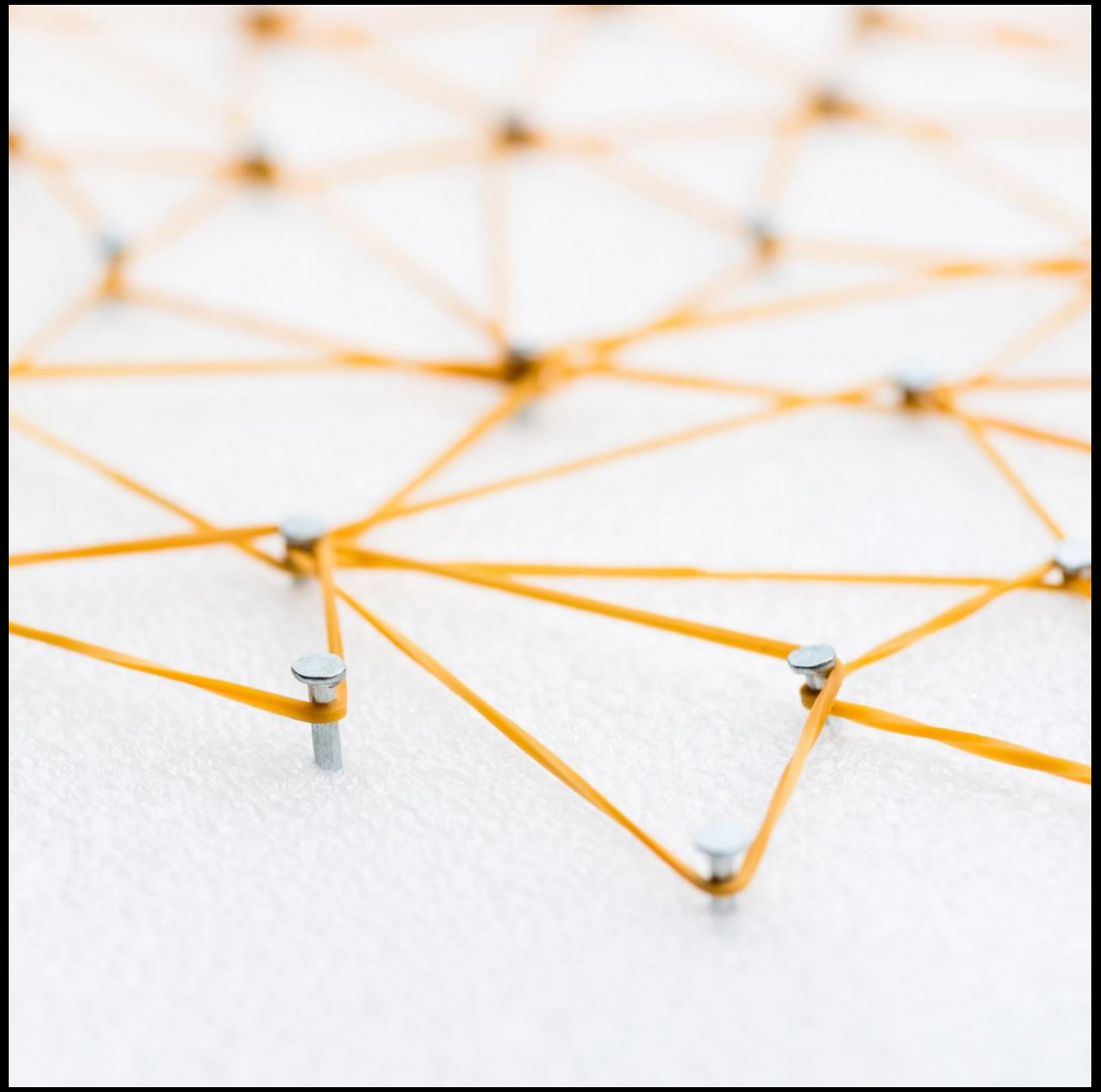
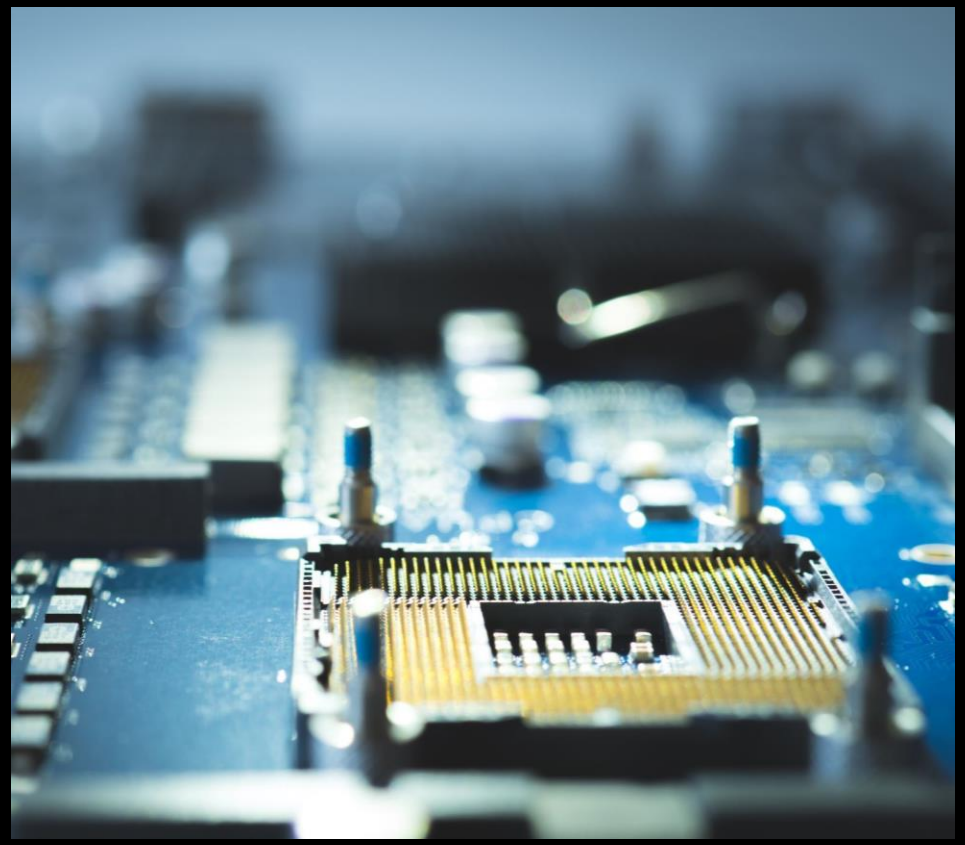
NETWORKING



11/11/2025

- Often it is desirable to build a network of computers to use within Touchdesigner. You might want to do this to share CPU/GPU load, access certain operators that only work on Windows but the main machine is MAC or you want to build a videowall through client computers or media players that can receive media through network.



THERE ARE MAINLY TWO DISTINCTIONS

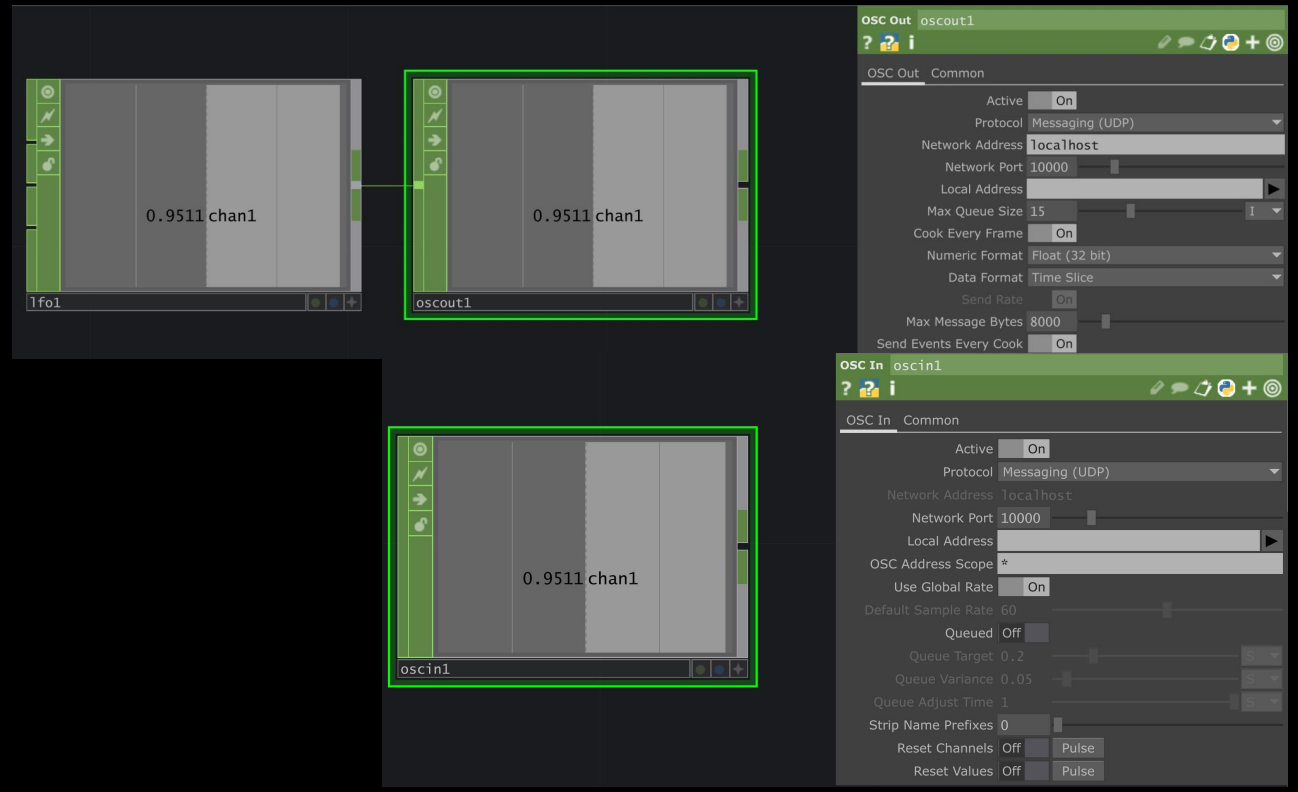
- Data over network
- We do this today with the **OSC chop**
- **OSC** stands for Open Sound Control and is initially developed for sharing data between musical instruments, computers and gesture controllers. It allows for more precise control for various purposes than for example MIDI, which is only musical annotation.

- Video over network
- We use this today with **NDI TOP**
- **NDI** stands for Network Device Interface and is developed specifically to share video over network. Longer lengths of HDMI or other video cables will lose their signal strength, UTP or network cables do not. It can be used for sending video to projectors over long distances or to share video between different devices.

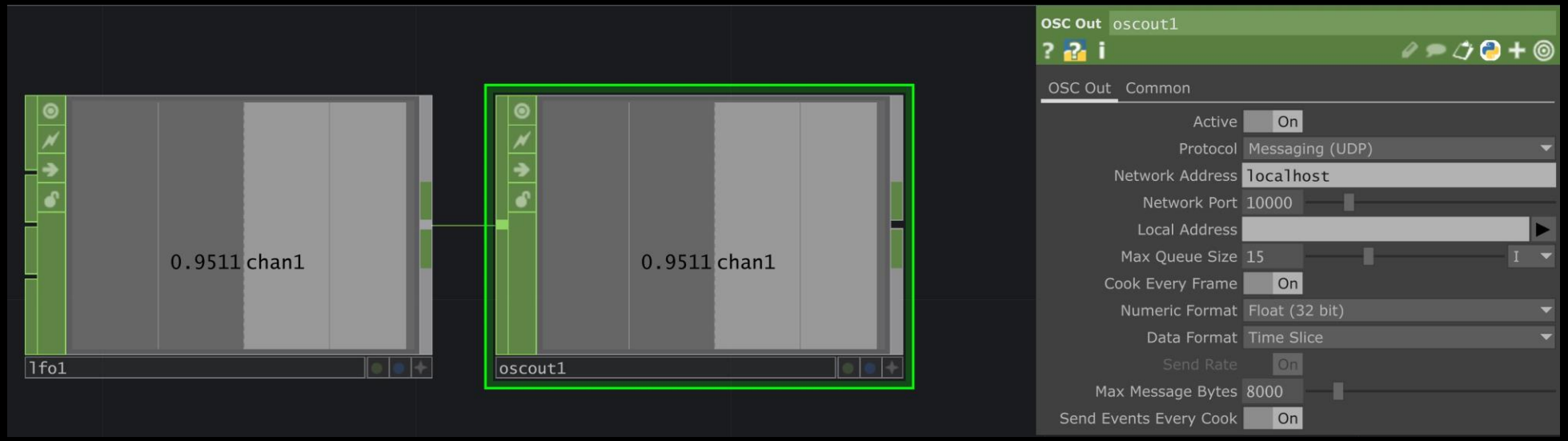
OSC – OPEN SOUND CONTROL

OSC connection has to be established through two operators.
OSC OUT chop to send:

OSC IN chop to receive:



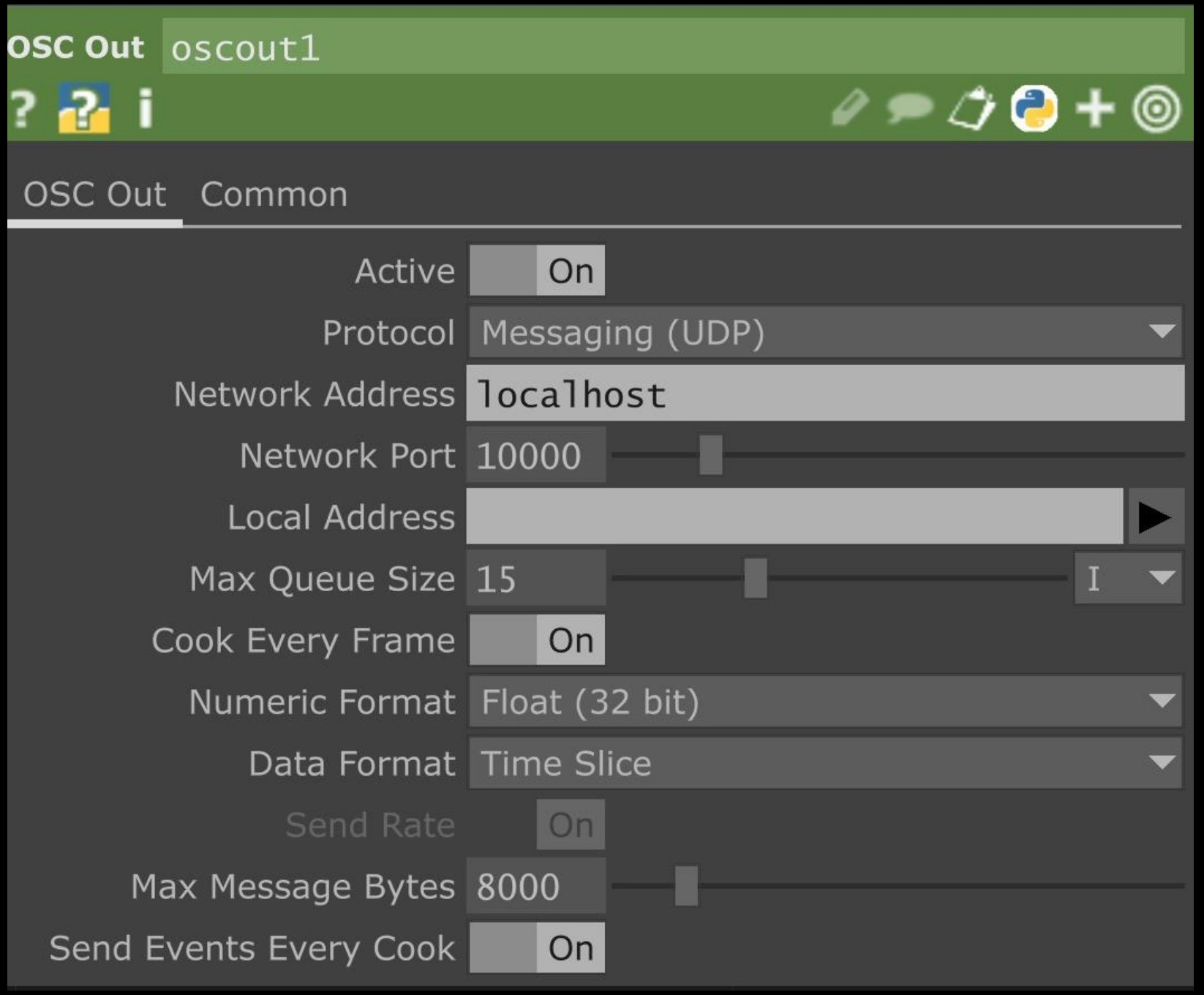
OSC OUT TO SEND DATA



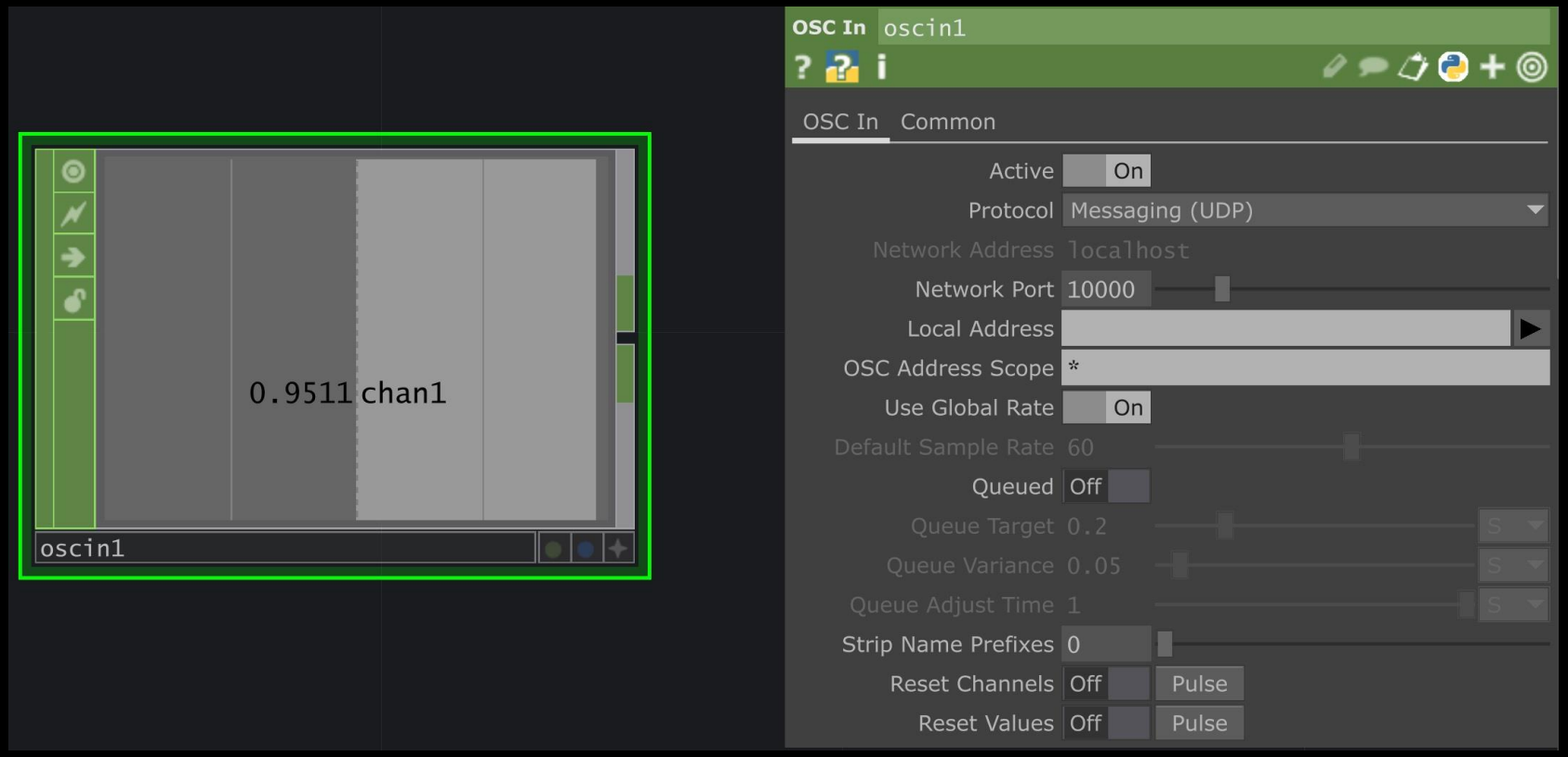
A couple of important things:

Network address: references the ip-port of the computer you want to send data to on the shared network. 'Localhost' means your own computer.

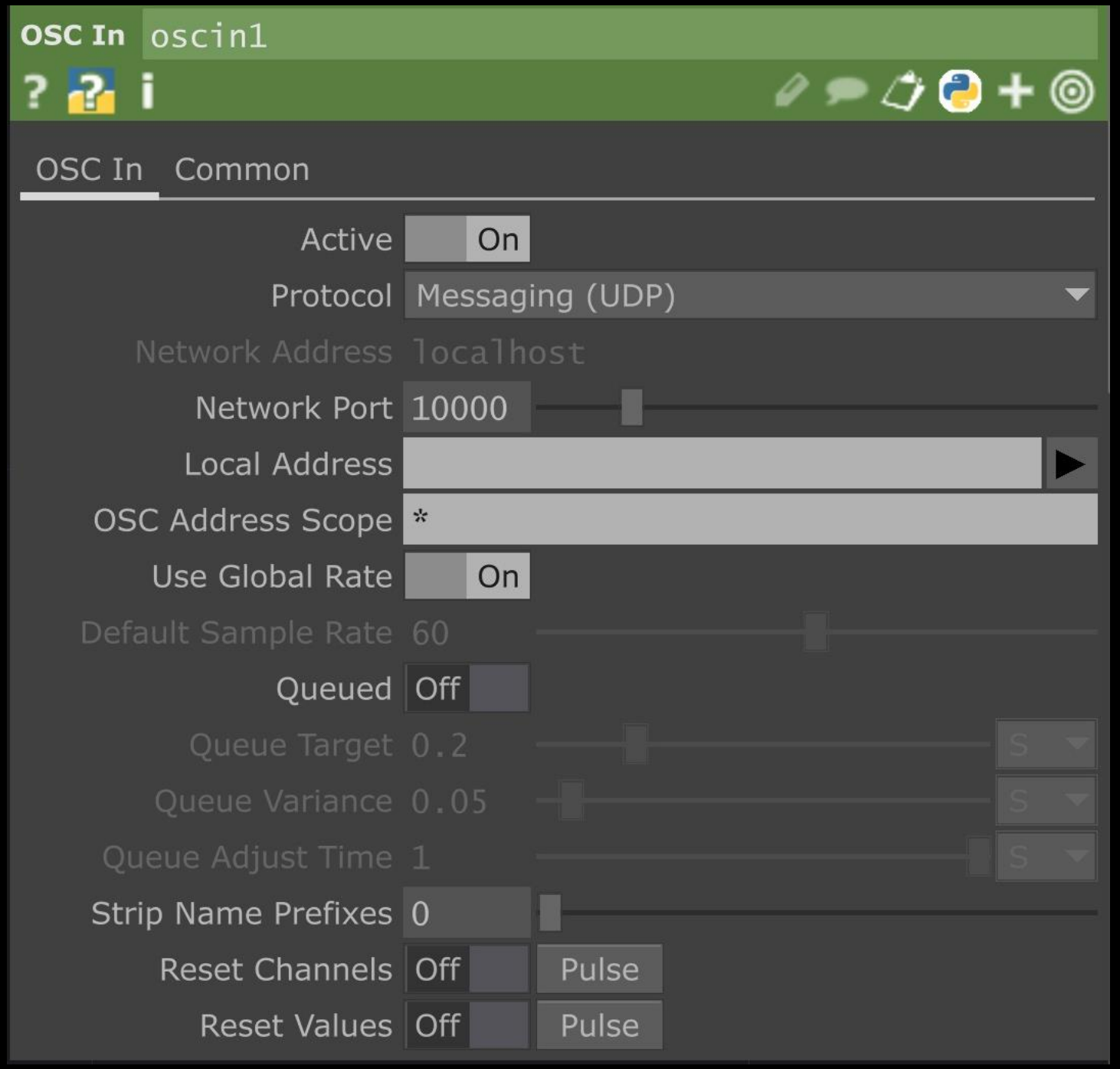
The network port: it can be any arbitrary number, but higher the number least likely the chance is that is already occupied by something else.



OSC IN TO RECEIVE DATA



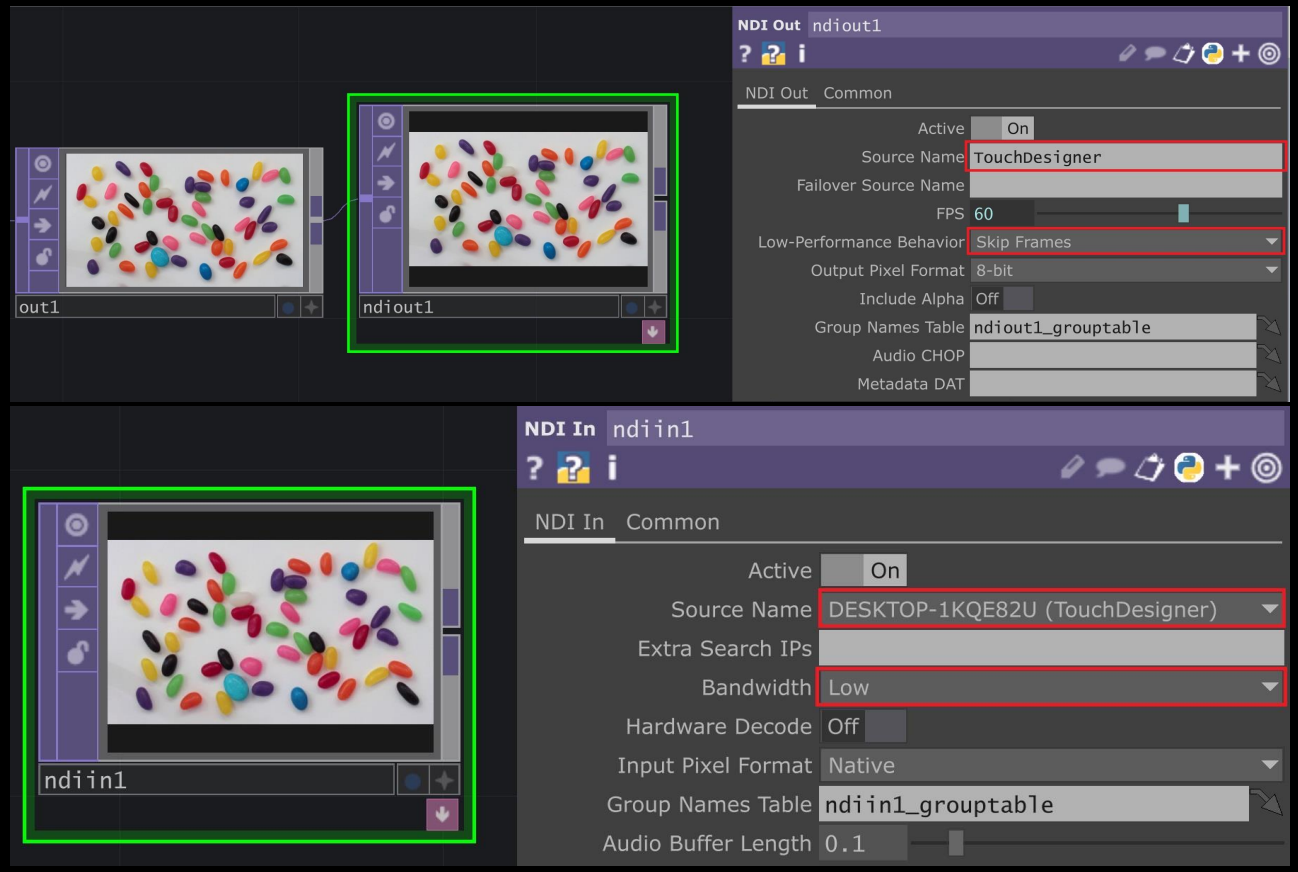
On OSC IN you only need to select the right port so it matches to the OSC OUT chop and values should start coming in automatically.



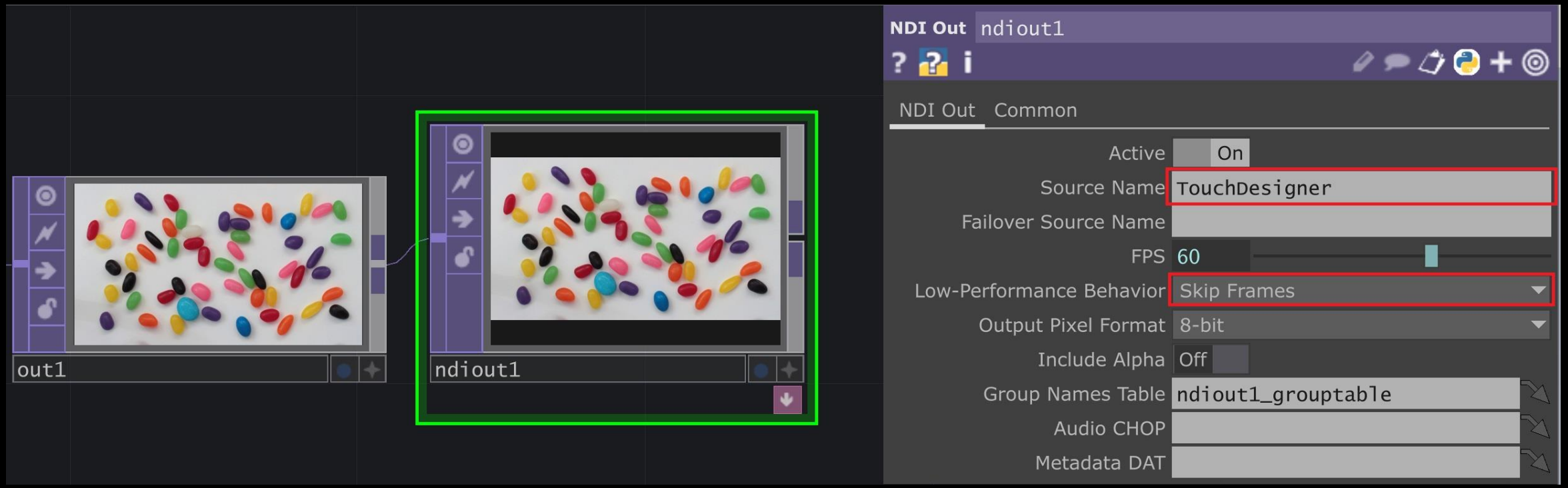
NDI – NETWORKED DEVICE INTERFACE

NDI connection has to be established through two operators.
NDI OUT top to send:

NDI IN top to receive:



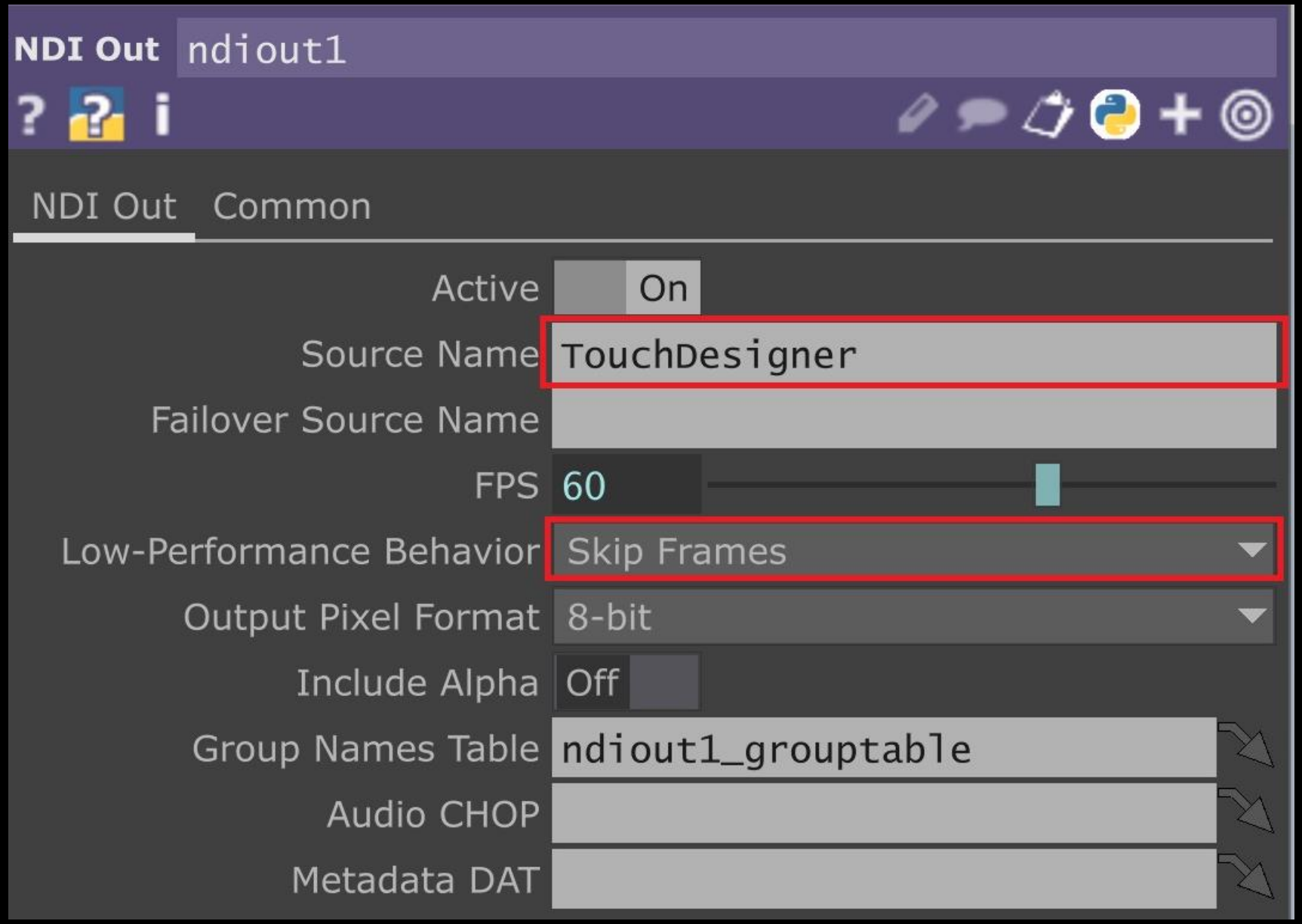
NDI OUT TO SEND VIDEO



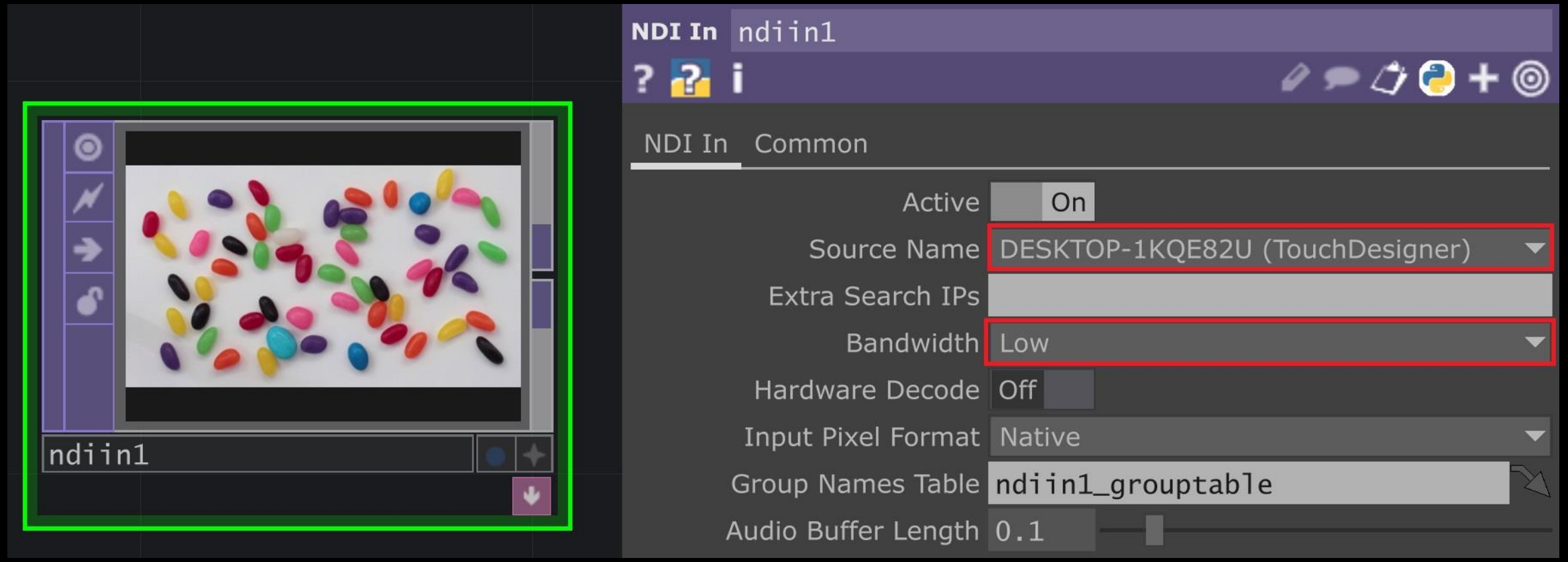
A couple of important things:

Source Name: can be any name, but it will keep things clear when sending multiple NDI streams

What to do on low-performance. I would pick to skip frames, so the feeding of video is always constant.



NDI IN TO RECEIVE VIDEO ON NETWORK



NDI IN you can pick the name of the stream from the Source Name dropdown menu.

Depending on the connection you can choose the bandwith, in case of class we will pick a LOW due to the network switch that we use.