

11 Control Access to NDI® Channels

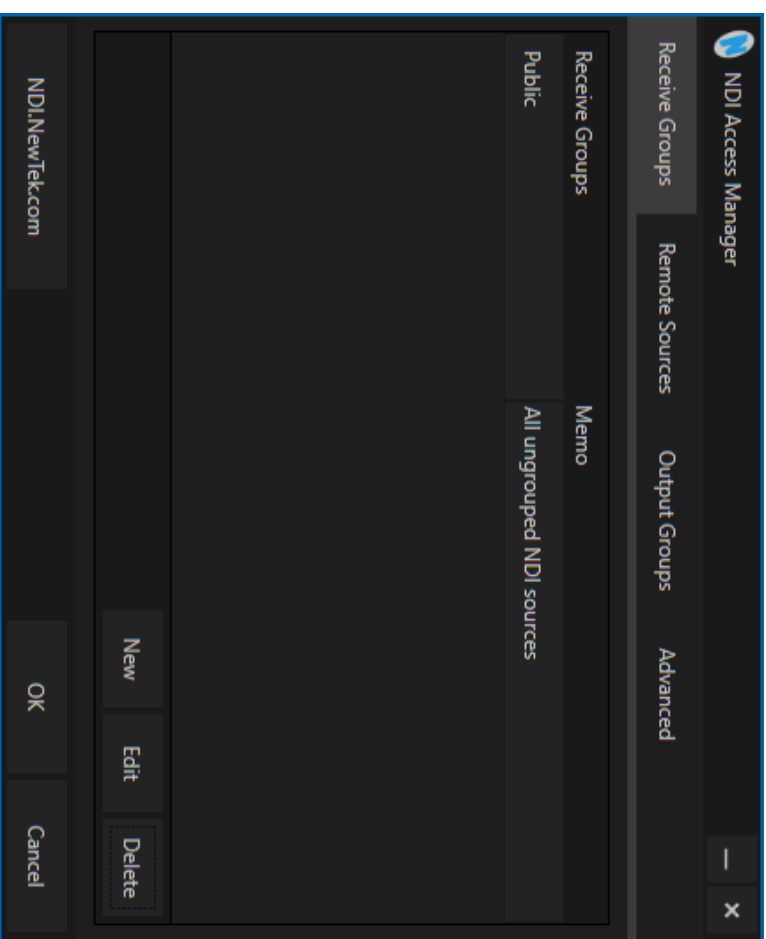
As you come to appreciate the power of NDI®, you'll doubtless want more and more of such convenient video sources. You could easily wind up having hundreds of video sources available (clearly, this was impossible before NDI).

Often, though, you will want to limit visibility of NDI channels to specific systems. Or you may need access to NDI channels from another subnet. The *NDI Access Manager* lets you assign sources to groups, and choose which of these various systems receive. You can also access NDI sources from other subnets.

The NDI Access Manager lets you assign sources on individual host systems to groups, and choose which of these group that you receive. You can also access NDI sources from other subnets or even other networks.

Note: This document details NDI Access Manager for Microsoft Windows, but NewTek provides a similar application for OS X users. The interface and functionality of the latter may differ slightly from the Windows version as illustrated in this discussion.

More detail on this application's features is provided in the Advanced Topics section of this document.



Access Manager in Depth

We touched on the NDI Access Manager earlier under the heading Control Access to NDI® Channels. It's pretty easy to use, but some environments are more challenging, so we'll offer a few helpful points here.

Receive and Output Groups

The *Receive Groups* tab lists all NDI groups from remote systems visible to the local host. By default, all NDI sources contribute to the "Public" group, visible to all NDI clients on the same subnet whose host systems include a matching "Public" entry in their own *Output* tab.

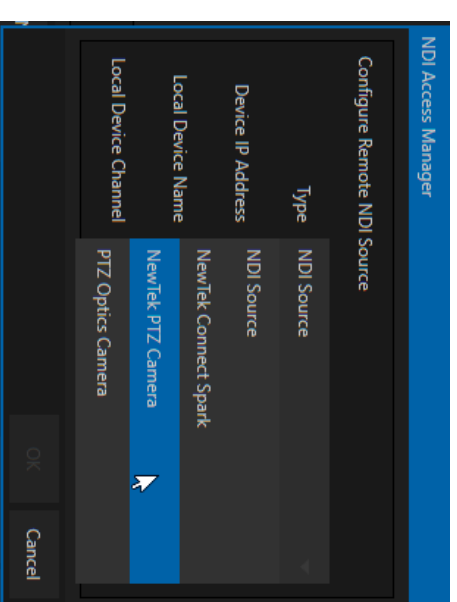
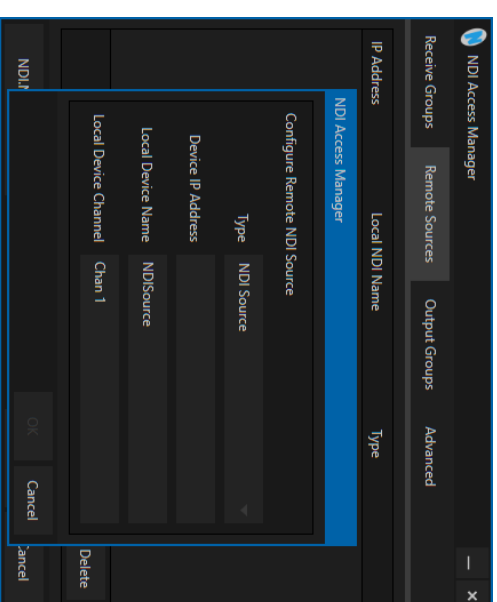
Conversely, custom groups in the *Output* tab let others with matching entries in their *Receive* group access your NDI output. If you remove "Public" from your *Output* groups, only systems listing your custom groups will see your NDI output. Similarly, from your *Receive* entries groups tells your local system to ignore channels that aren't supplied by a *Receive* groups. To add a custom group to either the *Receive* or *Output* tab, click the *New* button in the footer of the panel.

Remote Sources

The *Remote Sources* tab is similar to *Receive*, in that its entries add sources to the list of those visible to NDI enabled applications on the local host. The difference is that that entries in the *Remote Sources* list do not identify NDI groups, but rather individual remote NDI and NDI|HX sources (including Panasonic cameras supporting NDI|HX). Remote sources are identified in this panel by their IP address, rather than their NDI device or channel name.

Note that sources listed in this panel can traverse subnets on the local network, and even connect across different networks when specific criteria are met. This may require your IT team to open specific ports for this traffic.

Since an IP Address can serve multiple NDI channels (e.g., *NDI Scan Converter* can supply 1 channel or many more), the channel count matters. When crossing network boundaries, you must ensure that – starting from port 5960 – enough network ports are available for the maximum supplied NDI sources *plus one*, for NDI server messaging. For example, adding an IP Address for a system supplying one NDI channel to the *Receive from IP* list means ports 5960 and 5961 must be available. A source serving eight NDI channels would need ports 5960 – 5968 to be free, etc.



Advanced (NEW!)

NDI Access Manager's *Advanced* tab is home to features designed to delight Information Technology specialists, including the following:

- Receive mode options – This allows you to bias NDI protocol negotiations, and includes “Prefer UDP” and “Prefer Multi-TCP” options, in addition to the default (Auto).
- Multicast – on well-configured networks, this option can greatly reduce bandwidth demands (conversely, multicast can actually *cause* extremely heavy traffic in sub-optimal environments)
- Support for NDI discovery servers – leap over complex hurdles impeding NDI channel discovery in a single bound (details on implementing NDI discovery servers is available separately in the NDI SDK)

