PIVOTCam-SE Software Bundle Release 2.1A – Jan 2020

This release adds new features to the VISCA interface and improved message handling to address issues that have been encountered when multiple controllers are connected to the camera simultaneously. It has all the new features required to interface with the new PTZ Camera Control Plugin in DashBoard v8.8.

The latest set of PIVOTCam-SE firmware components includes the following:

- ARM 2.2B
- Motor Driver 2.0C
- FPGA 5.4B
- CAM 305

ARM, Motor Driver, and CAM firmware have all changed since the previous release. FPGA firmware has not changed, and therefore no FPGA firmware file is included in the 2.1A firmware upgrade package.

New Features / Changes

- Modifications have been made to the way that the camera architecture handles VISCA commands, and the size of the command queue has been increased. This should lead to faster responses to commands and inquiries, and reduce issues seen when multiple controllers are connected to the same camera.
- The VISCA interface has been enhanced to include read and write access to additional camera configuration parameters including Mount Mode, 2D and 3D noise reduction, digital zoom, backlight compensation, and variable zoom.
- The VISCA interface now includes commands to configure, enable, and disable the main and substream video streams.
- In automatic exposure modes, VISCA inquiries requesting shutter, aperture, and gain will now return the latest value set by the auto exposure mode. Previously it was reporting the last value set before the camera entered the automatic mode.
- When switching from an automatic exposure mode to manual exposure mode, the shutter, iris, and gain values set by the automatic mode will now be retained. Previously the camera would switch back to the values set when the camera was last in manual mode.
- The VISCA command to read and set flicker compensation has been modified to match the Sony implementation of this command.

Issues Addressed in this Release

- PIVOTCam-SE will now support multiple simultaneous connections from controllers connecting over VISCA over IP using the UDP protocol. Previously, a single sequence number was being used for all connections, leading to lack of responsivity and unexpected behavior. The interface will now support up to 32 simultaneous connections. (CAM-229)
- The VISCA interface was occasionally freezing for up to 13s when responding to a command. This was causing problems when connecting to the camera from Carbonite and the DashBoard PIVOT Custom Panel which manifested as occasional losses of camera control during use. Updates to the camera architecture mean that these long delays in responding to a command are no longer observed. (CAM-273)
- After operating one-push autofocus mode, camera was never returning to manual focus mode. Focusing strategy has now been changed so that camera will auto focus and then return to manual mode. (CAM-204)
- Camera firmware version number was not being reported correctly through the VISCA interface. Camera now reports details of ARM, Motor Driver, FPGA, and CAM firmware loads in response to the VISCA Version inquiry command. (CAM-195)

- Shutter could not be changed when auto exposure was set to shutter priority. This has now been corrected. (CAM-230)
- Mount mode, image flip, and image mirror were not being handled correctly when more than one was set. This has now been corrected and the video output will be the combined result of all selected modes. (CAM-234)
- Pan tilt reset command was resetting the camera IP address. Pan tilt reset now recalibrates the camera pan and tilt axes and returns the camera head to the home position. No other camera settings are affected. (CAM-220)
- Closing the on-screen display was altering the zoom, gain, and shutter settings of the camera. This has now been corrected and closing the on-screen display will not affect any camera settings. (CAM-247)
- Presets were not recalling to the correct position after the camera had hit a limit position. This has now been corrected so that camera is stopped in a controlled manner by software before hitting a hard limit. (CAM 245)
- Speed by zoom mode was only responding to changes in zoom made through on-screen display and not to changes to zoom made over VISCA interface. The feature now responds to zoom changes made through any control method. (CAM-221)
- There were some discrepancies between the ranges shown for camera settings in the Web UI, on-screen display and through the VISCA interface. These have now been corrected and all three control methods will offer a consistent range for each parameter.
- Camera serial number was incorrect in the Web UI. The serial number has now been removed from the Web UI and should be checked from the label on the bottom of the camera. (CAM-252)
- VISCA interface will now return error messages when commands are sent with requested values that are outside allowed limits.
- Changes to gain above 24dB had no effect on video output. Gain can now be increased to 30dB (CAM-259)

Known Issues in this Release

- Upgrading firmware will delete all presets stored on the camera. Warnings are included in the firmware upgrade instructions. (CAM-260)
- Camera may occasionally draw power in excess of the PoE limit of 15.4W and does not negotiate this extra power demand. If you are using the camera over PoE, we recommend that you run it from a PoE+ capable switch and manually increase the power available to the camera from the switch control panel up to the PoE+ level of 25.5W. (CAM-258)
- When the camera receives a VISCA command to set the zoom position to a valid value it will set the zoom to the requested position, but will return a syntax error (0x60 0x02) to the VISCA controller instead of the expected ACK and DONE messages. Despite this issue, no operational impact was observed when Carbonite, the Ross Pivot Panel, or DashBoard controlled the PIVOTCam. (CAM-277)
- After upgrading to this release, Ethernet settings may have been changed to turn DHCP on. If this occurs, Ethernet settings can be reset to the desired values by using the remote to open the On-Screen Display and navigate to the IP menu.
- When multiple cameras are connected in a daisy-chain fashion through the serial RS-232 connector, commands and responses may be lost or corrupted if commands are sent out on the chain in quick succession without first waiting for a response to the previous message. To avoid problems, controllers should be designed to only send one message at a time on the chain, and then wait for a response before sending the next message. (CAM-278)
- The **Settings** portion of the **Web Interface** includes tabs for **RTP Multicast Settings** and **RTMP Settings**. These tabs are related to features that are currently under development, and are not yet fully supported. These features may function to some degree, but we do not recommend using them at this time.

PIVOTCam-SE Software Bundle Release 2.0c – June 2019

This release fixes an issue related to connection of Carbonite to a PIVOTCam-SE.

Includes the following components

- PIVOTCam-SE Firmware, consisting of:
- ARM 2.1A
- M.D. 2.0A
- FPGA 5.4B
- CamVer 263

New Features / Changes

- None. This release is specifically intended to fix an issue related to connection of Carbonite to a PIVOTCam-SE.

Issues Addressed in this Release

- Connection of Carbonite Black Solo to PIVOTCam-SE caused complete loss of communication from all controllers to the camera. PIVOTCam-SE now ignores address command 88 30 01 FF, which was causing the camera to change its address to 007 and stop responding to further VISCA commands. (CAM-213)
- Resetting the camera to default settings could cause corruption of the MAC address. The MAC address is now saved separately so that it cannot be overwritten. If you encounter problems concerning corrupted MAC addresses, please contact Ross Video for assistance. (CAM-249)
- Multiple connections and disconnections via the camera VISCA TCP interface used by Carbonite and the Pivot Custom Panel could cause future connection attempts to fail. The camera now ensures that all TCP connections are closed down completely when they disconnect. (CAM-248)

PIVOTCam-SE Software Bundle Release 2.0b – Feb 2019

This release fixes some issues related to image changes when zooming.

Includes the following components

- PIVOTCam-SE Firmware, consisting of:
- ARM 2.0C
- M.D. 2.0A
- FPGA 5.4B
- CamVer 240

Issues Addressed in this Release

- The preview screen did not provide a method of switching between mainstream and substream outputs. The preview interface now includes buttons to switch between mainstream and substream.
- The frame rate of the mainstream and substream outputs was limited to a combined maximum of 60 frames per second. This limitation has now been removed and the camera will support a frame rate of 60 fps on both the mainstream and substream outputs simultaneously.
- Color changes were observed when zooming the camera in manual or onepush white balance mode. The algorithm that optimizes white balance has been modified to provide better image stability. (CAM-208)
- Zooming was causing changes to the shutter in manual autoexposure mode. Shutter will now be unchanged when zooming the camera in autoexposure mode.

PIVOTCam-SE Software Bundle Release 2.0a – Nov 2018

Includes the following components

- PIVOTCam-SE Firmware, consisting of:
- ARM 2.0C
- M.D. 2.0A
- FPGA 5.4B
- CamVer 219