



# VideoWall

USER GUIDE

NDI®

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Use of this document and the subsequent results shall be entirely on the user's own responsibility.



## Welcome to BirdDog

Thank you for using VideoWall. We hope you enjoy this simple and powerful way to display an NDI® stream across multiple display panels to create a video wall.

## Using This Guide

VideoWall is sophisticated software, so please read this guide before use and retain for future reference.

## We're Invested In Your Success

We pride ourselves on being approachable and easily contactable. We'd love to hear from you.

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# Welcome to the Future

## What is NDI®?

NDI® (Network Device Interface) is a high-quality, low-latency, frame-accurate standard that enables compatible devices to communicate, deliver, and receive high definition video over your existing Gigabit Ethernet network.

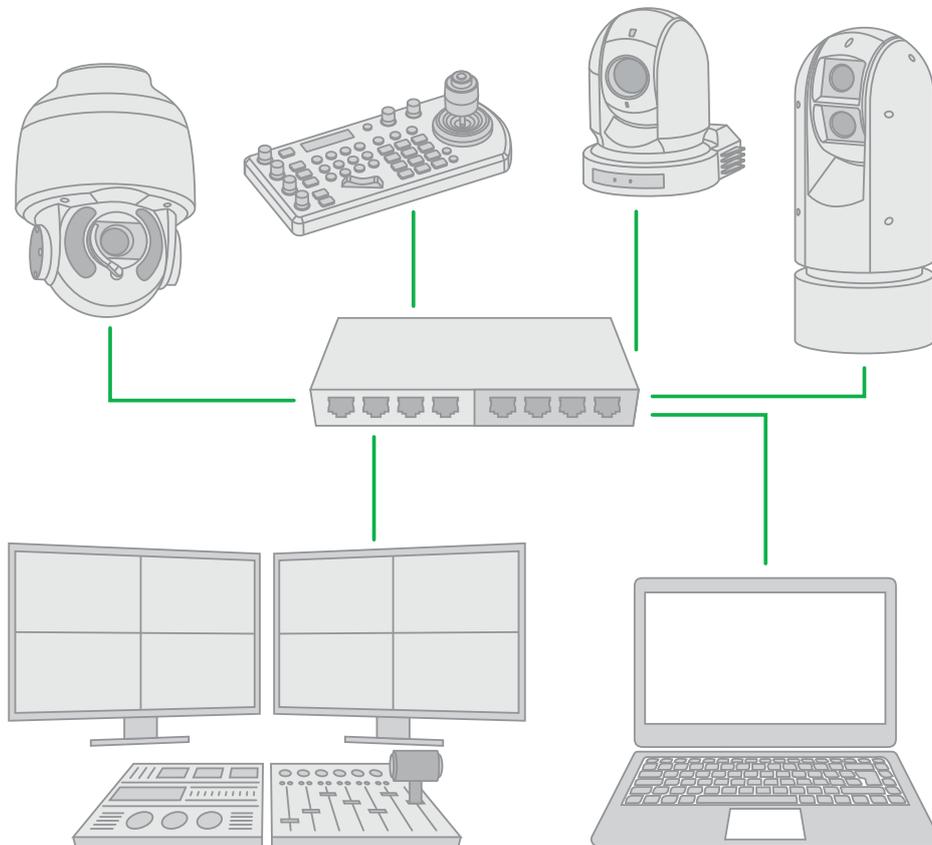
Operating bi-directionally, NDI® devices can be auto-detected, powered and controlled over the same Ethernet cable used to send the video and audio. If you have a Gigabit network, you have the potential for a streamlined, interconnected, video production environment.

With the introduction of NDI® 5, you can now securely share network sources between remote sites anywhere in the world – on a single network port. Even a smartphone can be a NDI® source.

Transitioning to NDI® can also occur gradually. Existing SDI or HDMI signals can easily be converted to an NDI® stream and piped where required on your network and then converted back only at the necessary endpoints.

BirdDog has been on the NDI® journey since the very beginning, and VideoWall is just one of our products designed to take advantage of the features and potential of NDI®.

For more information on NDI®, please refer to this [page](#) on our website.





## Overview

VideoWall is a simple, yet powerful way to display an NDI® stream across multiple display panels to create a video wall. Operation is simple. Choose either a 2x2 or 3x3 panel layout, assign your PLAY or SDM to each panel, and choose the NDI® stream you wish to display.

## Features

### Choose your receiver

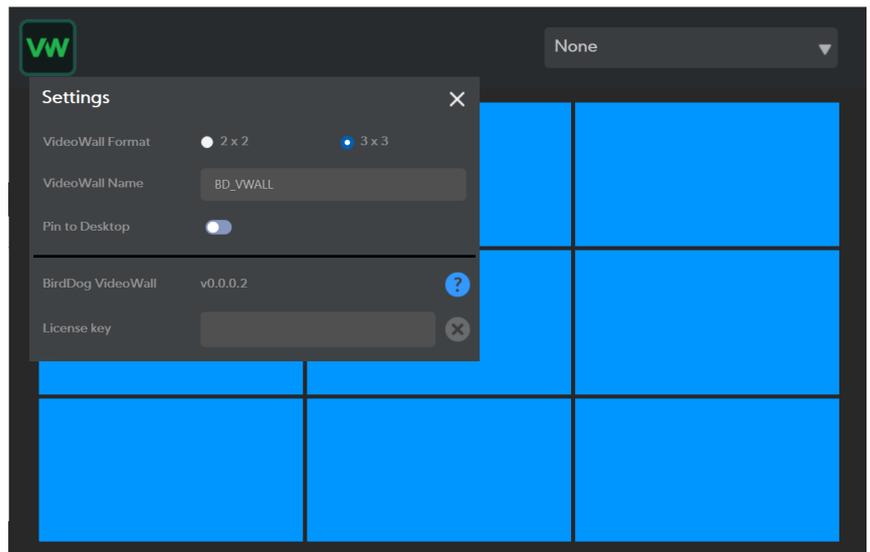
VideoWall supports both BirdDog PLAY and BirdDog M1 SDM to create fully networked and cost effective video wall displays.

### 4K 60fps

VideoWall supports input resolutions of 2160p and 1080p and frame rates up to 60fps. VideoWall does not support interlaced sources. Please refer to <https://birddog.tv/videowall-overview/> for complete specifications.

### Windows 11 System Tray app

VideoWall lives in your Windows 10 or 11 System Tray for easy access anytime. You can pin it to your desktop or close it without affecting the NDI® stream.



### Generate playlists with the free Central 2.0.

Use Central 2.0 to create playlists from your own media files. For a single VideoWall, the free Central 2.0 Lite edition is all you need or use the Pro edition to push content to multiple VideoWall setups simultaneously.

### Easy power

PLAY can be powered from the USB connection of the display, and since the SDM lives inside the NEC Message Series display, it requires no external power input.

### Easy connection

For each panel, connect PLAY (or the installed SDM) to a 1GbE network switch. Connect the switch to the Windows PC running VideoWall and you are set.

## System Requirements

### Installation machine

- CPU: Intel i7 10th Gen
- RAM: 16GB
- OS: Windows 10 or 11

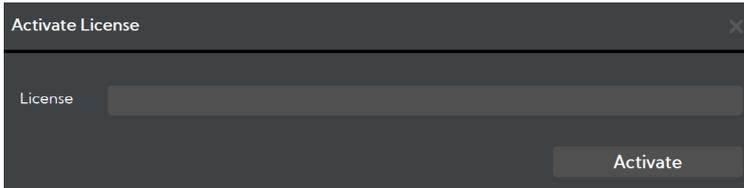
### Network

- 1GbE network switch.
- PLAY or installed M1 SDM receiver devices for each video wall display panel.
- SDM devices must be on firmware v1.65.1 or later.



## Installation

1. Download VideoWall from [here](#).
2. Double-click the executable, and follow the prompts to perform a standard Windows install.
3. When VideoWall is first launched, you'll be prompted to enter your License Key. Enter the Key and click the Activate button. The Activate License window will display "Activated". Click the "x" symbol to close the window and the VideoWall application will display.



4. The application is accessible from the System Tray. Left click on the icon to to maximise the app window when it is minimised and right click to choose to quit the app. The output of VideoWall is not affected when the application is closed.

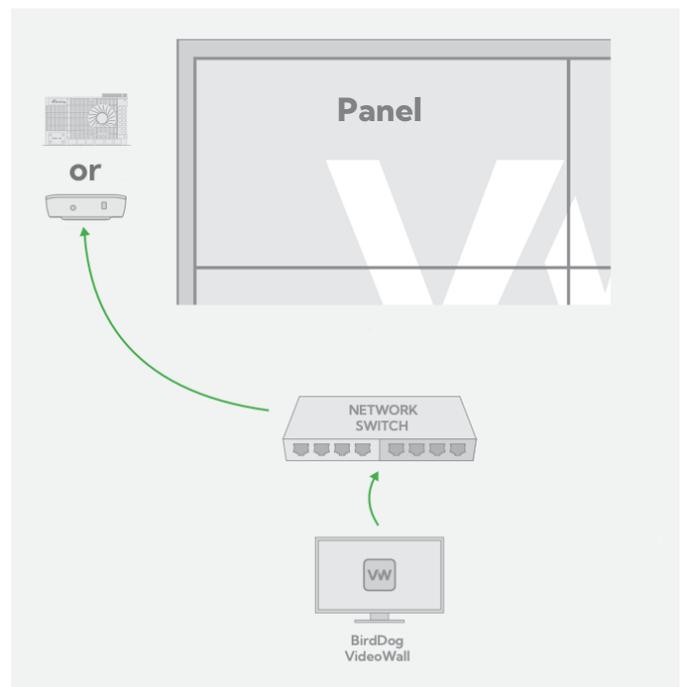


## Connections

Each display panel of your video wall requires a PLAY or an installed M1 SDM.

For example, a 2x2 video wall installation (four display panels) requires four PLAY, or four installed SDM devices.

1. For **each** panel of the video wall:
  - a. If using PLAY devices, connect PLAY to the display panel using an HDMI cable. Provide power to the PLAY.
  - b. Connect PLAY, or the panel-installed SDM, to the 1GbE network switch using an Ethernet cable.
2. Connect the switch to the Windows PC running VideoWall using an Ethernet cable.





## Compatible display devices



### PLAY

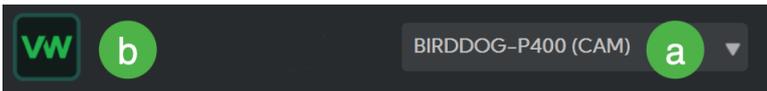
BirdDog PLAY is an NDI® player that allows you to view NDI® sources on your TV via HDMI.



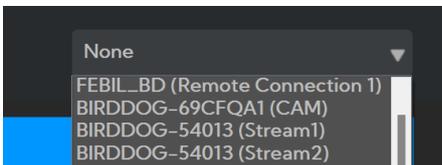
### SDM

The BirdDog SDM module installs inside an SDM compatible flat panel for easy display of NDI® sources.

## Configuration

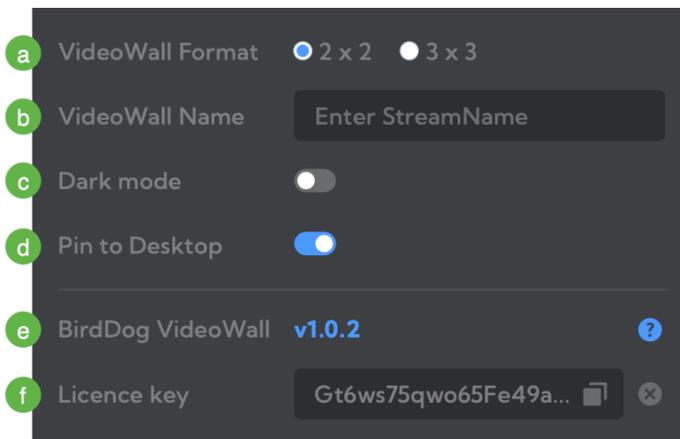


- Select the **input** NDI® stream that will be split by the VideoWall application. This input will then be split into four, or nine, NDI® streams depending on the **VideoWall Format** setting. These streams are then assigned to the receiving devices (PLAY or SDM) associated with the physical video wall.



- Click the VideoWall logo to open the following Settings window.

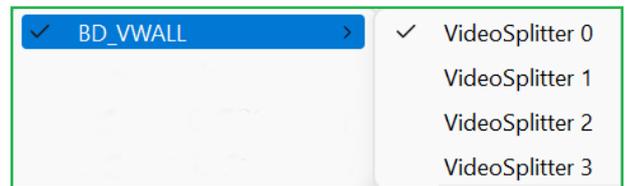
## Settings window



- Select the VideoWall layout. You can choose from 2x2 or 3x3 configurations.



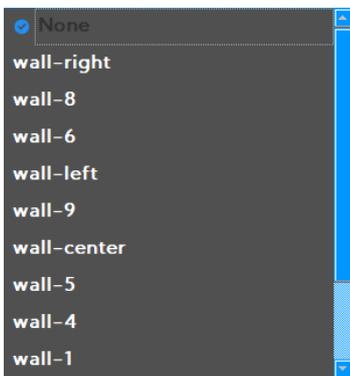
- b. Assign a name to the VideoWall **output**. Use only upper case A-Z or underscore "\_" with a maximum of 50 characters for the name. This is the multistream output that is sent to the PLAY or SDM decoders associated with the physical video wall. For example, shown below is the 2x2 layout stream BD\_VWALL as displayed in NDI Studio Monitor.



- c. Choose between the default light coloured interface or Dark mode.
- d. Choose Pin to Desktop to keep VideoWall in front of other open windows on the Desktop.
- e. The version of your VideoWall application is displayed. Click the question mark icon to open the BirdDog Support page.
- f. Your License Key is displayed here. To remove your License Key, click the cross icon and follow the prompts.

## Assigning a panel to a device

1. Right-click on each panel to assign a device to that panel. In this example, a 3x3 layout has been selected and the nine receiver devices are displayed. Choose the desired device to assign it to the panel. Logical naming of the PLAY or SDM devices is recommended to simplify this process



2. VideoWall is now configured and ready to use.



## Glossary

### Domain

A domain contains a group of computers that can be accessed and administered with a common set of rules. Domain can also refer to the IP address of a website on the Internet.

### DNS

DNS (Domain Name System) is a system used by the Internet and private networks to translate domain names into IP addresses.

### mDNS

mDNS (Multicast DNS) refers to the use of IP multicast with DNS to translate domain names into IP addresses and provide service discovery in a network that does not have access to a DNS server.

### Ethernet

Ethernet, standardized as IEEE 802.3, refers to a series of technologies used to connect computers and other devices to a LAN (Local Area Network) or wide area network (WAN).

### Firmware

Firmware is a class of software held in non-volatile memory that provides the low-level control for a device's hardware.

### Gigabit Ethernet (GigE)

An Ethernet capable of transmitting frames at a rate of a gigabit per second. A Gigabit capable Ethernet network is recommended for NDI® production workflows.

### IP

IP (Internet Protocol) is the communications protocol for the Internet, many wide area networks (WANs), and most local area networks (LANs) that defines the rules, formats, and address scheme for exchanging datagrams or packets between a source computer or device and a destination computer or device.

### LAN

LAN (Local Area Network) is a network that connects computers and devices in a room, building, or group of buildings. A system of LANs can also be connected to form a WAN (Wide Area Network).

### Mbps

Mbps (Megabits per second) is a unit of measurement for data transfer speed, with one megabit equal to one million bits. Network transmissions are commonly measured in Mbps.

### NDI®

NDI® (Network Device Interface) is a standard allowing for transmission of video using standard LAN networking. NDI® comes in two flavours, NDI® and NDI®|HX. NDI® is a variable bit rate, I-Frame codec that reaches rates of around 140Mbps at 1080p60 and is visually lossless. NDI®|HX is a compressed, long-GOP, H.264 variant that achieves rates around 12Mbps at 1080p60.



## PELCO

PELCO is a camera control protocol used with PTZ cameras. See also VISCA.

## PoE

Power over Ethernet

## Port

A port is a communications channel for data transmission to and from a computer on a network. Each port is identified by a 16-bit number between 0 and 65535, with each process, application, or service using a specific port (or multiple ports) for data transmission. Port can also refer to a hardware socket used to physically connect a device or device cable to your computer or network.

## PTZ

Pan, tilt and zoom.

## RJ45

A form of standard interface commonly used to connect computers onto Ethernet-based local area networks (LAN).

## RS422, RS485, RS232

Physical layer, serial communication protocols.

## Subnet

Subnet or subnetwork is a segmented piece of a larger network.

## Tally

A system that indicates the on-air status of video signals usually by the use of a red illuminated lamp.

## TCP

TCP (Transmission Control Protocol) is a network communications protocol.

## UDP

UDP (User Datagram Protocol) is an alternative protocol to TCP that is used when reliable delivery of data packets is not required.

## VISCA

VISCA is a camera control protocol used with PTZ cameras. See also PELCO.

## WAN

WAN (Wide Area Network) is a network that spans a relatively broad geographical area, such as a state, region, or nation.

## White Balance

White balance (WB) is the process of ensuring that white objects and by extension, all colour, in your video are rendered accurately. Without correct white balance, objects in your video display unrealistic color casts.



WELCOME TO THE FUTURE.