BirdDog NDI 4K Converter Digitale Encoder Decoder User Guide

Contents

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Specifications

- **Product Name:** BirdDog 4K Converter
- **Power Source:** AC Adapter
- **Thermal Management:** Active cooling system
- **Network Connectivity:** Ethernet port
- **Video Encoding:** Supports NDI streams

Product Usage Instructions

First Step

- Welcome to BirdDog! This manual will guide you through the usage of the BirdDog 4K Converter. Make sure to read and understand all the instructions before using the product.

Welcome to the Future

- The BirdDog 4K Converter is a cutting-edge device that allows you to convert video signals to NDI streams, providing high-quality video transmission over IP networks.

Getting To Know Your Converter

- Before starting to use the converter, it’s essential to familiarize yourself with its features and components.

Powering your 4K Converter

- The BirdDog 4K Converter is powered by an AC adapter. Connect the AC adapter to the converter and plug it into a power outlet.

Thermal Management

- The converter is equipped with an active cooling system to ensure optimal performance and prevent

overheating. Make sure to keep the device in a well-ventilated area.

Boot Up

- Once the converter is powered on, it will go through a boot-up process. Please wait for the device to finish booting up before proceeding.

Operating Your Converter

- The BirdDog 4K Converter can be configured using the web configuration panel. Access the panel by opening a web browser and entering the IP address of the converter.

Password Management

- For security purposes, it is recommended to set a password for accessing the web configuration panel. Ensure you choose a strong password and keep it confidential.

BirdUI Layout

- The BirdUI layout provides an intuitive interface for configuring and controlling the converter. Familiarize yourself with the different sections of the BirdUI layout.

Dashboard

- The dashboard section of the BirdUI layout displays important information about the converter, such as network status and video stream details.

Network

- The network section allows you to configure network settings for the converter. You can set the IP address, subnet mask, gateway, and DNS servers.

System

- The system section provides various settings related to the overall operation of the converter.

Password Settings

- In the password settings, you can change the password for accessing the web configuration panel. Remember to choose a strong password and keep it secure.

System Update

- The system update feature allows you to update the firmware of the converter. Check for firmware updates regularly to ensure you have the latest features and improvements.

System Reboot:

- If needed, you can perform a system reboot from this section.
  This will restart the converter and apply any changes made in the configuration panel.

A/V

- The A/V section provides settings related to video encoding and decoding.

Device Settings

- In the device settings, you can configure various parameters related to video input and output, such as resolution, frame rate, and audio settings.

Encode Settings

- The encode settings allow you to customize the encoding parameters for NDI streams.
- You can adjust the bitrate, codec, and other encoding options.

Decode Settings

- The decode settings control the decoding parameters for incoming NDI streams.
- You can configure options like video format, audio channels, and synchronization.

Receiving NDI Streams

- The BirdDog 4K Converter allows you to receive NDI streams from compatible devices.

NewTek Studio Monitor

- To receive NDI streams on a NewTek Studio Monitor, follow the instructions provided in the NewTek Studio Monitor user manual.

NewTek TriCaster Series

- If you are using a NewTek TriCaster Series device, refer to the TriCaster user manual for instructions on receiving NDI streams.

FAQ:

Q: How do I access the web configuration panel?

- **A:** To access the web configuration panel, open a web browser and enter the IP address of the BirdDog 4K Converter.

Q: Can I change the password for accessing the configuration panel?

- **A:** Yes, you can change the password in the password settings section of the system menu.
- Choose a strong password and keep it secure.

Q: How often should I check for firmware updates?

- **A:** It is recommended to check for firmware updates regularly to ensure you have the latest features and improvements.
- Check the BirdDog website for updates.

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Important Information

Legal Notice

- To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).
- The contents of this document are subject to change without prior notice. Updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.
- Best effort has been made to verify the integrity and correctness of the contents in this document, but no statement, information, or recommendation in this manual shall constitute a formal guarantee of any kind, expressed or implied.
- We shall not be held responsible for any technical or typographical errors in this manual. The product appearance shown in this manual is for reference only and may be different from the actual appearance of your device.
- Due to uncertainties such as the physical environment, discrepancies may exist between the actual values and

reference values provided in this manual.

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

Regulatory Compliance

FCC

This equipment has been tested and found to comply with the limits for digital devices, according to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used under the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

LVD/EMC Directive

This product complies with the European Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.

Welcome to BirdDog!

- Thank you for purchasing your 4K converter. If you have any questions regarding the unit, please contact your authorized dealer.

Using This Manual

- Your converter is a powerful and sophisticated device, so please read this manual before use and retain it for future reference.

Tip

- When viewing the diagrams in this manual, use the zoom controls in your browser or PDF reader to reveal more detail.

First Step

Firmware Upgrade

- Before you use your new converter, it’s a good idea to upgrade to the latest firmware.
- We are always adding new features and improving the performance of our products, so installing the latest firmware will provide you with the best user experience.
- To upgrade the firmware, please follow the Firmware Upgrade Instructions located in your firmware download

folder and perform the upgrade process.
- The latest firmware files are available for download here: Firmware Updates

We're Invested In Your Success

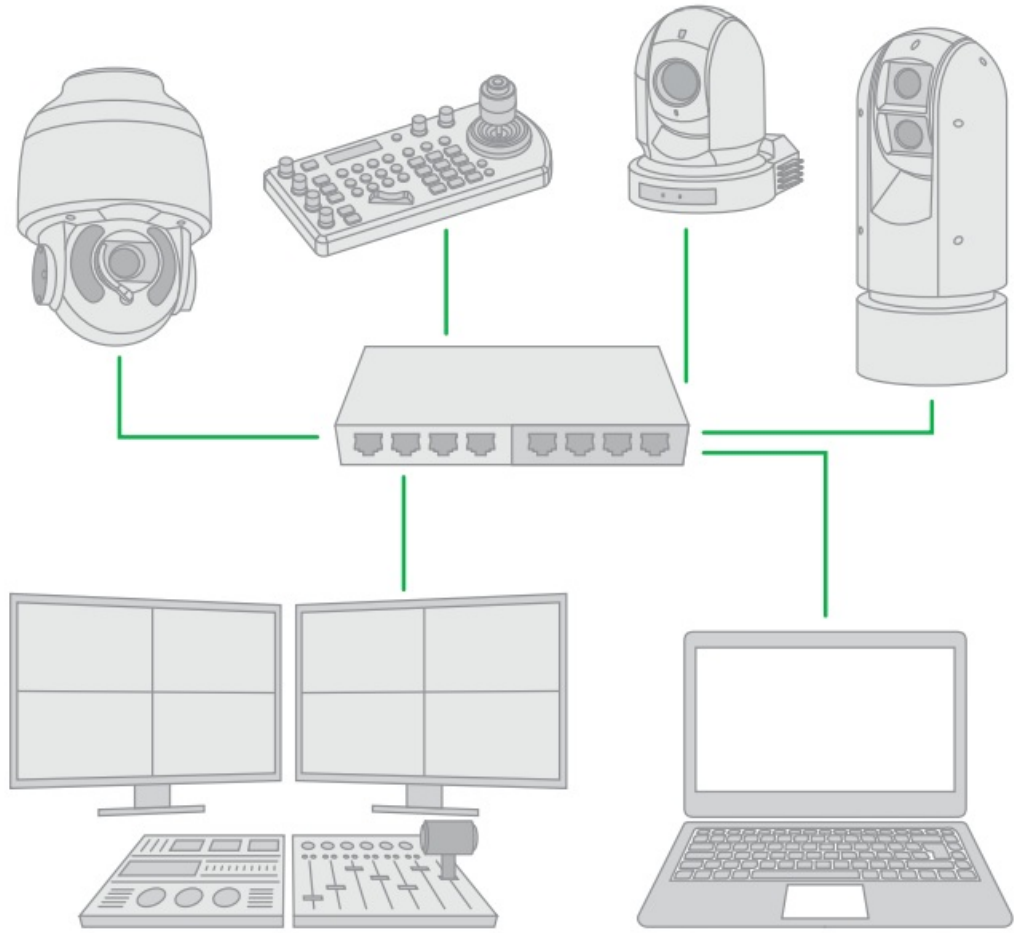
- We pride ourselves on being approachable and easily contactable. We'd love to hear from you.

Dan Miall

- Co-Founder and CEO **dan@bird-dog.tv**

Welcome to the Future What is NDI®?

- Your new converter has been designed to support the cutting-edge NDI® video transmission standard.
- NDI® (Network Device Interface) is a high-quality, low-latency, frame-accurate standard that enables compatible devices to communicate and 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 an NDI® source.
- Transitioning to NDI® can also occur gradually. Existing SDI or HDMI signals can easily be converted to an NDI® stream piped where required on your network and converted back only at the necessary endpoints.
- BirdDog has been on the NDI® journey since the very beginning, and your converter 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.



Getting To Know Your Converter

Powering your 4K Converter

- The converter can be powered from various sources:

PoE+ (Power over Ethernet)

- PoE+ is a convenient way to power this converter as it allows both data and power to be sent through the same standard Ethernet cable. To take advantage of PoE+, the network switch that the converter is directly plugged

into must support PoE+(802.11at).
- Different network switches are capable of providing differing amounts of total power to connected devices. This 4K converter uses approximately 14 watts in PoE mode.

DC Power

- Located at the side of the 4K converter is a DC connection port. This power input socket is capable of accepting 12V DC power. Use only the included AC adaptor.

Thermal management

- This product is fan-cooled. To achieve the best thermal performance the the entire enclosure of the converter is designed to dissipate heat and it is normal for the unit to feel warm to the touch.

Boot Up

- When the converter detects power, the fan will activate. After approximately 20 seconds the network activity indicator will begin to flash indicating the device's detection of the computer network. After a further 20 seconds, the display will illuminate.
- The display shows important information to ensure you can access your converter on the network, including the channel stream format and name, the physical network interface type, and the device IP Address.
- The most important detail on the display is the IP Address, this is the address you will need to type into your web browser to access the BirdDog device to configure and interact with it.
- **FORMAT:** DEC 1 1080p29.97
- **SOURCE:** Birddog-s73v3
- **STREAM:** Stream1
- **RJ45** : 192.168.100.21

Operating Your Converter

Web configuration panel

- The web configuration panel (BirdUI) allows you to alter key settings of your converter, such as A/V settings, and video frame rates, restart the video processing engine, change networking parameters, and apply firmware updates.

Access via a web browser (URL)

- To access the web configuration panel please point your computer web browser to: **http://birddog-xxxxx.local** Here, "X" is the last five digits of the serial number of the converter, and the serial number is printed on the box and the main unit.
- Note the web address is case-sensitive and should be all lowercase. Your computer will need to have 'Bonjour' services loaded to access the unit via its 'friendly' name described above.
- Apple devices come pre-installed with Bonjour, while Windows devices need a small plugin available here.

Access via IP address

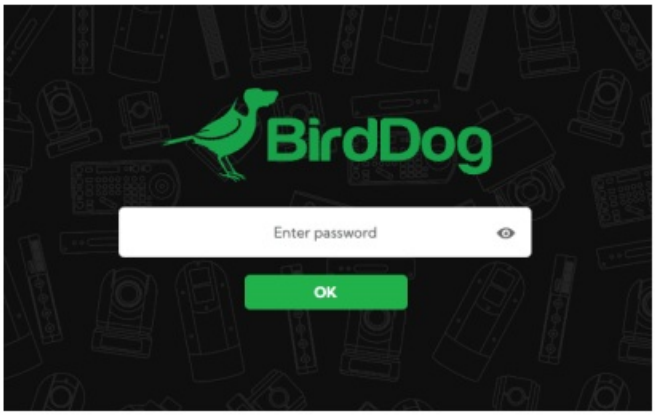
- Your converter is configured to automatically receive a network IP Address from the computer network via DHCP (Dynamic Host Configuration Protocol).
- Most corporate, education, and home networks have a DHCP server present to allow this to occur.
- Usually, your Internet router provides this.
- If your device receives an IP address automatically from this server (DHCP) the IP Address can be discovered in several ways, including BirdDog Central Lite.

Access without a network DHCP server

- Some standalone or private networks may not have a DHCP server. After 30 seconds of searching for an automatically assigned IP Address, the device will fall back to a default address which is: 192.168.100.100.
- To access the web configuration panel on a network that is configured to a different subnet, change your computer's IP Address to match the converter's IP Address range. Once you gain access to the BirdUI, choose your IP Address to match the rest of the devices on your network.
- For instructions on setting your computer's IP Address please consult your computer operating system manual or IT support resources.

Password Management

- Once you direct your web browser to the BirdUI you will need to log in to change any settings.



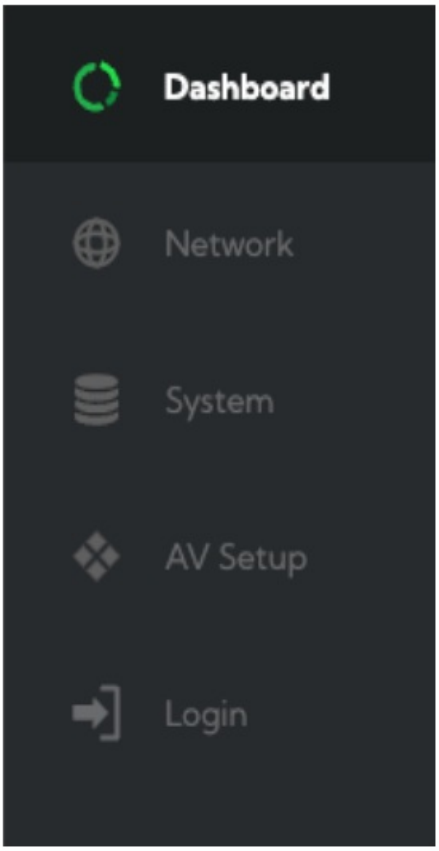
Default password

- The web configuration panel is secured by a user-selectable password.
- The default password is Birddog (one word, lowercase).
- To change the password simply log in using the default password, navigate to the network tab in the web interface, and select change password.
- It is recommended to change this password in a network environment where your device is shared with other users (e.g., not private).
- By entering this password, the user is granted full access to the configuration settings and could interrupt a live program.

BirdUI Layout

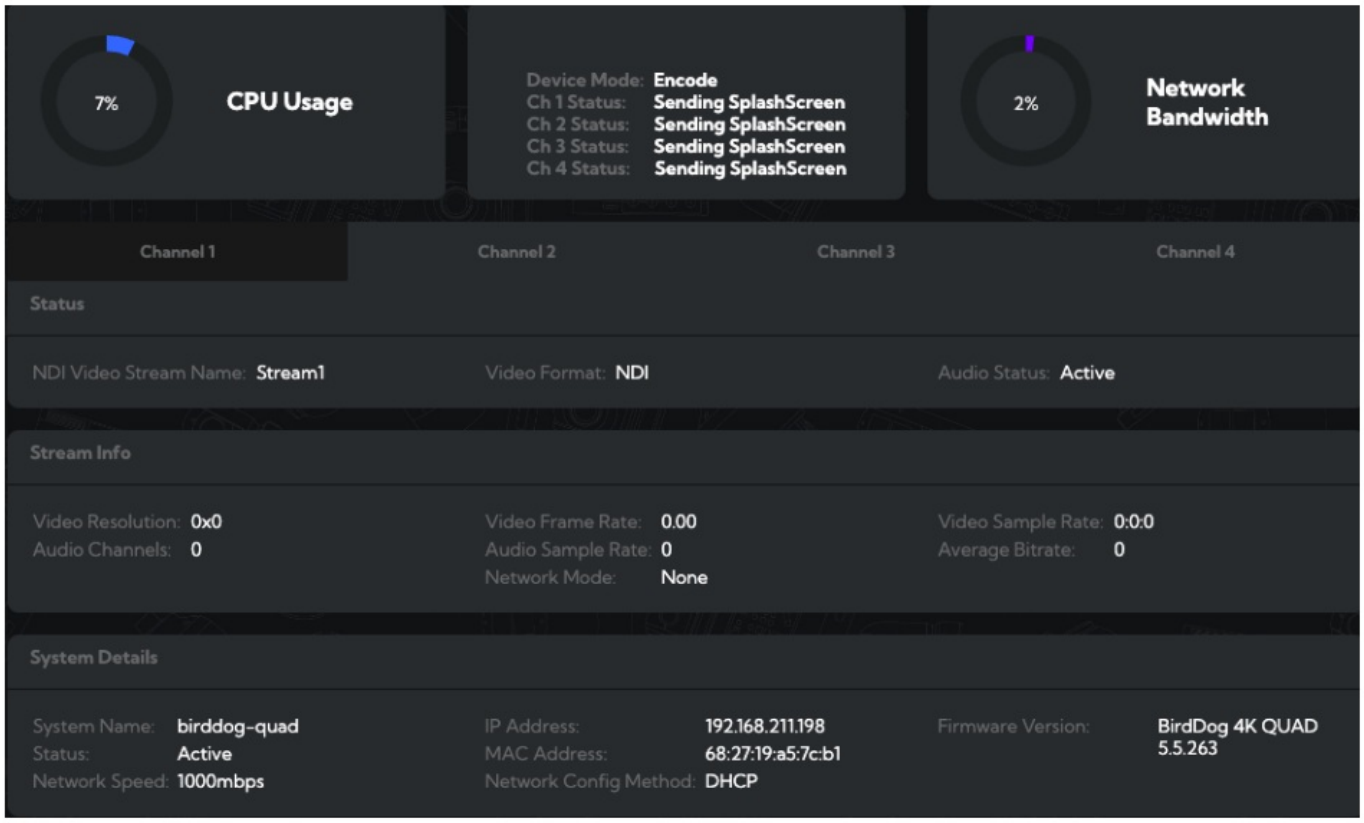
- The BirdUI is organized into the following panels:

1. **Dashboard**
    - Overall view of important information such as the network connection type and video stream format and resolution.
2. **Network**
    - General network settings such as DHCP IP Address details, timeout fallback address and network name, designation of group access, and NDI® specific network settings
3. **System**
    - System admin functions such as updates and password changes.
4. **AV Setup**
    - Operational mode Encode or Decode and associated settings.
5. **Login/Logout**
    - BirdUI login/logout.



Dashboard

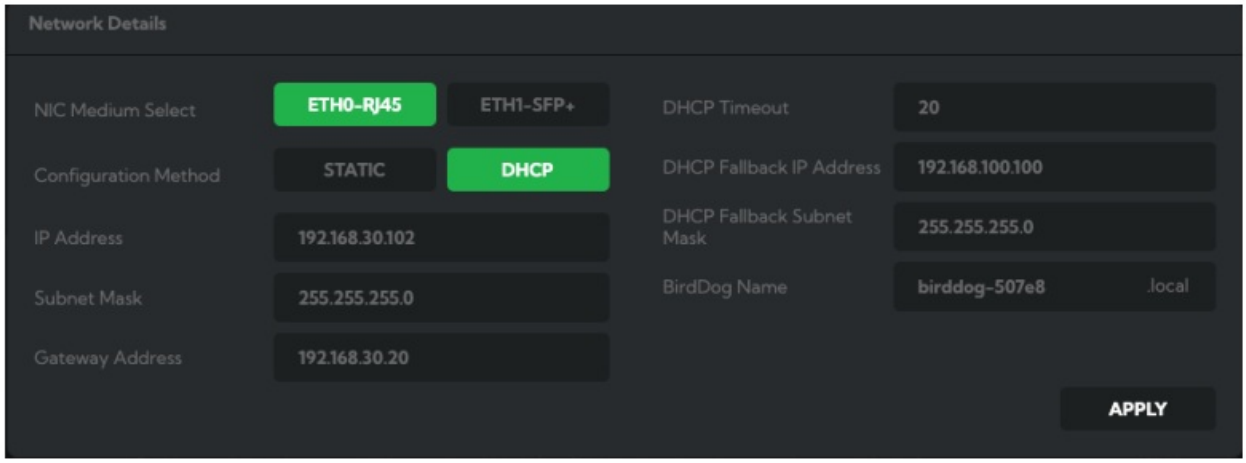
The Dashboard displays an overall view of important information.



1. **CPU Usage**
    - Current computer system CPU utilization.
2. **Device mode**
    - Indicates whether the device is operating in Encode or Decode mode.
3. **Source Status**
    - Indicates the status of the connected source.
4. **Network Bandwidth**
    - Network bandwidth consumption of the current NDI® stream(s).
5. **Status (per channel)**
    - **a**. NDI® video stream name
    - **b**. Selected video format.
    - **c**. NDI® audio status.
6. **Stream Info**
    - **a**. Video resolution, frame rate, and sample rate.
    - **b**. Number of audio channels of the stream. The audio output sample rate and average NDI® bitrate of the stream.
    - **c**. Network transmit method.
7. **System Details.**
    - **a**. System name of the converter.
    - **b**. Network details, including IP Address and network configuration method (DHCP or Static).
    - **c**. Online status of the converter.
    - **d**. MAC address and current firmware version of the converter.
8. **Device Restart**
    - Click this button to restart the NDI® stream. This may be necessary after changing key image settings e.g., resolution.

Network

Network Details



NIC (Network Interface) Medium Select

- Select the desired network interface connection. RJ45 is the default selection.

Configuration Method

- You can configure the device to operate on the network with a dynamic (DHCP) IP Address or a fixed Address. For smaller networks DHCP networking is generally suitable, however, larger networks with managed operations will often determine each device needs to have a dedicated and static IP Address.

DHCP IP Address

- DHCP is set as the network configuration by default.

Static IP Address

- To enable a static IP Address, change the configuration method to static and complete the details in the Address, Mask, and Gateway fields.
- Particular attention should be paid to the Address and Mask fields, as incorrect information will result in the device not being visible on the network.

DHCP Timeout, Fallback IP Address, Fallback Subnet Mask

- You can set the timeout period during which the converter will look for a DHCP IP Address. After this period, the camera will default to the designated fallback IP Address.
- This can be useful if you use your camera in other network environments. For example, if a DHCP server is available in your normal office or studio application, the converter will use the DHCP-supplied IP Address.
- If you then use the camera in another application without a DHCP server, your device will always default to the known fallback IP Address.
- **Note:** Do not set the fallback IP Address the same as the device IP Address. It is recommended that you keep the default.

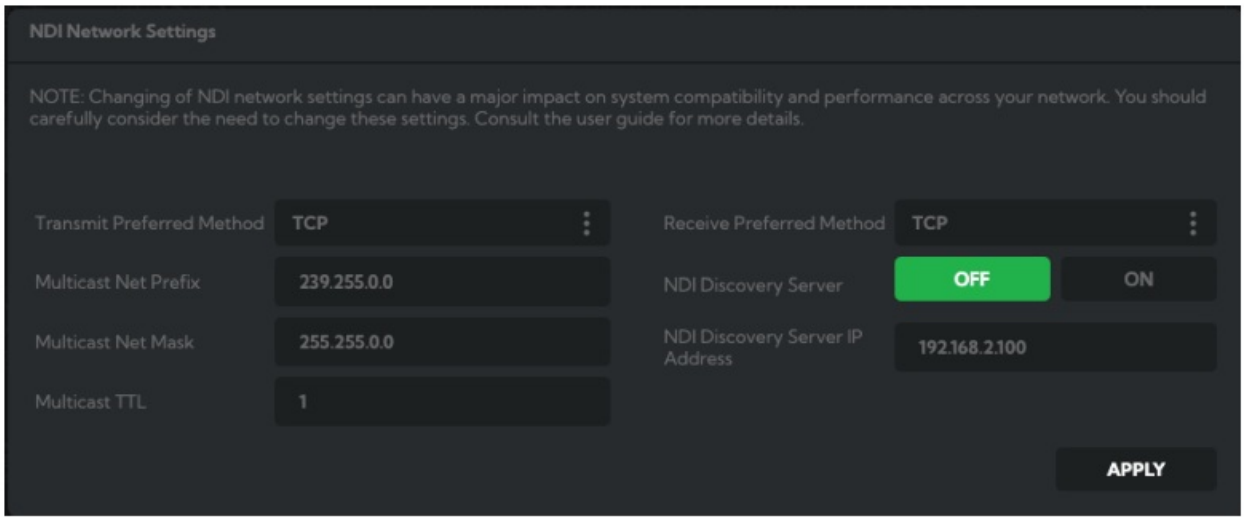
IP Address Recovery

- If the device is not visible on the network, the network has changed, or the static IP Address details have been lost, reset the BirdDog back to its default settings by following the factory reset procedure.

BirdDog Name

- You can name each converter with a memorable name that makes sense for each production.
- This name will appear on any NDI® receiver when it looks for video over the network.
- The name must not include any special or uppercase characters but can be any combination of a, 0-9, and –‘.

NDI Network Settings



- The converter module operates with the latest NDI® Libraries. There are several options to configure its behavior in an NDI® network.
- Each configuration has its benefits, however, it is recommended to utilize the default TCP transmit method unless you have reason to change.

Transmit / Receive Preferred Method

TCP

- TCP is the default transmission method for NDI®. It operates well in local networks with predictable latency and limited jitter. BirdDog recommends that TCP be used for typical applications, and using alternative transports only for specific reasons.

UDP

- UDP is recommended for networks where there is extended latency. The nature of UDP allows dropped packets and doesn’t establish handshaking dialogues to confirm each received packet – which can improve performance.
- UDP can have some consequences if there are other issues on the network, such as jitter or packet loss, as lost packets will not be resent.

R-UDP (Reliable UDP)

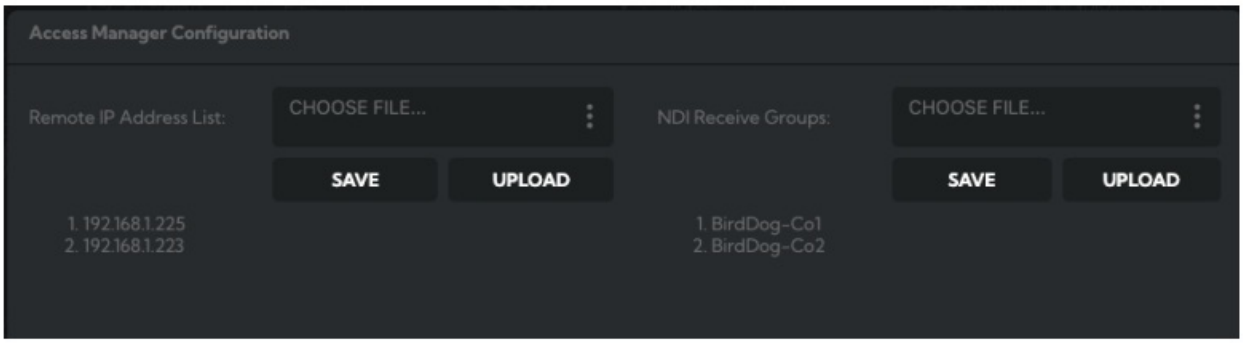
- This protocol bridges the performance of TCP and UDP. Compared to TCP, R-UDP reduces overall network load (allowing more NDI® streams) by not requiring every packet to be ‘acknowledged’ by every receiver. Built-in error correction adds smoothness and reliability.

NDI Discovery

- By default, NDI® utilizes mDNS (multicast Domain Name System) to create a zero configuration environment for network discovery. The primary benefit of using mDNS is that it requires little or no administration to set up.
- Unless the network is specifically configured to not allow mDNS, NDI® sources will be discovered.
- The NDI® Discovery Service is designed to allow you to replace the automatic discovery with a server that operates as an efficient centralized registry of NDI® sources resulting in much less bandwidth use. NDI® discovery server also helps with the location of devices that reside on different subnets. The NDI® Discovery Server is available as part of the free NDI Tools in NDI version 5.5 (C:\Program Files\NDI\NDI 5 Tools\Discovery\NDI Discovery Service.exe).

1. If you are using a NDI® Discovery Server, click the ON button.
2. Enter the IP Address of your NDI® Discovery Server.
3. Click the APPLY button to save your changes.

Access Manager Configuration



Remote IP Address List

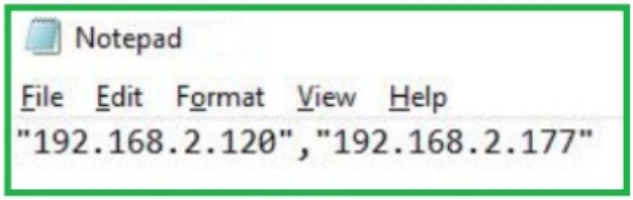
- By default, NDI® devices are visible to each other only when they’re on the same VLAN. If you want visibility or control of a device on a different VLAN, you need to add its address manually as a Remote IP.

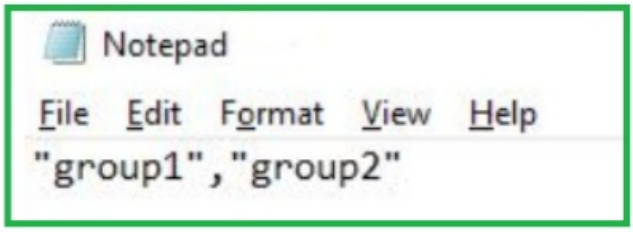
1. Click the CHOOSE FILE button to load your Remote IP Address List in UTF-8 encoded string format.
2. Click the UPDATE button. Do not upload a blank list.

NDI Receive Groups

- Set the NDI Receive Group. NDI® Groups allow you to restrict communication to only devices that belong to the same NDI® Group.
- NDI® Groups can be very useful in larger environments to control visibility and access amongst various groups.

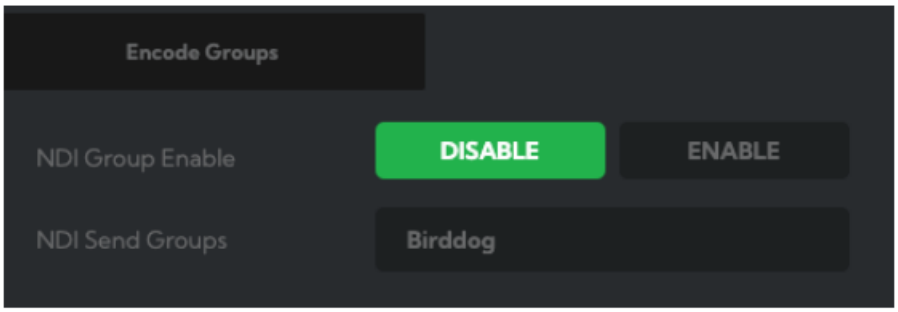
1. Click the CHOOSE FILE button to load your NDI Receive Group List in UTF-8 encoded string format.
2. Click the UPDATE button. Do not upload a blank list.





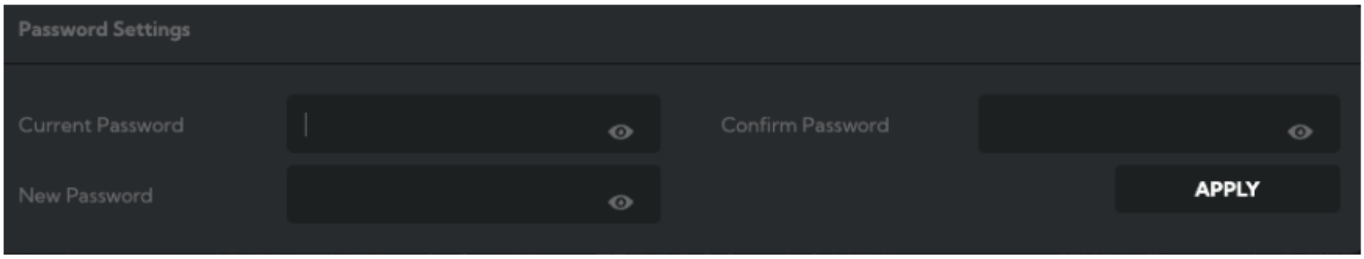
Encode Groups

- Enable and set the Encode NDI Group for each channel. NDI® groups allow you to restrict communication to only devices that belong to the same NDI® group.
- NDI® Groups can be very useful in larger environments to control visibility and access amongst various groups.



System

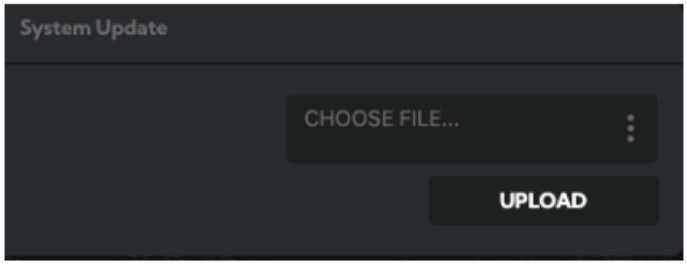
Password Settings



- The BirdDog web user interface (BirdUI) is secured by a user password. The default password is Birddog (one word, lowercase).
- It is recommended to change this password to retain administration rights to prevent unauthorized changes since the BirdUI grants full access to the configuration settings.

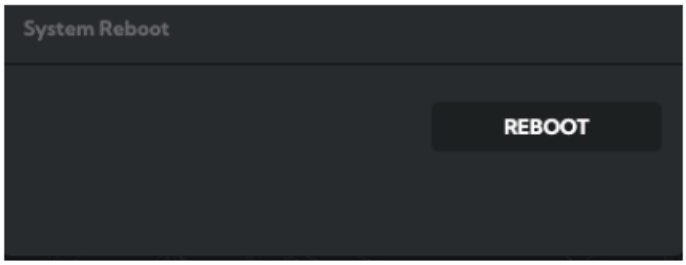
1. Enter the current password.
2. Enter the new password. Confirm the new password and click the APPLY button.

System Update



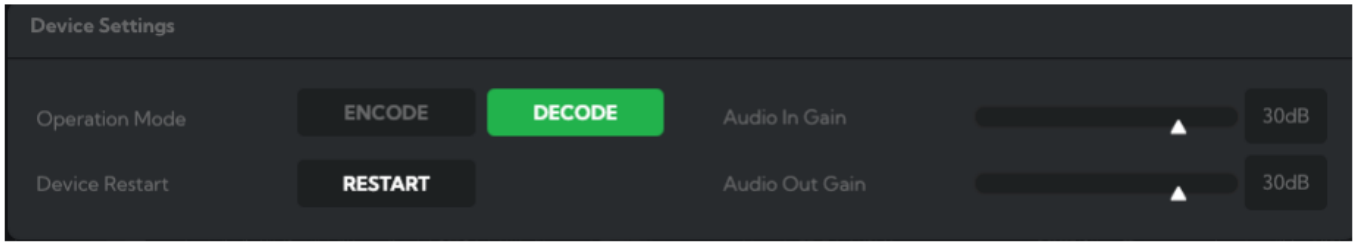
- The converter can be updated via the BirdUI. Please check our Downloads page regularly to ensure you have the latest firmware available for your device.
- Having the latest firmware ensures you have all the latest features and performance updates to get the most out of your converter.
- After downloading the latest firmware release, navigate to the System Update tab on the BirdUI and click the CHOOSE FILE… button, select the firmware update file, and click the UPDATE button.

System Reboot



- Click this button to reboot the unit after changing the key network settings or the BirdDog name.

A/V Device Settings



Operation Mode

- Select the mode of operation (Encode or Decode) of the converter.

Device Restart

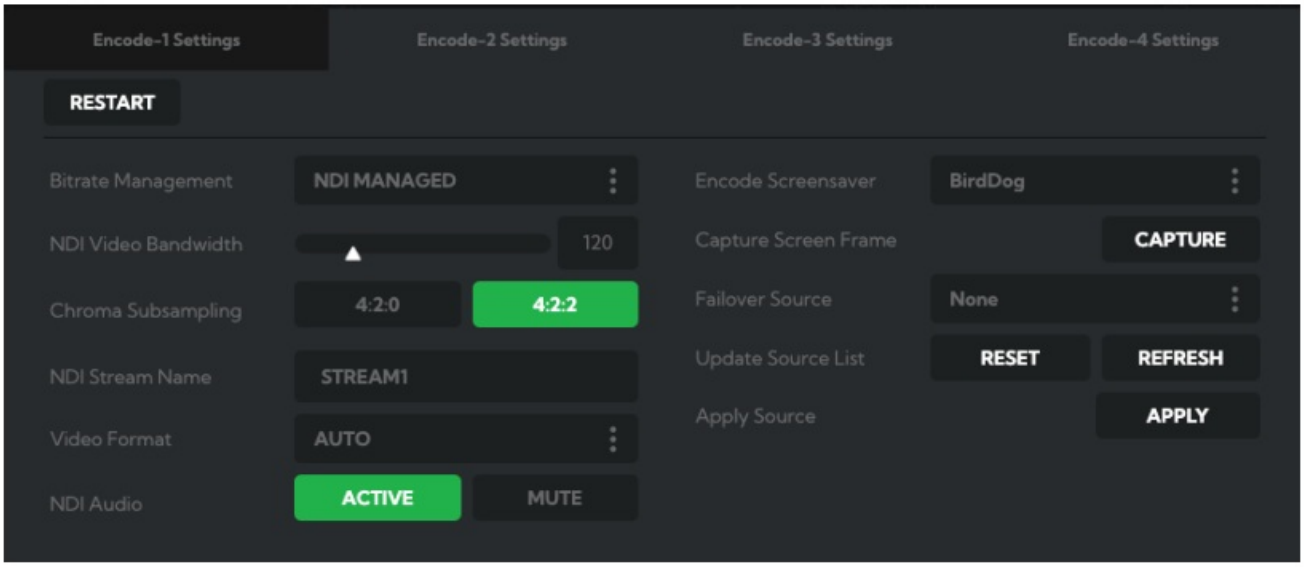
- Click the RESTART button to ensure the video engine initializes with any new settings.

Audio In / Out Gain

- Set the audio input/output gain.

Encode Settings

- Encode mode is the default mode for the converter.



Bitrate Management

- BirdDog devices allow you to set your target NDI®output bitrate. This allows you to select a compression ratio that is more efficient (uses lower bandwidth) on your networking infrastructure or higher image quality for critical footage.
- By setting Bitrate Management to NDI MANAGED, the BirdDog device will manage the target bitrate under the NDI® standard. By selecting MANUAL you can manually select a target bitrate.

NDI Video Bandwidth

- If you have selected manual bitrate management, you may set your target NDI® output bitrate here. This allows you to select a higher bitrate stream for a higher-quality video if your network capacity allows.
- Select from 60 – 360 Mbps. Use the manual setting with caution, as higher bitrates may cause issues such as frame tearing with video sources of high temporal complexity.

Chroma Subsampling

- Set the desired level of chroma subsampling.

NDI Stream Name

- When your BirdDog converter generates an NDI® stream, it can be identified via its name on any NDI®-capable receiver. You can nominate the NDI® stream name here to give you a more descriptive name of the source you are connecting to.

- This can be particularly useful in multi-channel devices or on networks where there are a large amount of NDI® streams.

Video Format

- This converter is capable of accepting many different video formats to encode to NDI®. For the most part, it is recommended to leave Video Format set to AUTO, you can manually override this setting and choose whatever resolution your source device is set to. This can be useful if there is an issue in synchronizing video input resolutions.

NDI Group Enable

- This allows you to limit the visibility of the device to other devices that belong to the same NDI® Group. By default this setting is DISABLED. When enabled the receiver device needs to also be set to the same group name.
- Commonly this is done using the NDI Access Manager application provided by NewTek free of charge. NDI® Groups can be very useful in larger environments to control visibility and access amongst various groups.

NDI Audio

- You can choose to mute the NDI® audio.

Encoder Screensaver

- Assign a captured frame, black frame, or the BirdDog logo as a screensaver.

Capture Screensaver Frame

- Click the CAPTURE button to capture the current frame for use as a screensaver.

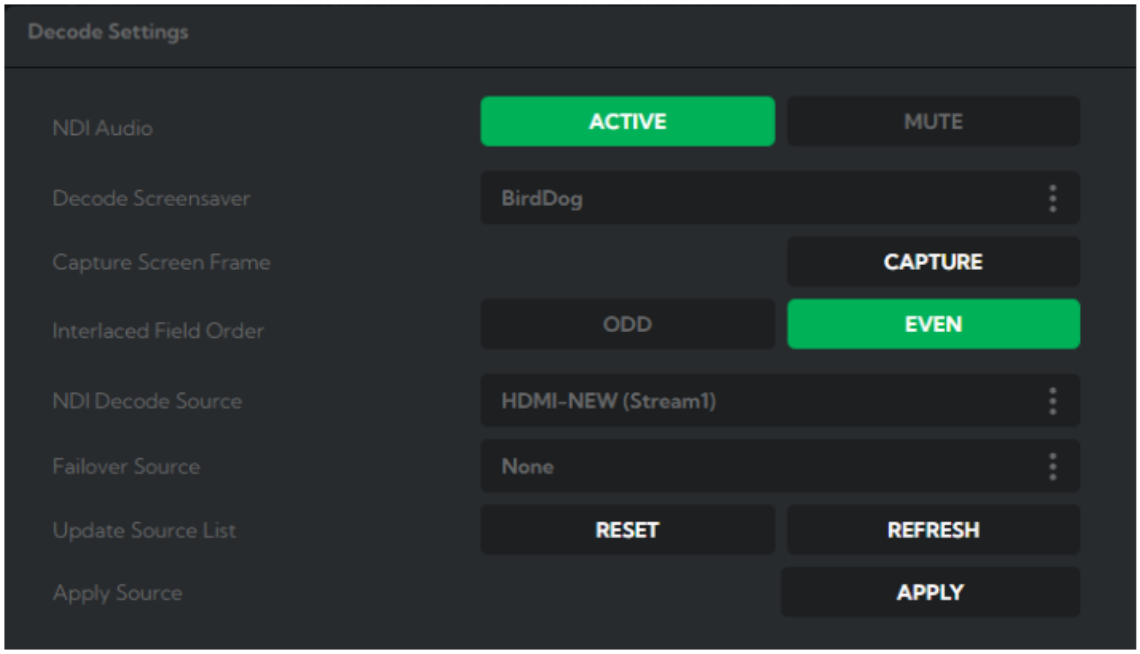
Failover Source

- If the generated NDI® stream is interrupted for any reason the receiver can automatically switch to a nominated alternative NDI® stream. This is particularly useful for live ‘on air’ productions where there can be no risk of still frames or black being broadcast should any source no longer be available. Pressing the REFRESH button will add new sources to the list, whereas pressing the RESET button will populate the list with only active NDI® sources.

Apply Source Change

- Click the APPLY button to apply changes to the source.

Decode Settings



NDI Audio

- Choose to enable or mute the NDI® audio.

Decode Screensaver

- Assign a captured frame, black frame, or the BirdDog logo as a screensaver.

Capture Screen Frame

- Click the CAPTURE button to capture the current frame for use as a screensaver. The video frame must be progressive. Interlaced frames cannot be captured.

Interlaced Field Order

- Select the desired field order to match your playback hardware.

NDI Decode Source

- To select an NDI® decode source, click the dropdown and select a source. The source will be displayed in the NDI Decode Source field. Click the link icon to navigate to a webpage if applicable.
- The RESET button will delete the current list and display only current NDI® sources. The REFRESH button will add newly discovered sources to the list but not remove older, currently non-active sources.

Failover Source

- If the generated NDI® stream is interrupted for any reason the receiver can automatically switch to a nominated alternative NDI® stream.
- This is particularly useful for live ‘on air’ productions where there can be no risk of still frames or black being broadcast should any source no longer be available.

- Pressing the REFRESH button will add new sources to the list, whereas pressing the RESET button will populate the list with only active NDI® sources.

Apply Source Change

- Click the APPLY button to apply changes to the source.

Receiving NDI Streams

- Many applications support the NDI® signal that the unit produces. Each application will vary slightly on how you choose your source.

NewTek Studio Monitor

- NewTek provides a free Studio Monitor (Video Monitor on a Mac) application that allows you to monitor many NDI® sources on a standard Windows computer.
- Once Studio Monitor is launched on your computer, right-click anywhere in the interface and select your device from the dropdown.
- Once connected to the unit, a configuration icon is displayed on the bottom right-hand side of the video display. This is a shortcut to access the device web configuration panel.

NewTek TriCaster Series

- NewTek TriCaster series devices allow several NDI® sources to be received simultaneously, with the number of simultaneous connections varying depending on the model.
- Consult the TriCaster manual to determine how many connections are available on your device.
- To select the converter as a source on your TriCaster, click on the configuration gear icon below your desired source location to display the Input Setting dialog. Select your device source from the dropdown.
- Once connected to the unit, a configuration icon displays next to the source dropdown window. This is a shortcut to the BirdUI.

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 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.

Packet (Frame)

- A packet is a unit of data transmitted over a packet-switched network, such as a LAN, WAN, or the Internet.

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 to Ethernet-based local area networks (LAN).

RS422, RS485, RS232

- Physical layer, serial communication protocols.

Subnet

- A 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 colors, in your video are rendered accurately.
- Without correct white balance, objects in your video display unrealistic color casts.
- birddog.tv hello@birddog.tv

Documents / Resources

	BirdDog NDI 4K Converter Digitale Encoder Decoder [pdf] User Guide NDI 4K Converter Digitale Encoder Decoder, NDI, 4K Converter Digitale Encoder Decoder, Converter Digitale Encoder Decoder, Digitale Encoder Decoder, Encoder Decoder, Decoder

References

- BirdDog – Welcome to the future.
- Dog Tv | Home
- User Manual