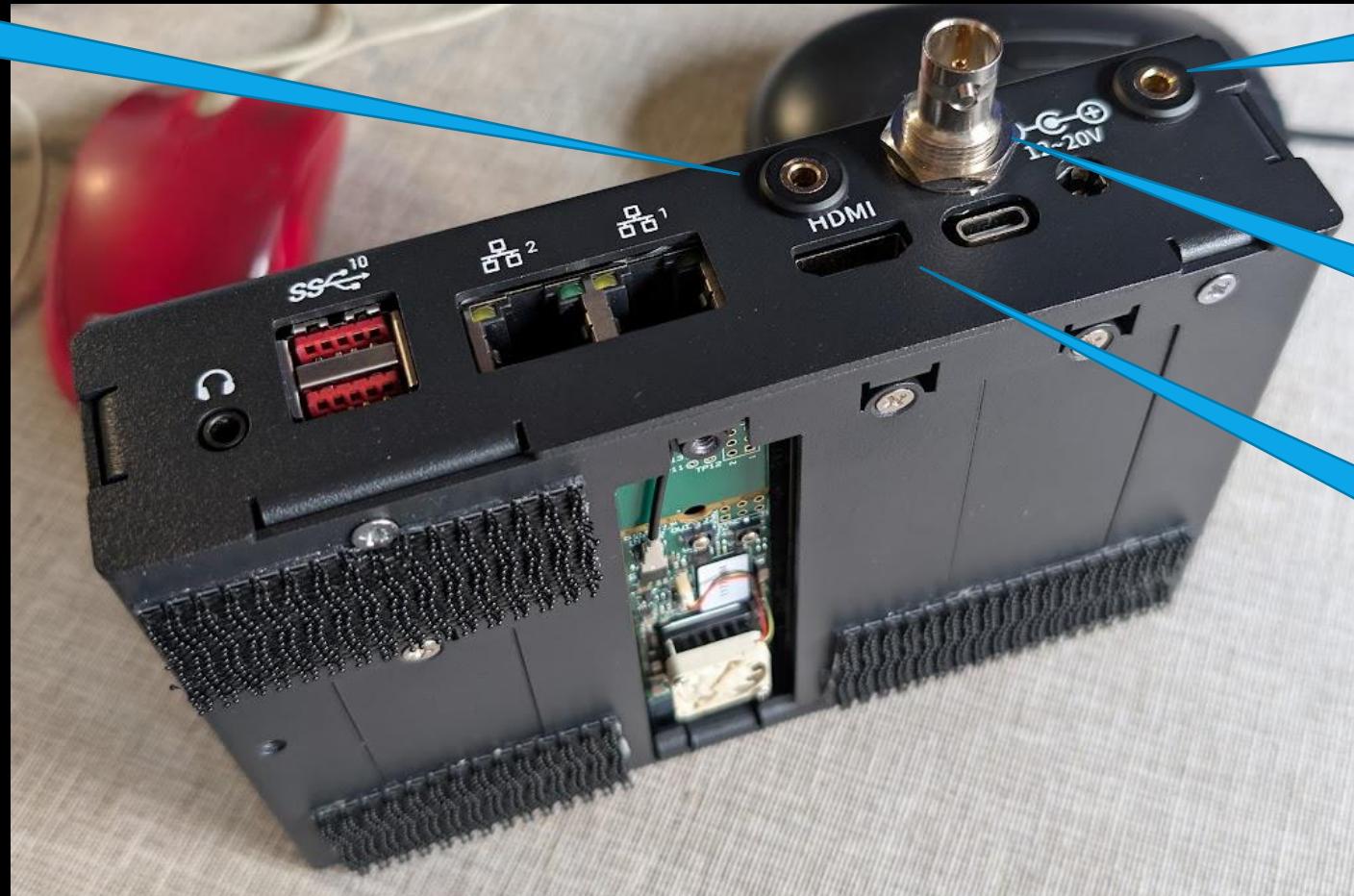
PoC for ISU Grand Prix of Figure Skating

External Tally
Connector

Press To Talk
connector

SDI In

HDMI Out
(Viewfinder)



PoC for ISU Grand Prix of Figure Skating





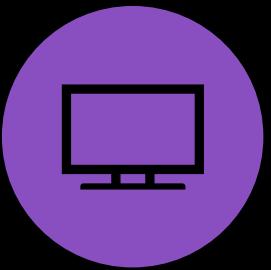
6 SDI Ware
On-Camera encoders
have been used over
7 weeks of live
production for a total
of **174** hours without
any issues.



SDI Ware use cases



LIVE STUDIO
PRODUCTION



OUTSIDE
BROADCAST
PRODUCTION



LIVE CORPORATE
EVENT



REMOTE AND
CLOUD
PRODUCTION

Disrupting the Blackmagic Workflow with SDI-Ware

Blackmagic Design's URSA Broadcast workflow relies heavily on SDI metadata and integrated intercom and tally functionalities. While efficient, this SDI-based workflow limits flexibility and sees NDI as a competitive threat.



Blackmagic Camera Fiber Converter
Connect cameras to live switchers up to 2 km away with video, talkback, control and power, all over a single cable!

Blackmagic Studio Fiber Converter
Connect to remote cameras up to 2 km away with multiple channels of video, talkback, control and power all over a single cable!

Blackmagic URSA Studio Viewfinder
Turn URSA Broadcast G2 into the ultimate live camera with a professional 7 inch studio viewfinder!

SDI-Ware presents a game-changing opportunity:

SDI-Ware provides an alternative workflow to Blackmagic's ecosystem by introducing a software-based On-Camera Encoder.

This solution offers:

- NDI-based intercom and tally support.
- Integration with RET (Return Video Feed) for enhanced operator feedback.
- Compatibility with hardware-agnostic platforms, including BMD Decklink and Magewell.
- Future support of camera shading metadata control.
- A cost-effective, flexible alternative to SDI-centric workflows.

With SDI-Ware, broadcasters can break free from SDI constraints and leverage NDI's flexibility to enhance live production workflows, making Blackmagic URSA Broadcast cameras even more versatile and adaptable to modern production needs.



SDI-Ware: Empowering All Broadcast Cameras, ENG, and Camcorders

SDI-Ware is not limited to a single camera brand.

It is designed to meet the needs of:

- **Broadcast Cameras:** Effortless integration with SDI and NDI workflows (e.g., Sony, Panasonic, Blackmagic, Grass Valley, JVC, Ikegami).
- **ENG Cameras:** Lightweight and flexible for fast-paced field production (e.g., Panasonic, Sony, JVC).
- **Camcorders:** Unlock advanced features like Intercom, Tally, and Return Feed (e.g., Canon, Sony, Panasonic).

With universal compatibility and advanced NDI features, SDI-Ware delivers the usability, reliability, and flexibility that modern live production demands, regardless of the camera type or brand.

