

## SKAARHOJ TALLY CONNECTED TO INTINOR VIDEO MIXER USING THE REST API

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**When doing multi camera remote production over the Internet, it's important to let the camera operator know when they are in program**

**This is an example of how this can be implemented with Skaarhoj Tally combined with Intinor video mixer and REST API.**

### SKAARHOJ TALLY EXAMPLE

Intinor's Direkt link 400 rack can have multiple cameras in. Each signal is encoded and sent over Internet to a Direkt router using Bifrost Reliable Transport (BRT™).

The Direkt router has 6x IP inputs and is equipped with an optional video mixer. The output from the video mixer is encoded and distributed to one or multiple "takers" using protocols such as BRT™, SRT and/or RTMP.

A Tally Box from Skaarhoj connected to the network on the remote production site initiates a connection to a "Tally Server" in the control room running a small Python script.

The Tally Server uses the REST API of the Direkt router to get the status (program/preview) from its video mixer. When the video mixer status changes, commands are sent to the Tally Box, which changes the Tally indications on the cameras.

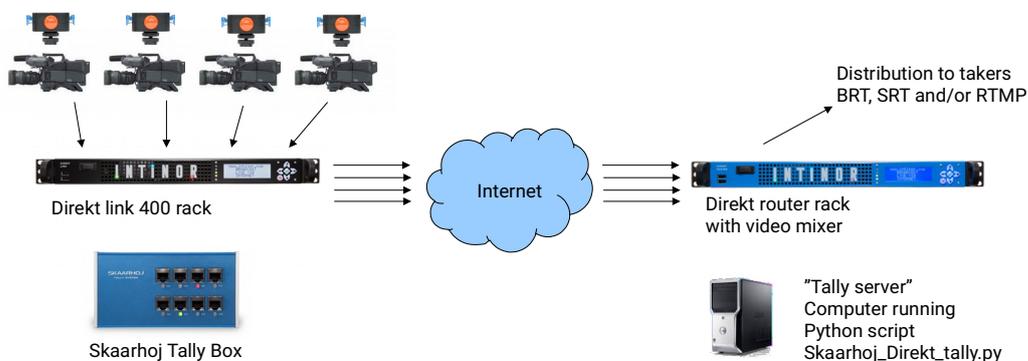


Figure 1: Skaarhoj Tally example

## SETTING UP THE TALLY BOX

Install the Skaarhoj App, connect the Tally Box, click "Online configuration".

Select "UniSketch TCP Client RAW Panel"

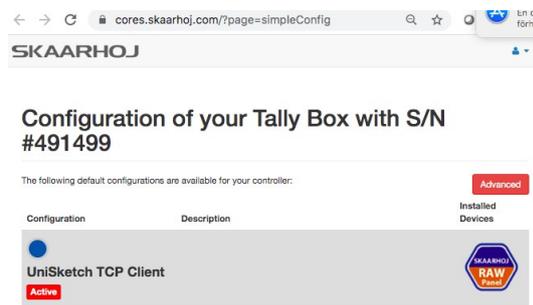


Figure 2: Use RAW Panel

Click on "Advanced", open all configuration and do mapping of the tally lights with "Tie To Remote HWC".

- PGM 1 = HWC: 1
- PRV 1 = HWC: 2
- PGM 2 = HWC: 3
- PRV 2 = HWC: 4
- PGM 3 = HWC: 5

and so on.

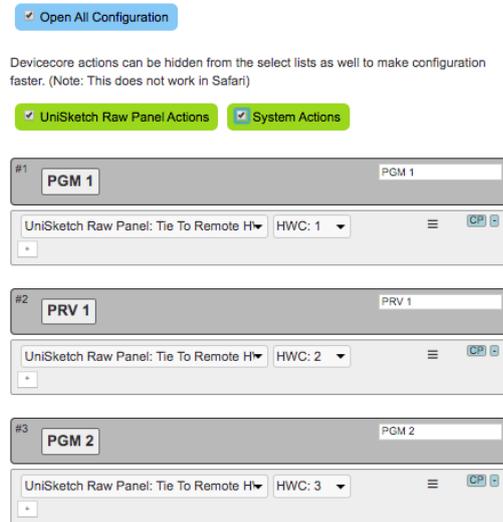


Figure 3: Mapping of tally lights to HWC

Save settings in the browser.

Select "IP Configuration" in the Skaarhoj app and configure the Tally Box to connect to the IP number of your Tally server. "Check for updates" in the app to enable the new configuration.

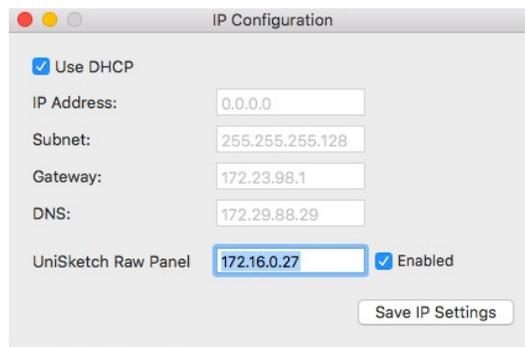


Figure 4: Configure server for tally

# INTINOR

WE ARE DIREKT

## CONFIGURE THE PYTHON SCRIPT

Skaarhoj\_Direkt\_tally.py connects to a Direkt router defined by this piece of code:

```
baseUrl = "https://7.26.13.83"

router = {
    "user": "admin",
    "password": "1234",
    "rootURL": baseUrl +
"/api/v1/units/local/"
}
```

Change the IP number to the router you would like to connect to and the user name/password for your router.

The script first asks the router for a list of network inputs and video inputs.

When the Skaarhoj Tally is connected, the script polls the router every 500ms to get the current program and preview from video mixer 1 and updates the Tally if needed.

## CONFIGURATION OF THE DIREKT SYSTEM

Based on how the example script is implemented, camera 1 should send to IP stream in 1, camera 2 to IP stream in 2 etc.

A netvideo input on the Direkt router with NDI, HLS, RTMP for example can be used as tally 7 (if the router has 6x IP inputs). Or, two SDI inputs on the router can be used as tally 7 and 8 if netvideo does not exist.

## UNLIMITED POSSIBILITIES

The script can easily be adjusted for other configurations of Direkt link and Direkt router, two build-in video mixers etc.

## FIREWALL CONFIGURATION

The Tally box connects to a Tally server using TCP port 9923. Open this port in the firewall and forward to the IP number of the Tally server.

If is also possible to run the Tally server on a laptop on the remote production side and let the script connect to the Direkt router over Internet.

**SKAARHOJ** – Provider of Tally boxes, Router panels and video mixer controls which can be used with Intinor Direkt systems.  
[www.skaarhoj.com](http://www.skaarhoj.com)

**BRT™** – Bifrost Reliable Transport is Intinors own protocol for redundant multi-network transport