

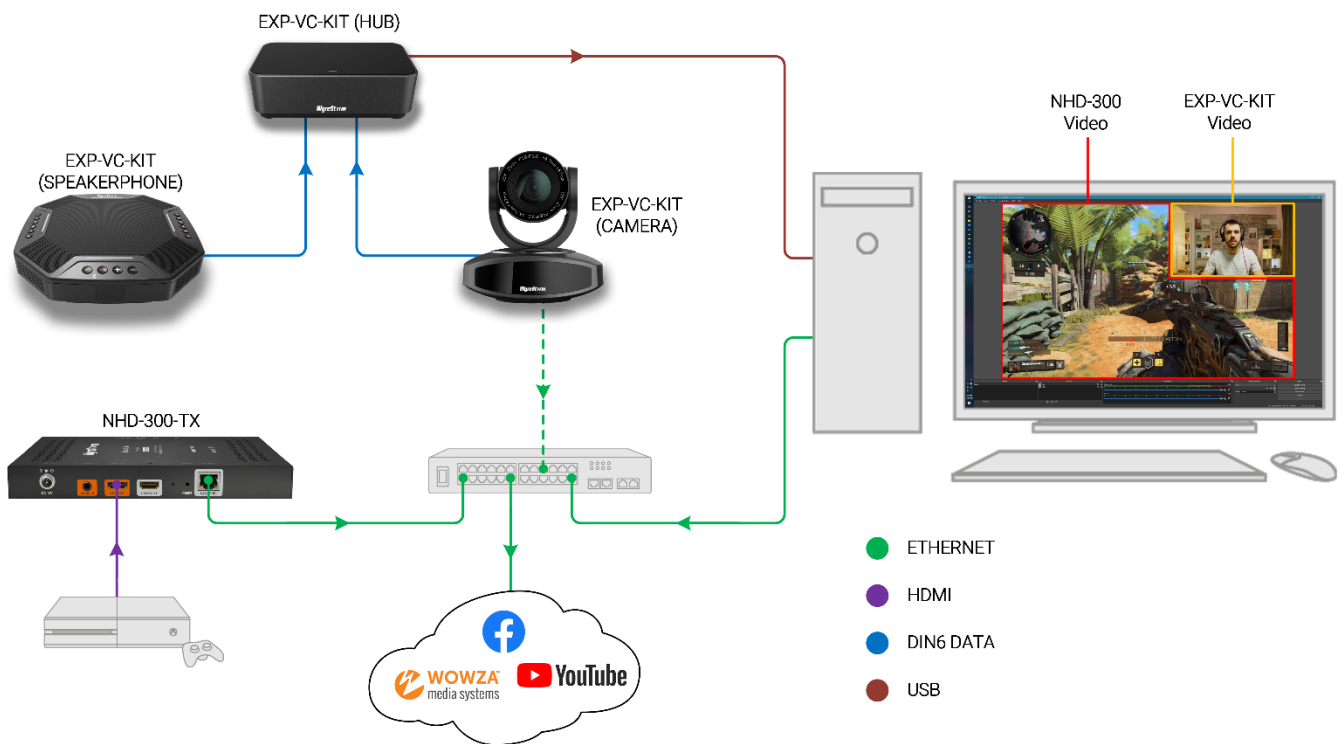
## Overview

The following information demonstrates how to use both the NHD-300-TX and EXP-VC-KIT together to form a live streaming broadcast to 3rd-party services such as YouTube, Facebook, and Wowza.

## Use-Case

In many cases it may be desired to combine multiple video sources into a single broadcast to the internet for live streaming. OBS (Open Broadcaster Software), among others, is a software tool that will allow you to take in multiple sources and combine into a single RTMP stream.

In this example, we show how to use the NHD-300-TX to take an HDMI source (such as a PC, game console, media player, etc.) and transmit the video signal onto the network, while also using the EXP-VC-KIT to transmit live video and audio simultaneously.



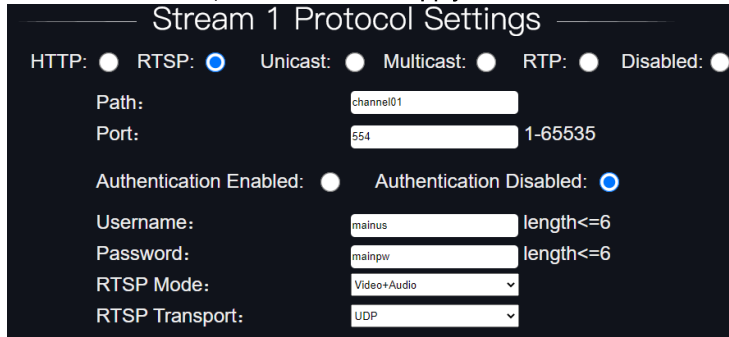
## Before You Begin

- NHD-300-TX online and web interface accessible .....
- EXP-VC-KIT connected to PC via USB.....
- OBS downloaded and installed on your PC.....
- LAN connection to your PC (same network as NHD-300).....
- Optional: EXP-VC-KIT Camera connected to network (same LAN as NHD-300 and PC) .....

# Configuration

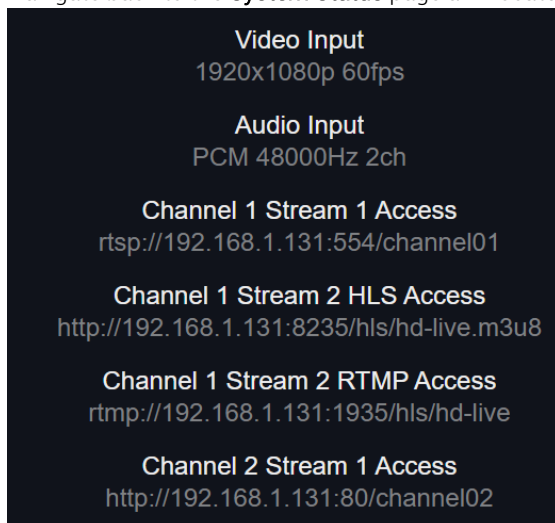
## NHD-300-TX

1. Connect an HDMI source to the NHD-300.
2. Log into the web interface of the NHD-300, by default the NHD-300 is set to DHCP. Default credentials are both **admin**.
3. Navigate to **Channel 1 Settings > Stream 1 Protocol Settings**.
4. Select **RTSP** as the protocol and click **Apply**.



The screenshot shows the 'Stream 1 Protocol Settings' page. At the top, there are radio buttons for 'HTTP', 'RTSP' (which is selected), 'Unicast', 'Multicast', 'RTP', and 'Disabled'. Below this, there are input fields for 'Path' (containing 'channel01') and 'Port' (containing '554'). There are also radio buttons for 'Authentication Enabled' and 'Authentication Disabled' (which is selected). Below these are input fields for 'Username' (containing 'mainus') and 'Password' (containing 'mainpw'), both with a 'length<=6' constraint. At the bottom, there are dropdown menus for 'RTSP Mode' (set to 'Video+Audio') and 'RTSP Transport' (set to 'UDP').

5. Navigate back to the **System Status** page and locate **Channel 1 Stream 1 Access**. Make note of the URL.

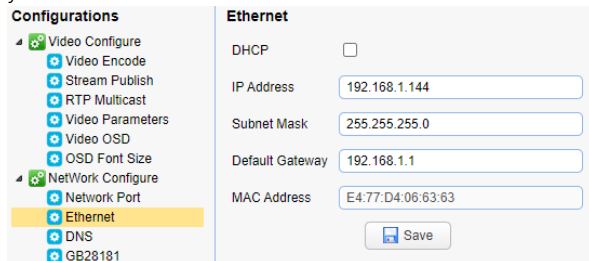


The screenshot shows the 'System Status' page. It displays the following information:

- Video Input**: 1920x1080p 60fps
- Audio Input**: PCM 48000Hz 2ch
- Channel 1 Stream 1 Access**: `rtsp://192.168.1.131:554/channel01`
- Channel 1 Stream 2 HLS Access**: `http://192.168.1.131:8235/hls/hd-live.m3u8`
- Channel 1 Stream 2 RTMP Access**: `rtmp://192.168.1.131:1935/hls/hd-live`
- Channel 2 Stream 1 Access**: `http://192.168.1.131:80/channel02`

## EXP-VC-KIT

1. Connect the camera and speakerphone to the hub via the DIN6 cables.
2. Connect the hub to your pc via the USB 2.0 cable.  
**Optional:** Video from the camera will transmit over the USB connection to your PC. The camera also has the option to connect to the local network and stream video as a secondary option into OBS if desired. If you wish to use the camera's network video stream instead of the USB video, perform the following steps.
3. Connect the camera to the same local area network as your PC and NHD-300.
4. Log into the web interface. Default IP address is **192.168.11.143**. Default credentials are both **admin**.
5. Navigate to **Network > Ethernet** and change the default IP address into the same subnet range as the NHD-300 and your PC.



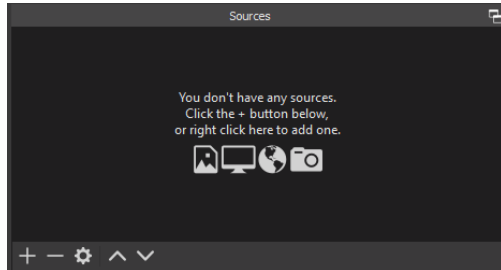
6. By default, the camera already has RTSP streaming enabled. The RTSP URL syntax is:  
**rtsp://<Camera\_IP>:554/live/av0**

## OBS

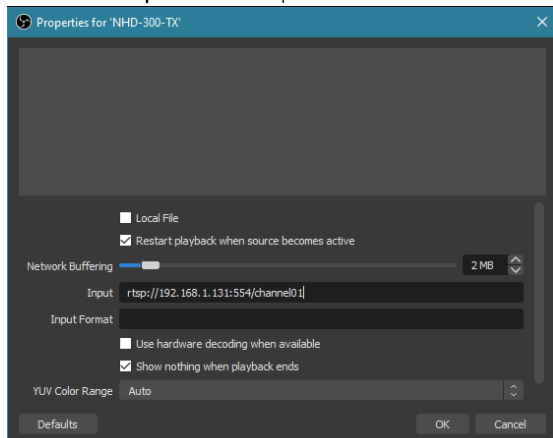
Download and install the latest version of OBS [here](#).

### Adding the NHD-300 Stream

1. Locate the **Sources** section in OBS and click the **+** button. Choose the option to add a **Media Source**.



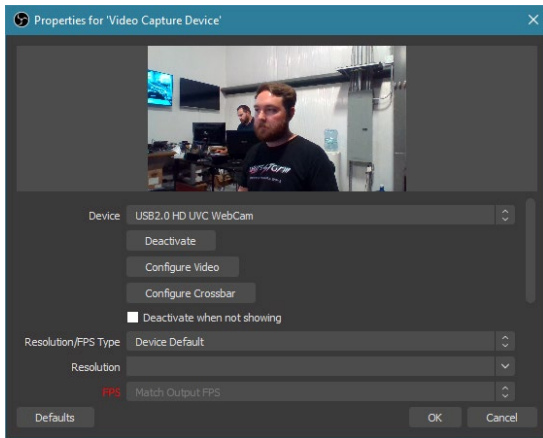
2. Name the Media Source "NHD-300-TX" (or the name of the source that is connected to the 300).
3. On the following Properties window **uncheck** the **Local File** box.
4. Locate the **Input field** and paste NHD-300's RTSP URL that was previously noted down.



5. Click Ok. The stream from the NHD-300 should now be visible in OBS.

### Adding EXP-VC-KIT Camera (USB)

1. Navigate back to the **Sources** section in OBS, click the **“+”** button and choose **Add Video Capture Device**.
2. If your PC has a built-in webcam, be sure to click the **Device** drop down menu and choose **UVC Camera** to select the EXP-VC-KIT's camera.



3. Click OK. The camera feed should now be live in OBS.

### Adding EXP-VC-KIT Camera (Network)

1. Navigate to the **Sources** section in OBS and click the **“+”** button. Choose the option to add a **Media Source**.
2. Name the Media Source **“Camera.”**
3. On the following Properties window **uncheck** the **Local File** box.
4. Locate the **Input field** and paste the EXP-VC-KIT Camera's RTSP URL from the section above.
5. Click Ok. The camera's network stream should now be visible in OBS.

## Configuring EXP-VC-KIT Microphone

By default, the microphone that is built into the KIT's speakerphone will be recognized by your PC automatically. To ensure OBS receives the signal from the KIT's microphone perform the following steps.

1. Right click the speaker icon in Windows taskbar and choose **Open Sound Settings**.
2. In the **Input** section, select the drop-down menu and choose **Echo Cancelling Speakerphone**.

### Input

Choose your input device

Echo Cancelling Speakerphone (4- U... ▾

Certain apps may be set up to use different sound devices than the one selected here. Customize app volumes and devices in advanced sound options.

### Device properties

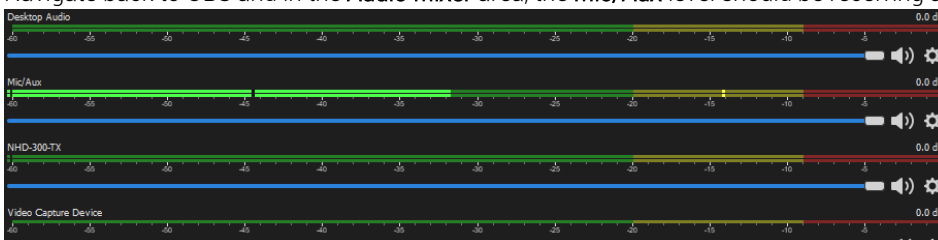
Test your microphone



Troubleshoot

### Manage sound devices

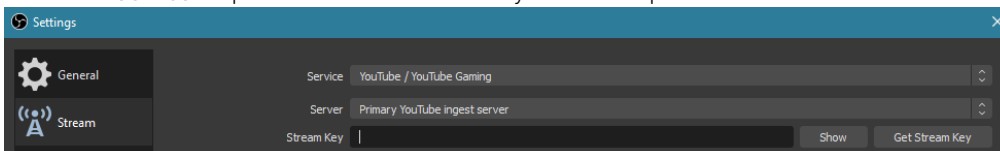
3. Navigate back to OBS and in the **Audio Mixer** area, the **Mic/Aux** level should be receiving audio.



## Configuring OBS Live Stream

Now that the NHD-300-TX and EXP-VC-KIT video and audio have been configured in OBS, the last step is to configure the live stream settings for broadcasting to external services such as YouTube, Facebook, Wowza, etc.

1. Navigate to the **Controls** section in OBS and choose **Settings**.
2. In the settings window select **Stream** from the left menu.
3. Select the **Service** drop-down menu and choose your desired platform.



**Note:** If the service you want to use is not listed, select the Custom option.

4. Enter in the RTMP URL that has been generated by your live streaming service. For instruction on generating a RTMP URL read the [NHD 300 Series Live Streaming Guide](#).