

## Auk 3E Startup Sheet

This document contains basic information needed to connect and use the Auk 3E or AWC 3E (Agricultural Wireless Camera 3 Enclosed). The AWC 3E is a wireless, Linux-based, NIR/R/G multi-spectral camera designed for vegetation analysis. A 6 to 24 VDC 3W minimum power source is required for power input. The Auk 3E is a powerful quad core system housed in a moisture resistant protective enclosure appropriate for outdoor or greenhouse use.

To begin using the Auk 3E camera, attach the provided 6 pin power adapter cable to the camera. Make sure to align the arrows on the 6 pin plugs and press gently until the connectors lock together. To remove the 6 pin cable, gently pull the connector shell on the adapter cable to release the connector lock and then remove the cable. Do not attempt to twist or rotate the cable in the cable housing as damage to the cable connections may occur.

Connect the provided 12 VDC power supply to the AC wall outlet and plug the 12 VDC power cable into the 6 pin power adapter cable on the camera. The LED indicator on the camera will turn green when power is connected, and will then turn to orange during camera initialization. When the LED is green again, the Auk 3E camera is initialized and ready to operate. This process typically takes from 60 to 90 seconds to complete.

To access the camera's web browser interface, connect it to a Wi-Fi enabled device, such as a PC, tablet, or smartphone. Open the Wi-Fi network settings on your device and search for the Auk 3E camera's Wi-Fi hotspot, indicated by the following hostname: AUK3XXXX, where XXXX represents the last four digits of your camera serial number. Once you have successfully connected to the Auk 3E Wi-Fi hotspot, open up a web browser on your device. In the web browser URL navigation field enter 192.168.1XX.1, where XX is the last two digits of your camera serial number. You should now see the AWC control page. Only Google Chrome and Mozilla Firefox browsers are currently supported.

Take a picture with the web browser interface by pressing the Trigger button. The status LED will turn red and will change back to green when the picture has been saved. See a live video feed of the sensor by pressing the Live View button. Click the Review button to return to the Review page. Review mode is the recommended screen for operating the Auk unless live video is needed.

After you've taken a few pictures, click the Refresh button to see the complete list of pictures in the camera. Click on the drop down list that contains image file names, and select a picture. The selected picture will be displayed in the picture display frame. Click the drop down list at the very bottom of the page to view one of the index extractions defined in the Edit Veg. Index page.

By clicking the Settings button, you can change the camera operation. Useful functions in the Camera Settings page include Capture Mode, Auto Capture Delay, Index Extractions, and Disable Raw Data options. See help details by pressing the Help button next to each item. Save changes to the settings by clicking the Save Changes button. Click Back to return to the previous page.

Using a Windows PC, you can directly access the files in the Auk 3E by connecting with the Samba file sharing service that runs in the camera. Open the Windows File Explorer and type \\192.168.1XX.1 where XX represents the last two digits of your camera serial number. TTCAUK should come up as a network folder. Opening TTCAUK will provide access to images, settings, log files, extractions, and the DOCS folder.

In order to be processed and analyzed, the original images saved by the camera in the AUKJPGS folder must be converted to RAW format using PixelWrench2. Under the PW2 File menu, use the Convert Auk Jpeg to RAW function. To process multiple images, use the Convert Auk Jpeg to RAW function found in the Batch tab of the IndexTools form. IndexTools can be launched from the "Index

Tools” selection under the View menu, or by right clicking in the PixelWrench2 active window and selecting “Index Tools”. Refer to PixelWrench Help in the Help menu for detailed instructions.

As mentioned above, if the Index Extractions setting is enabled the Auk 3E has the capability to internally process and save images to TIF format under the EXTRACTIONS folder. Most common would be to enable the RGB Extractions in the Edit Veg. Index page to process and save NIR/R/G rendered images. Vegetation index extractions such as NDVI can also be created and saved in TIF format if those extraction types are enabled. Although camera performance and file storage space will be reduced, processing images in the camera can greatly simplify the data collection and management of images captured by the system.

There is a folder called DOCS located in TTCAUK, accessible via Samba. The DOCS folder contains this document as well as other documents and software. Please note that if you use the Format Disk function in the Auk 3 web browser interface, this folder will be permanently lost. The documents and software in the DOCS folder are also provided in a Tetracam CD.

The Auk 3E has an Ethernet female connector. A protective cover is normally installed over the Ethernet connector to prevent moisture from entering the case. For certain uses such as testing or hardwired only installs it may be necessary to use the Ethernet connection instead of Wi-Fi. To access the Ethernet connector, carefully remove the protective cover. Plug in an Ethernet male connector into this female connector to allow the Auk 3E to communicate on a network via DHCP. Once you have looked up the private IP address assigned to the Auk 3E, you can access the Auk 3E web browser interface and Samba using the new IP address as well as the IP address associated with the Wi-Fi hotspot. A typical Ethernet IP address may be something like 192.168.1.XX, where XX are the two digits assigned by your modem or router.

To power down the Auk 3E system from the web browser interface, select the Shutdown button. The Auk 3E LED will turn red, orange, and then green. At this point, green indicates it is safe to unplug power from the system. The Auk 3E User's Guide should be consulted for more detailed product information.