BirdDog Eyes A200 Firmware 3.4
Release notes

Key improvements and feature additions are listed below:

- NDI v4.5 support
    - This version of firmware includes the latest NDI libraries allowing for greater compatibility, higher performance NDI source discovery and new network operating modes
- Number of presets increased to 250
- Fixed an issue where the PTZ Keyboard would occasionally freeze the camera
- Under the hood performance and stability enhancements.

BirdDog Eyes A200 Firmware 3.0
Release notes

BirdDog Eyes A200 v3.0 firmware brings some substantial new features and enhancements to the BirdDog Eyes A200 product making it more flexible.

Key improvements and feature additions are listed below:

- NDI v4.1 support
    - This version of firmware includes the latest NDI libraries allowing for greater compatibility, higher performance NDI source discovery and new network operating modes
    - Supports NDI 4.x Discovery server for larger deployments
    - Added MultiTCP support
- Updated Web UI
    - Since there are many more options in v3.0 firmware, the Web UI has been updated to accommodate a drawer arrangement for the A/V Setup making it cleaner and easier to understand
    - Dynamic feedback is now included in the WebUI where any setting is correctly reflected in the WebUI even after the unit is rebooted
- Web-controlled On Screen Display (OSD)
    - Configure the OSD via the WebUI
- NDI Bandwidth management
    - User-selectable NDI bandwidth target bitrate which allows users to increase or decrease the amount of network bandwidth the BirdDog Eyes P200 uses. This is selectable between 80Mbps and 180Mbps
- Audio Gain adjustment
    - User selectable gain for the headset microphone and speaker output which allows support for many more devices for use with BirdDog Comms or for analogue audio output in Decode mode.
- RESTful API support
    - Eyes A200 is now controllable from any device that allows RESTful commands which allows for automation systems to take full control of the BirdDog Eyes A200 and retrieve system status information.
    - More information on BirdDog RESTful API is available at https://birddoghelp.freshdesk.com/support/solutions/articles/48001049120-restful-api-1-0-
- BirdDog Comms Pro/Comms Lite 1.2 support
    - This firmware supports the updated BirdDog Comms Pro and Comms Lite applications which offer significantly higher performance and useability. Comms software is available via a separate download and release notes of changes in this version are included in the download package.
- VISCA over IP improvements
    - Included in Firmware 3.0 is an improved VISCA over IP implementation that allows bi-directional feedback for interactive control.
    - Improved compatibility with 3rd party applications that employ VISCA over IP protocols including vMix and Wirecast.
- Colour control or Camera Shading capabilities with BirdDog PTZ Keyboard
    - This release includes support for advanced colour features and control within the camera to be directly controlled by the BirdDog PTZ Keyboard.

NDI 4.1 support
The latest NDI version includes many performance improvements in the networking stack of the NDI protocol. It results in faster discovery of NDI sources, handles poor networking performance better, and includes new features including MultiTCP protocol and NDI Discovery Server.

Firmware 3.0 employs new methodologies to handle poor networking performance on a single receiver — e.g. if one receiver was on WIFI trying to receive an NDI stream it could cause dropped frames across the network owing to the receiver holding onto the frame buffer within NDI. BirdDog now serves out individual buffers to each receiver meaning a single poorly performing device will not affect other receivers on the network.

MultiTCP
MultiTCP is a new NDI transport method that allows users to send NDI video over poor network topography such as WAN (Wide Area Networks) without experiencing issues such as packet loss and lost frames. In the past in order to send NDI video over a WAN the UDP transport was the only option available. UDP solved some issues of WAN applications by allowing the NDI video to travel without dropping masses of frames but results in dropped packets being missed which could cause unstable video. UDP also places more performance demands on devices sending and receiving the signal.

MultiTCP employs a new method of sending TCP packets whereby it opens a mass of TCP connections over the WAN and uses them in a 'round robin' manner, this allows each individual TCP connection enough time to acknowledge the receiving packet, confirm nothing is lost and prepare for the next one before it's sent the next TCP packet in the round robin. This is similar to a RAID setup in traditional storage.
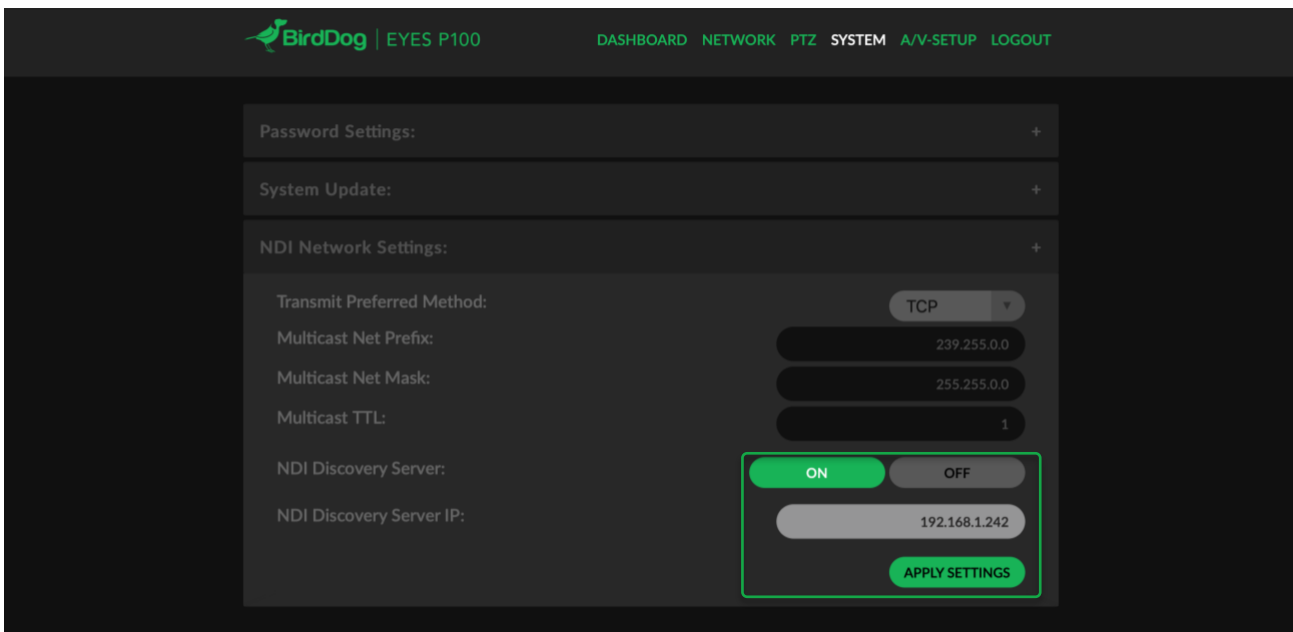
NDI Discovery Server

NDI 4.1 has a new, optional NDI discovery method called NDI Discovery Server. NDI Discovery server is designed for large environments with many hundreds of NDI sources, in these cases the act of searching for NDI sources can easily overwhelm even a high-powered computer. In addition to this the regular NDI discovery method does not pass source information over network subnets or VLANS.

NDI Discovery Server has two components. The NDI Discovery SERVER software – available as part of the NDI SDK from www.ndi.tv, which must be run on a single computer on the network. Once NDI Discovery SERVER software is operational you can enrol individual devices to the NDI Discovery Server. In BirdDog devices this is set under the Settings tab. Ensure the NDI Discovery Server option is set to ON and the correct IP Address is listed in the NDI Discovery Server address.


Once this is configured the next time the BirdDog Device is rebooted, or video is restarted the BirdDog unit will switch its discovery protocol to NDI Discovery Server. Note these methods are mutually exclusive – you cannot operate in a hybrid of NDI Discovery Server and regular NDI discovery mode on a single network successfully.

On Screen Display (OSD) control

In Firmware 3.0 you are able to control the camera OSD from the WebUI, this allows you to set some camera specific settings directly on the on screen display such as configuring different video output formats for SDI and NDI.
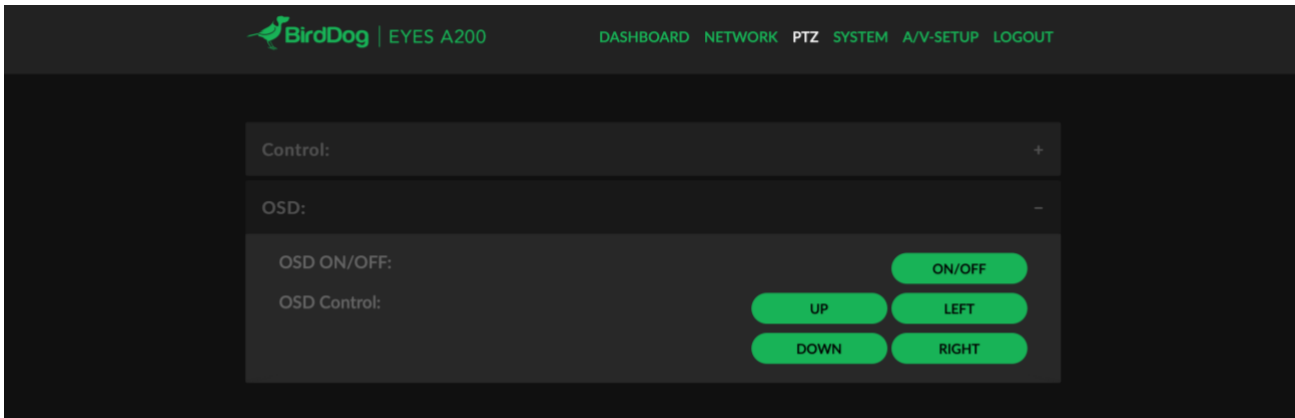
NDI Bandwidth management

NDI encoding in BirdDog Eyes A200 firmware v3.0 allows you to select the target bitrate of the NDI stream.

As NDI is a variable bitrate, this setting is the maximum desired bitrate (in mbps), encoded streams will not always be at this rate, depending on the contents of the video frame it may result in a lower bandwidth stream than the desired bandwidth.
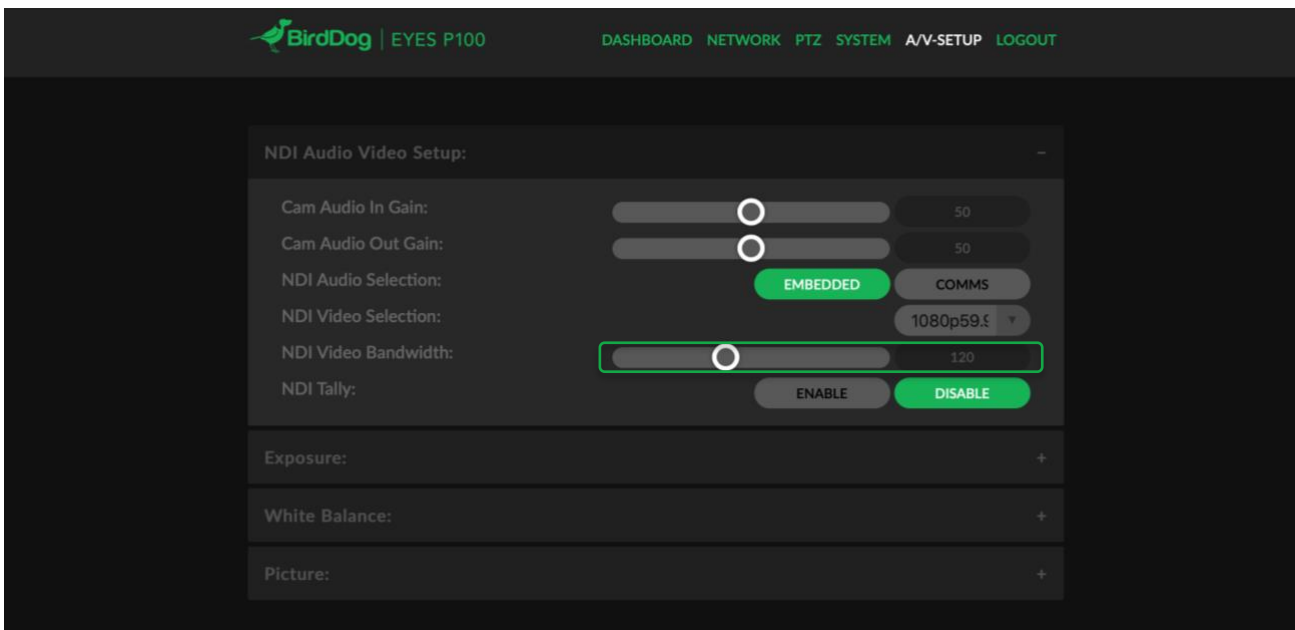
Audio Gain adjustment

Audio gain is now independently adjustable for both Analog (mic) inputs and outputs. This allows for a wider variety of headsets to be used with BirdDog Comms along with giving the ability to adjust the volume of the Analog audio output when in NDI Decode mode.
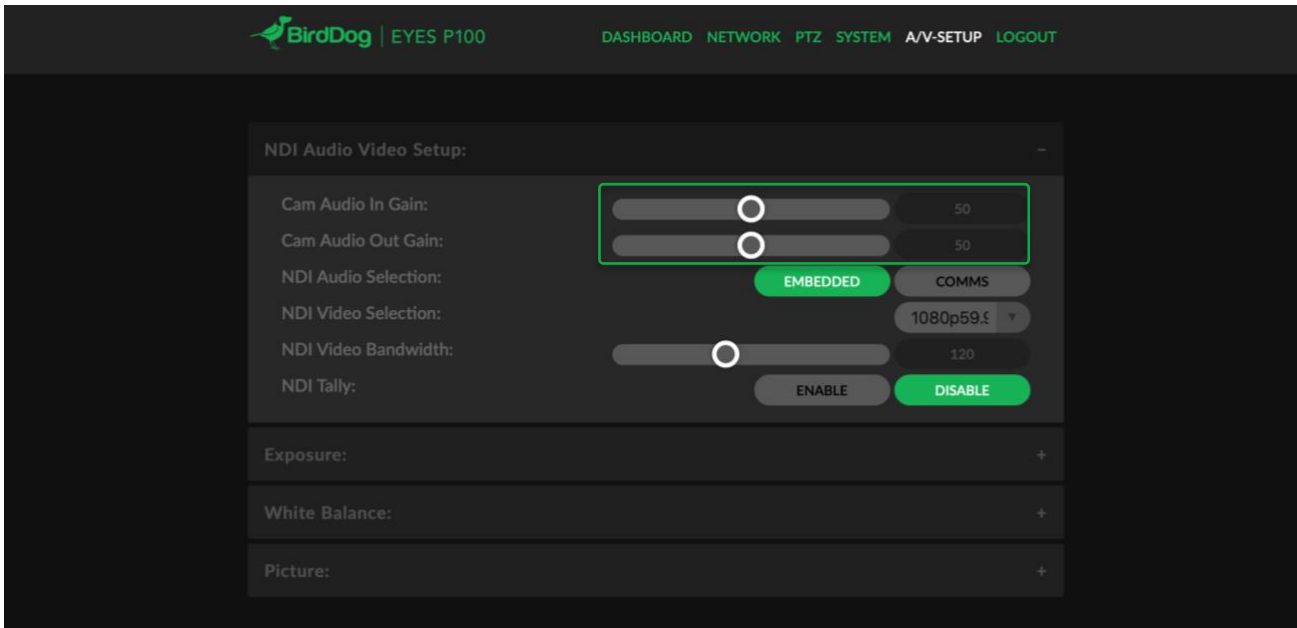
BirdDog Comms Lite/Comms Pro 1.2 support

In conjunction with the latest release of BirdDog Comms software the A200 firmware allows you to choose between inserting audio into the main NDI stream or utilising the audio connectors on the device for BirdDog Comms. To change the settings between Comms/Main audio adjust the NDI Audio Selection setting in the A/V SETUP tab on the Web UI