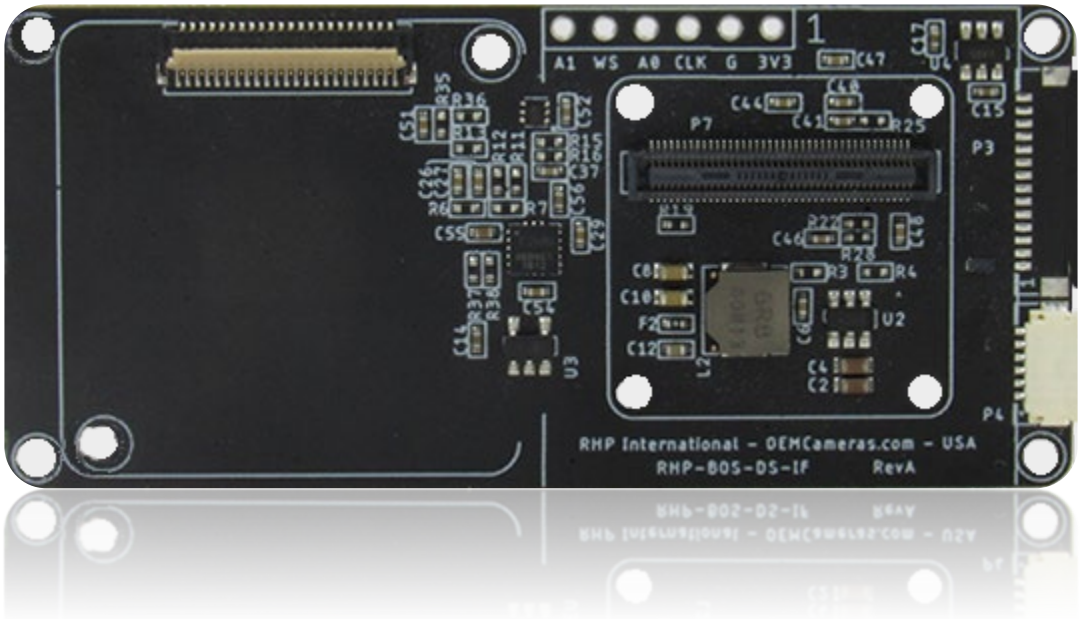
RHP-BOS-DS-IF

Dual Sensor Interface

User Manual



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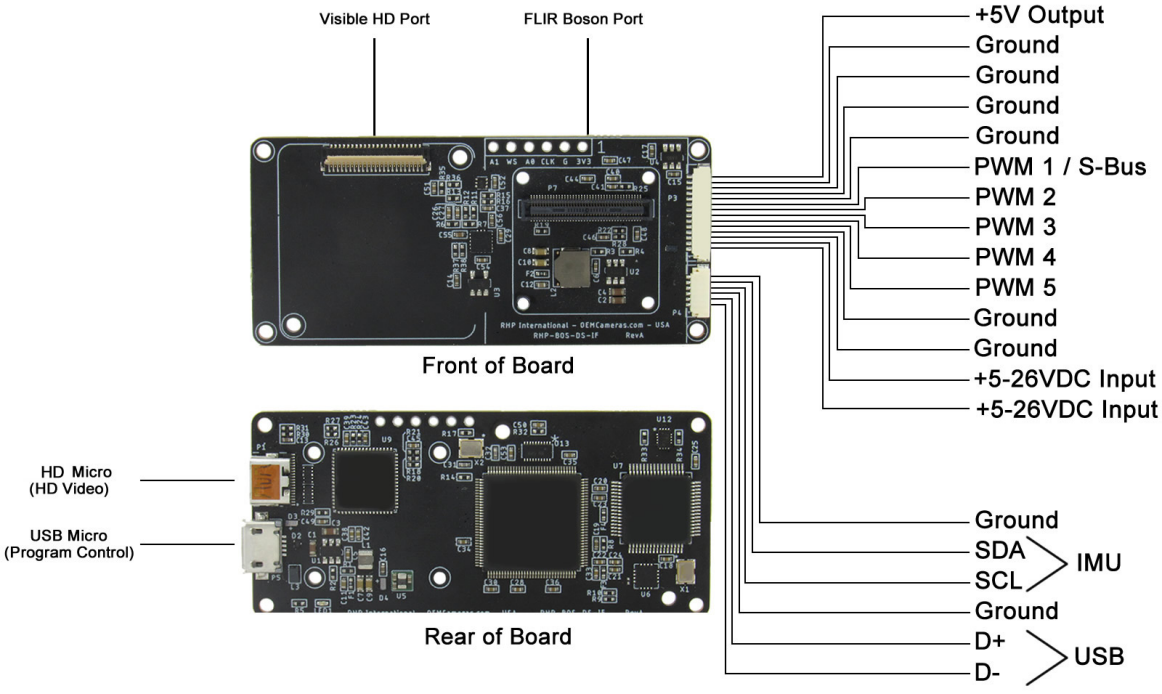
Rev. 1.0.1 June 2023 Release

RHP International - OEMCameras.com
New York - USA +1-845-343-4077

Dual Camera Interface
RHP-BOS-DS-IF



TITLE RHP-BOS-DS-IF Dual Visible Thermal Camera
REV REVISION A
DATE 11/18/2019

RHP-BOS-DS-IF Pin-Out

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Boson Lens Compatibility:

Due to lens size constraints, only the FLIR Boson Cameras listed below are compatible to connect to the RHP-BOS-DS-IF Board:

320 x 256	640 x 512
2.3mm | 92° HFoV*	4.9mm | 95° HFoV*
4.3mm | 50° HFoV*	4.9mm | 95° HFoV* – Short Lens
4.5mm |50° HFoV* – Short Lens	8.7mm | 50° HFoV*
6.3mm | 34° HFoV*	9.2mm | 50° HFoV* – Short Lens
6.3mm | 34° HFoV* - Short Lens	13.6mm | 32° HFoV* – Short Lens
13.8mm | 16° HFoV*	14mm | 32° HFoV*
18mm | 12° HFoV*	18mm | 24° HFoV*
	18mm | 24° HFoV* – Short Lens

*Denotes Horizontal Field of View.

BEFORE YOU BEGIN:
This product is static sensitive. Please use proper grounding techniques while installing the RC-IF to the Boson Camera.

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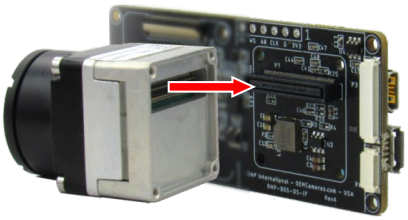
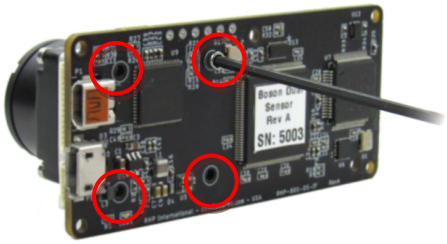
Attaching the FLIR Boson Thermal Camera:

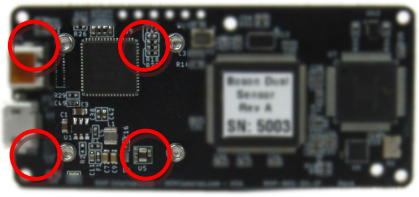


Align the Board and Boson camera so that the white 80-pin Hirose connector lines up.

Press the camera and board into place until you feel them click together.



Using the four screws provided, insert each through the back of the four inner corners on the RHP-BOS-DS-IF board and thread into the Boson camera.



NOTE: DO NOT OVERTIGHTEN THE SCREWS

Using other than the screws provided, could damage the camera, BOS-DS-IF, or Both.

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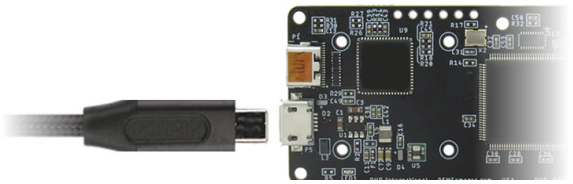
RHP-BOS-DS-IF Connections

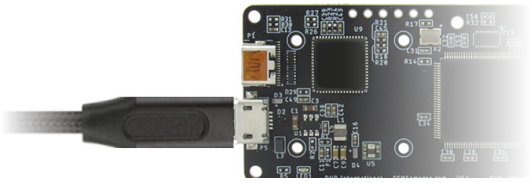
Providing power to the BOS-DS-IF:
There are two ways to provide power to the BOS-DS-IF:
Micro USB
To use the Micro USB:

Insert the micro-USB connector on the side of the RHP-BOS-DS-IF Board, and then connect the other end to the power source.



The power light will illuminate within 5 seconds, indicating the unit is on.

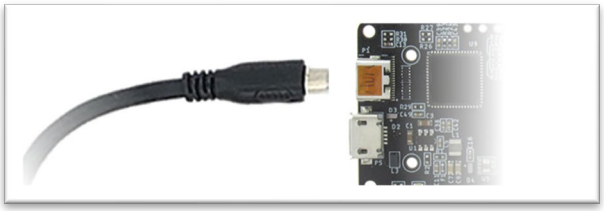
Use this option when configuring the RHP-BOS-DS-IF with the RHP Controller Software.



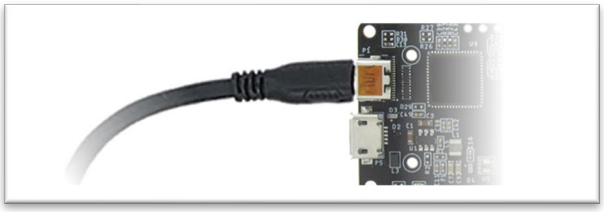
Connecting the Video signal via HD:

Use the provided mini-HD cable and insert it into the HD Port on the BOS-DS-IF.

Plug the opposite HD end into your monitor or recording device.



If the power is supplied through the USB connection, the image of both cameras should appear on the screen.



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6-Pin JST Connector
To use the 6-Pin JST:

Insert the 6-Pin JST connector on the side of the RHP-BOS-DS-IF Board, and then connect to a 5-26 Volt DC power source.
The red wire connects to the positive terminal and black wire to the negative terminal.

NOTE: A Voltage of 5.2VDC or greater is recommended with the FLIR Boson 640.

The power light will illuminate within 5 seconds, indicating the unit is on.

To control the camera remotely, follow this guideline for connecting power and control:

IMU
The RHP-BOS-DS-IF comes with an inertial measurement unit (IMU) installed.
This will measure and report body force, angular rate, and orientation of the cameras, to a gimbal if attached.

Connecting the **6-pin for USB and IMU**:
The 6-pin connector 'pin-out' is as follows:

- Pin 1: Ground
- Pin 2: SDA (IMU)
- Pin 3: SCL (IMU)
- Pin 4: Ground
- Pin 5: D+ (Boson USB)
- Pin 6: D- (Boson USB)

The 6-pin USB and IMU cable, allows access and control of the Boson Digital Video port and 6-Axis Motion Tracking to a gimbal if connected.

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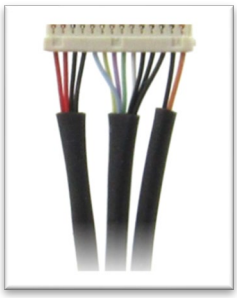
Connecting the 16 Ch. S-Bus: (*RC Mode)

The pin-out is set to RC Standards



NOTE: When connecting power, it is recommended to use both positive and negative pins to ensure proper voltage is supplied to the unit (pins 11 & 14).

PWM Mode (5 channels)	**S-Bus Mode (16 Channels)** Assignable using the RHP-BOS-DS-IF software through USB (PINS 7 – 10 are not used for S-Bus mode)
Pin 1: +5V Output	Pin 1: +5V Output
Pin 2: Ground	Pin 2: Ground
Pin 3: Ground	Pin 3: Ground
Pin 4: Ground	Pin 4: Ground
Pin 5: Ground	Pin 5: Ground
Pin 6: PWM 1 / S-Bus	Pin 6: PWM 1 / S-Bus (required)
Pin 7: PWM 2	Pin 7: PWM 2
Pin 8: PWM 3	Pin 8: PWM 3
Pin 9: PWM 4	Pin 9: PWM 4
Pin 10: PWM 5	Pin 10: PWM 5
Pin 11: Ground*	Pin 11: Ground*
Pin 12: Ground*	Pin 12: Ground*
Pin 13: +5-26VDC Input*	Pin 13: +5-26VDC Input*
Pin 14: +5-26VDC Input*	Pin 14: +5-26VDC Input*

*See note at top of page

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RHP-BOS-DS-IF Connecting to a PC

Installing the RHP Controller GUI Software:

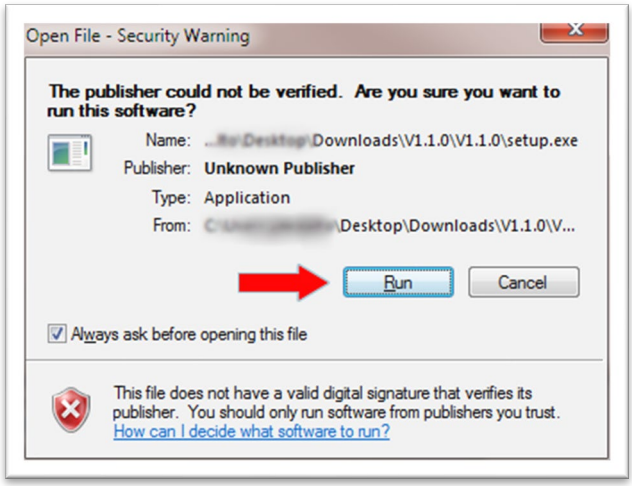
NOTE: Be sure the selected computer is connected to the internet before you first connect the RHP-BOS-DS-IF.

Connect the RHP-BOS-DS-IF via the Micro USB to USB Cable.
Windows will automatically find the necessary drivers and download them.

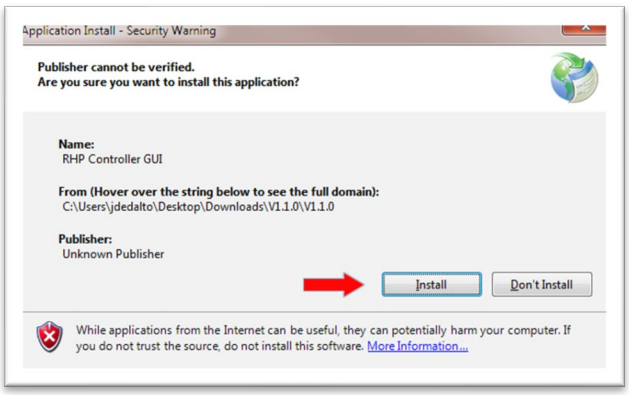
For other windows versions, download the driver at: https://bit.ly/3hSjbeE

If you have issues connecting, please contact support.
(https://www.oemcameras.com/contact)

Installing the RHP Controller Software:
Once the software is downloaded and unzipped, run **'install.exe'.**
If the security warning appears, click **'RUN'.**



The application install security warning may appear. Choose **'Install'.**



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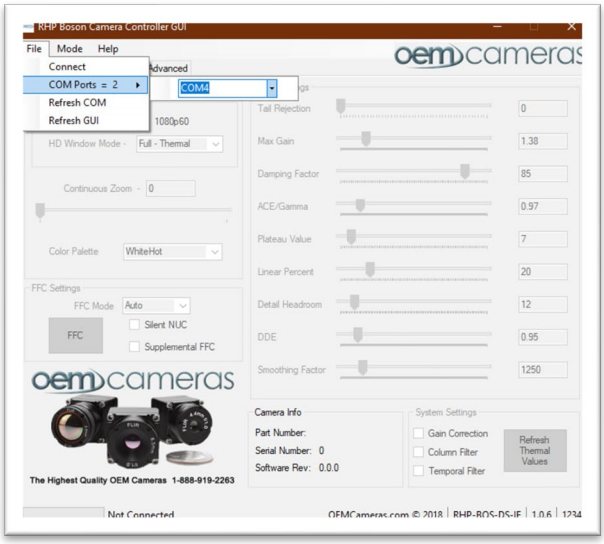
Connecting the RHP-BOS-DS-IF to the Camera Controller GUI:

Com Ports
When the driver is finished installing, open the application and select the assigned COM port.

Choose:

File > Connect > COM Ports

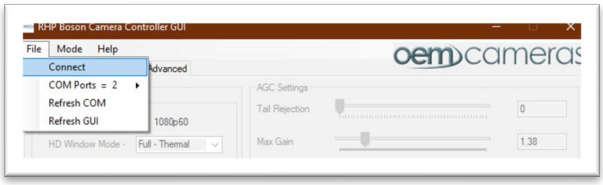
Select the COM Number the BOS-DS-IF is assigned to.



COM Port Refresh Option:
If the COM Port is not shown or unavailable, choose:
File > Refresh COM

to refresh the COM Ports.

Connecting the Boson
To connect the camera to the BOS-DS-IF software, choose
File > Connect



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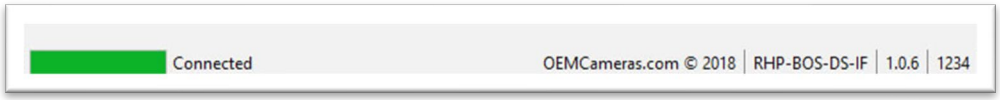
Determining a Successful Connection:

The green bar on the bottom of the screen will indicate that the camera is successfully connected. The program will load the current settings and camera information from the RHP-BOS-RC-HD-IF and the Boson. Once loaded, all available parameters will be enabled for adjustment, based on your configuration



Once connected, the thermal and visual camera settings will be available to modify.

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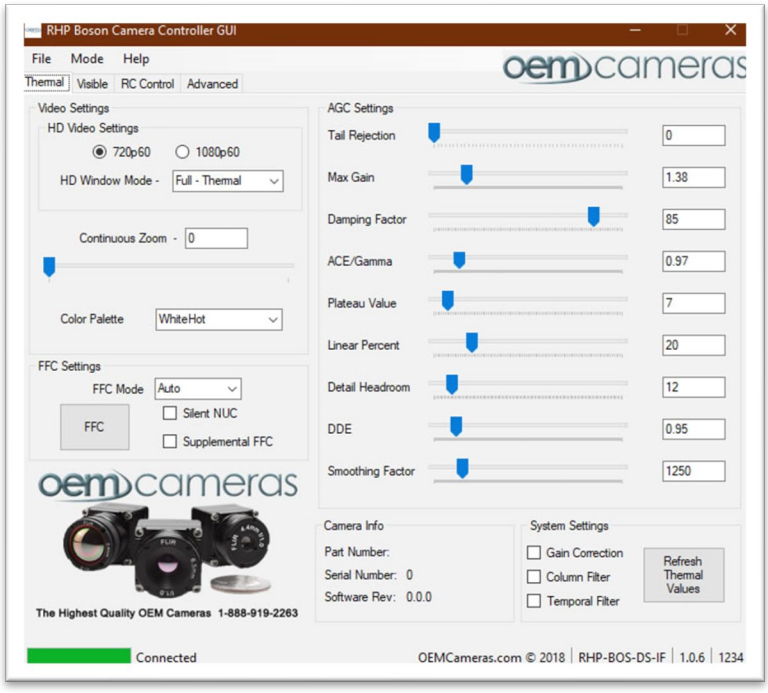

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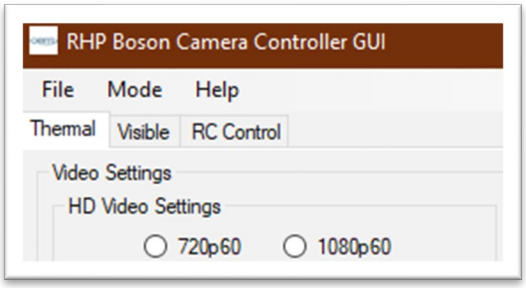
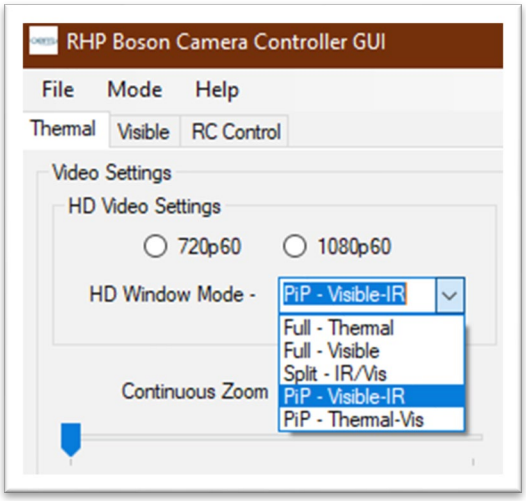
RHP-BOS-DS-IF Thermal Functions Defined

In this section, each setting is defined for the Thermal, Visible and RC Control tabs.



Video Settings:
Once connected, the thermal camera settings will be available to modify**.**

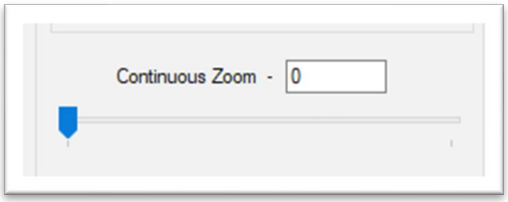
HD Video Settings:
This option lets you choose between 720p or 1080p60 fps.



HD Window Mode: Select how the HD output will be viewed.
The options are:

Full – Thermal
Full – Visible
Split – IR/Visible
Picture in Picture – Visible/IR
Picture in Picture – IR/Visible

Continuous Zoom: The electronic provides an optional interpolation of a subset of the field of view to the 640x512 resolution of the output stream. To adjust the zoom level, simply move the slider from left to right. This will digitally zoom the thermal camera image.



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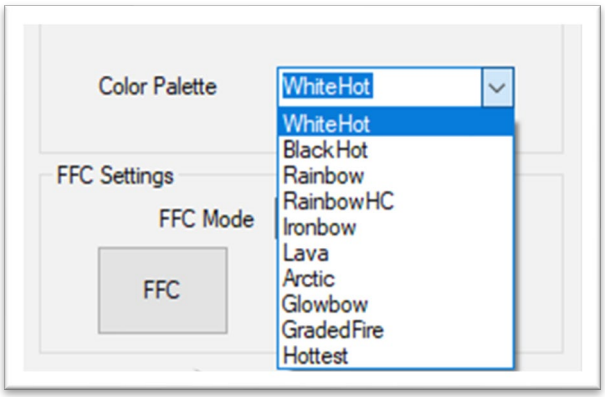
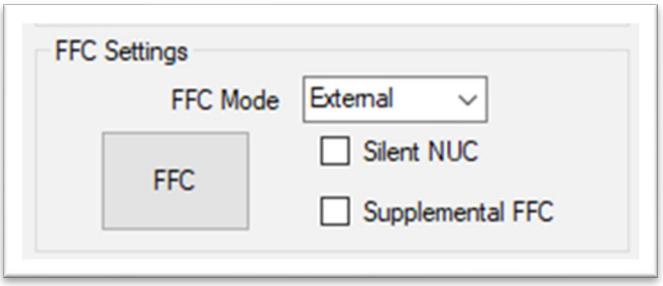
Color Palette Select:
The FLIR Boson provides several factory-installed palettes, changing the parameter Color Palette causes the applied palette to change. The factory-default value is “white hot”.
Select a color palette from the drop down menu as shown. There are 14 options available.



FFC (Flat Field Correction) Settings:
There is a shutter between the camera sensor and the lens. This shutter is used to perform a flat-field correction, or FFC. During FFC, the shutter presents a uniform temperature source to each detector element in the array. While imaging the flat-field source, the camera updates the offset correction coefficients, resulting in a more uniform image after the process is complete.



Automatic FFC: The camera does not load the stored NVFFC map but always performs automatic FFC instead. If the option of a faster start-up is desired, the power-on default FFC mode should be set to manual mode instead.

Manual FFC: If the stored NVFFC map was generated in the same NUC table as the start-up NUC table, then it is loaded and applied. Otherwise, an automatic FFC takes place under the assumption that the stored map is invalid for the current conditions (i.e., will result in suboptimal image quality). If the map is loaded, the value of “Camera temperature at last FFC” will be set to the value stored with the NVFFC map, and the value of “Frame counter at last FFC” will be set to 0. Note that the FFC Desired flag may be set immediately after the NVFFC map is loaded, assuming the difference between current camera temperature and “Camera temperature at last FFC” exceeds the value of FFC Delta Temp.

External FFC: If the stored NVFFC map was generated in the same gain state as the start-up gain state (see Sections 6.2 and 7.5), then it is loaded and applied. Otherwise, no FFC offset is applied (and the FFC Desired flag will be set) under the assumption that the stored map is invalid for the current conditions. If the map is loaded, the value of "Camera temperature at last FFC" will be set to the value stored with the NVFFC map, and the value of "Frame counter at last FFC" will be set to 0. Note that the FFC Desired flag may be set immediately after the NVFFC map is loaded, assuming the difference between current camera temperature and "Camera temperature at last FFC" exceeds the value of FFC Delta Temp.

> ***NOTE: Generally speaking, it is always preferred to generate a fresh FFC map at start-up rather than relying on a stored, potentially stale NVFFC map. The NVFFC feature is intended primarily for the case in which a camera has only been powered down briefly since the previous FFC. Use of the NVFFC feature does not replace the recommendation to perform FFC at start-up, even for shutterless configurations.***

Silent NUC: A filter intended to minimize random spatial noise.

Supplemental FFC: This calibration can compensate for image effects caused by the changing temperature of large lenses or other optical components. It may also help with effects from heat sources in camera housings.

> ***This calibration is documented by the Supplemental FFC Application Note, FLIR document number 102-PS242-100-05.***

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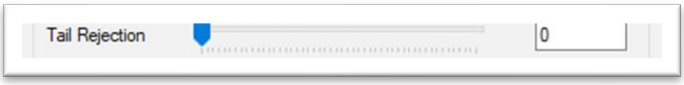
AGC Settings:

Automatic gain correction (AGC) is the process whereby the 16-bit resolution of the signal pipeline is converted to an 8-bit signal, suitable for a display system.

Boson provides a sophisticated AGC algorithm which is highly customizable via many parameters. It is a variant of classic histogram equalization (HEQ), which uses the cumulative histogram as the transfer function.



Tail Rejection: Determines the percentage of the histogram "tails" which are not ignored when generating the mapping function. The scene outliers which comprise the histogram tails are consequently mapped to either the minimum or maximum grayshade (0 or 255). A large value of Tail Rejection will dedicate more 8-bit grayshades to the central portion of the histogram, resulting in more contrast therein, but as a result, a small cold object or small hot object in the scene may appear completely washed out (no variation in grayshades).

Max Gain: Limits the maximum slope of the mapping function. In a relatively uniform image, a high Max Gain value increases the contrast of the image at the risk of over-exposure and more apparent noise in the image. Lower values of Max Gain result in a less grainy, lower contrast display.

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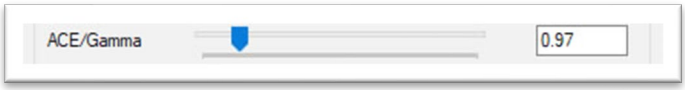
Damping Factor: As new objects enter the scene, or the camera field of view changes, the AGC algorithm will be forced to update accordingly. Damping Factor increases or decreases the update rate of all AGC algorithms. A small value of Damping Factor allows a faster remapping in response to a change in the scene, but in some cases, this can result in the background appearing to "flash" as it is quickly remapped to new 8-bit grayshades. A larger value of Damping Factor minimize flashing in response to a change in scene but at the expense of requiring more time to optimize the mapping function for the new scene content.

ACE/Gamma: ACE provides contrast adjustment dependent on relative scene temperature.
The scale of values ranges from 0.5-4.0. In white-hot polarity, an ACE value less than one darkens the image, increasing contrast in hotter scene content, while an ACE value greater than one will do the opposite.



Plateau Value: Limits the population of any single histogram bin. Increasing values allow the mapping function to allocate more grayshades to dominant scene content, as seen in traditional HEQ. Smaller values of Plateau Value clip the heavily populated bins, reserving more 8-bit grayshades for less heavily populated bins.

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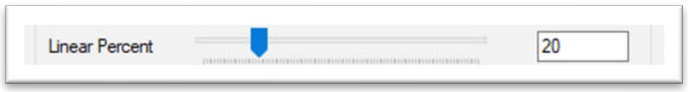
Linear Percent: Most histogram based AGC methods do not preserve the relative temperature of objects in the scene.

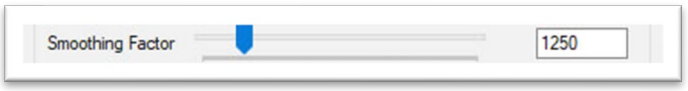


Increasing values of Linear Percent more accurately preserves the visual representation of an object's temperature by mapping the data in a more linear fashion. For example, in a scene where the two hottest objects in the scene are a human and a heated stovetop, setting Linear Percent to zero will display the stove only slightly brighter than the human because no 8-bit grayshades are dedicated to the empty portion of the histogram between the two. With a high value of Linear Percent, the stove will appear much brighter than the human (as one would expect from a hot stove). However, this enhancement is at the cost of decreased contrast throughout the image because some of the available 8-bit grayshades are allocated to portions of the histogram which are not present in the scene.

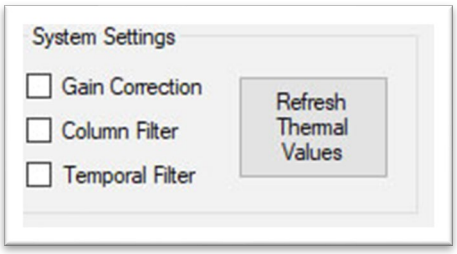
Detail Headroom: Defines the amount of 8bit dynamic range is allowed for use by the LP filter data (the histogram equalized data). Increasing values will increase the number of 8bit shades—at the top and bottom of the dynamic range—to be reserved for the HP data.

DDE (Digital Detail Enhancement): Attenuates or gains the HP content of the scene. Reduces the appearance of graininess but blurs the scene when set to values less than 1 and sharpens the details but increases the appearance of noise when set to values greater than 1.

Smoothing Factor: Defines the cut off for the HP filter. Lower values of Smoothing Factor result in less data being included in the HP portion of the image. In other words, a low value of Smoothing Factor decreases the portion of the scene considered to be the more-heavily-weighted details. Smoothing Factor also affects which portion of the scene is attenuated or enhanced via DDE.



Gain Correction: This automatically determines whether the Boson sets the optimum gain state based on current scene conditions.



Column Filter: Spatial column noise reduction (SCNR). This filter is intended to minimize column noise.

Temporal Filter: This feature is intended to minimize temporal noise.

Note: While the spatial filtering algorithms described above are intended to minimize residual non-uniformity, FLIR always recommends using either Boson's internal shutter or an external shutter design to perform periodic FFC for highest image quality.

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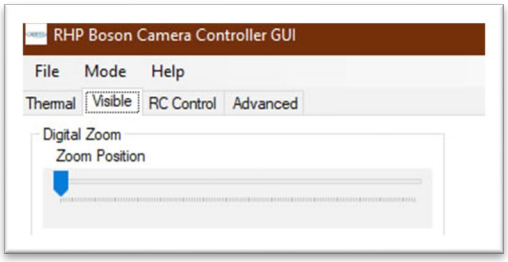
Visible Camera Settings:

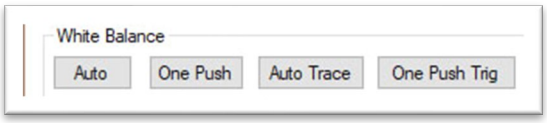
Digital Zoom:

The camera employs a digital zoom function allowing you to zoom up to 16X.



White Balance:

To perform one-time white balance calibration, place a reference white sheet in front of the camera and click the Auto button. The camera will then find the correct white balance settings for the current light conditions and keep them active until instructed otherwise.



Auto:

The RHP-BOS-DS-IF can perform Auto White Balance. It is enabled continuously and will function when changes in lighting conditions are expected.

One Push:

The One Push White Balance mode is a fixed white balance mode that may be automatically readjusted only at the request of the user (One Push Trigger).

This is used in conditions where Auto white balance is unable to detect and use a white image to auto set the white balance.

For best results, fill the frame with a white object (even under colored lighting), this is saved as the camera's "white" reference and camera now auto-white-balances using the new reference "white" instead of its internal reference.
Under controlled lighting conditions, one push white balance calibration is the recommended approach.

Note: One Push White Balance data is lost when the power
One Push White Balance data is lost when the power is turned off.
If the power is turned off, simply reset the One Push White Balance.

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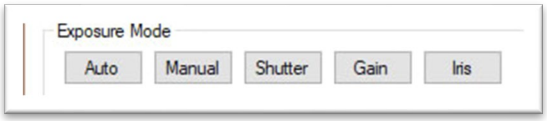
Auto Trace: The camera is equipped with the Auto Tracing White Balance function automatically traces the white balance of images according to the lighting conditions and selects the best white balance option for you.

One Push Trigger: The One Push White Balance mode is set, and the scene changes, the white balance may be readjusted with the One Push Trigger, assuming a white example, in correct lighting conditions and occupying more than 1/2 of the image, is in the frame.

Exposure Mode: The variety of AE functions, which allow video signal to output the optimum image for subjects from low light conditions to bright light conditions, are available.



Auto: Auto Iris and Gain, Fixed Shutter Speed are set automatically.

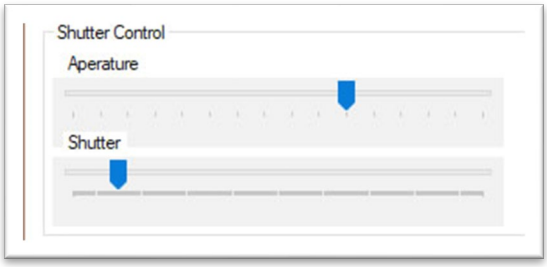
Manual: When set, Aperture and shutter control can be adjusted manually with the sliders. ***See Shutter Control.***

Shutter: The shutter speed is set automatically according to the brightness of the subject.

Gain: The gain is set automatically according to the brightness of the subject.

Iris: The Gain and Shutter speed are both set automatically according to the brightness of the subject.

Shutter Control: When the Exposure Mode is set to Manual, the Aperture and Shutter sliders allow for manual fine tuning of the image.



Aperture: Aperture control is a function which adjusts the enhancement of the edges of objects in the picture. There are 16 levels of adjustment, starting from "no enhancement." When shooting text, this control may help by making the text sharper.

Shutter: With a faster shutter speed, the time the image sensor is exposed to light is shorter; A slow shutter speed, allows a longer time the image sensor is exposed to light.

Advanced Options:

IR Mode / Auto IR Mode:

An IR filter (IR cut filter), is a color filter blocking the infrared light. There are several good reasons for using an IR-cut filter.

To achieve realistic colors in white light, using a color camera, requires an IR-cut filter.
The color spectrum seen by the human eye is quite limited compared to the spectrum seen by a CMOS or CCD camera.
In the near infrared region of the spectrum, the difference in sensitivity is significant. This is important since many light sources, including the sun, emit infrared light. A CMOS or CCD color camera in daylight, without an IR-cut filter, will therefore see a significant amount of infrared light resulting in strange colors.

Another reason for using an IR-cut filter is the limited color correction for many lenses. It is difficult to design imaging optics covering both the visible spectrum and the near infrared spectrum at the same time. Therefore, many lenses have different depths of focus for the visible and the infrared spectrum.

The IR-cut filter blocks a significant amount of the overall collected light and thereby affects the sensitivity in a negative way. In general, color cameras are one factor less sensitive compared to monochrome (depending on the CCD chip). This is primarily due to the IR-cut filter.

Back Light Compensation (BLC):
This function compensates for excessive light directed at the camera which causes the video to bloom or causing the images in front of the light to be unusable.

Front Light Compensation: This function will adjust the strong hot spots (over-exposure of image) and reduce the brightness of that area to improve the overall image.

Stabilizer: Reduces distracting vibrations by smoothing the transition from one frame to another. This does not affect the noise level of the image, except in the extreme borders when the image is extrapolated.

Wide D-Range (WDR):
When enabled, the camera can handle bright and dark conditions and improve quality of the output.

Wide Dynamic Range (WDR) technology uses two shutter speeds in alternative video fields, high and normal, and combines these two fields into one frame. It allows every detail to be captured accurately even if one portion is bright while other portions are dark. As a result, combined fields yield a frame of high-quality images. The image shows a comparison of camera technologies with its video images of Backlight Compensation (BLC), and Wide Dynamic Range (WDR).

Defog: This function dramatically improves visibility in foggy conditions compared to a standard IR camera without this feature.

Flip: The image output by the camera is flipped upside down, and the direction of Pan/Tilt movements are reversed when enabled.

Mirror: This produces a mirror-image of the video output. The normal image is flipped horizontally.

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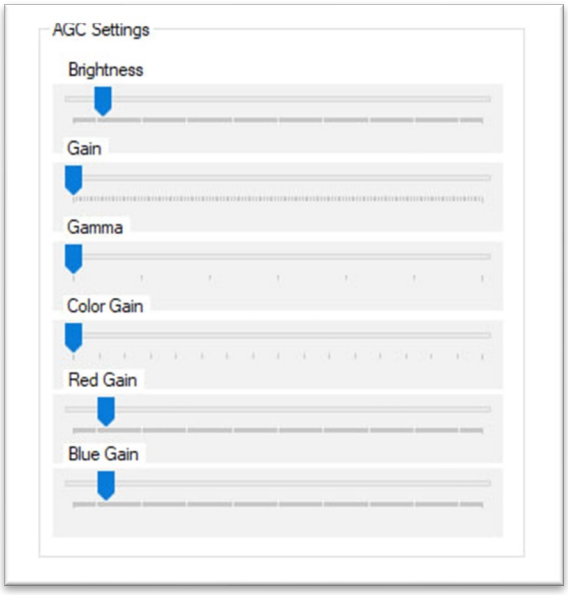
AGC Settings: The AGC is responsible for ensuring that optimal auto settings of exposure and gain are computed and updated every frame.



Brightness: The bright control function adjusts both the gain and iris using an internal algorithm according to a brightness level freely set by the user. Exposure is controlled by gain when dark and by iris when bright. As both gain and iris are fixed, this mode is used when exposing at a fixed camera sensitivity. When switching from Full Auto or Shutter Priority Mode to Bright Mode, the status will be retained for a short period of time.

Gain: This controls the amplification of the signal from the camera sensor. It should be noted that this amplifies the whole signal, including any associated background noise.

Gamma: Gamma controls the grayscale amount reproduced on the image. Primarily used to control the signal to noise ratio.

NOTE: You can set each color value manually by using the sliders for red and blue gain. The control is performed in the sensor and allows you to fine tune the image.

Color Gain: This can raise or lower the overall gain in the color spectrum.

Red Gain: This can raise or lower the gain in the red color spectrum.

Blue Gain: This can raise or lower the gain in the blue color spectrum.

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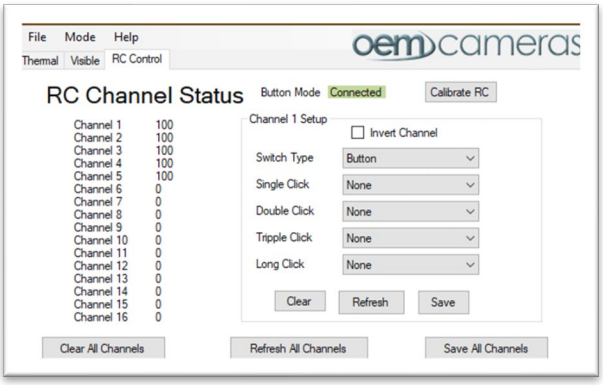
PROGRAMMING A CONTROLLER



RC CONTROLS DEFINED:

Calibration Mode: In the event a calibration is necessary, click the Calibrate RC button. It will be necessary to move all buttons on the RC Controller from the starting position to the maximum position.

Once the calibration is complete, press the **Stop** button located in the same position where the Calibrate RC was.

Clear:

Clears settings in the setup configuration.

Refresh:

Reloads the last settings for the channel you have selected.

Note: If there is no assignment, it will be reset to the default program setting. i.e., (Vari "0" Down; Max Function: None; Center/Center Function: None; Min Function: None)

Save:

Saves the settings for the channel you are currently working on. This will save the settings to the controller simultaneously.

Clear All Channels:

Will reset all channels below to the base line.

Refresh All Channels:

The channel will revert to the currently saved channel settings from the controller. This will overwrite any changes currently in the Channel Table.

Save All Channels:

Will send the Channel Table settings to the controller.

Channel: The number of channels is based on the mode you are in. In 'SBUS' mode, Channels 1-16 are available to modify. In the 'PWM' & 'Button' modes, channels 1-5 will be available.

Select the channel on the lower list first, then assign a function to that channel.

Examples are in the Controller Assignment section.

Invert Channel: This is an easy way to reverse the function that has been programmed for a particular channel.

Switch Type: This lets the program know what type of switch will control the channel chosen.

Max Function / Maximum: Tells the program what the channel will do when the knob or switch type is at its maximum.

Center Function / Center: This is used for switches (3 position switch) that have a center position. If a switch has two center positions (4 position switch), then the Center Function 2 can be programmed. A momentary switch will not have a center position and may not be active for editing.

Min Function / Minimum: Tells the program what the channel will do when the knob or switch type is at its minimum.

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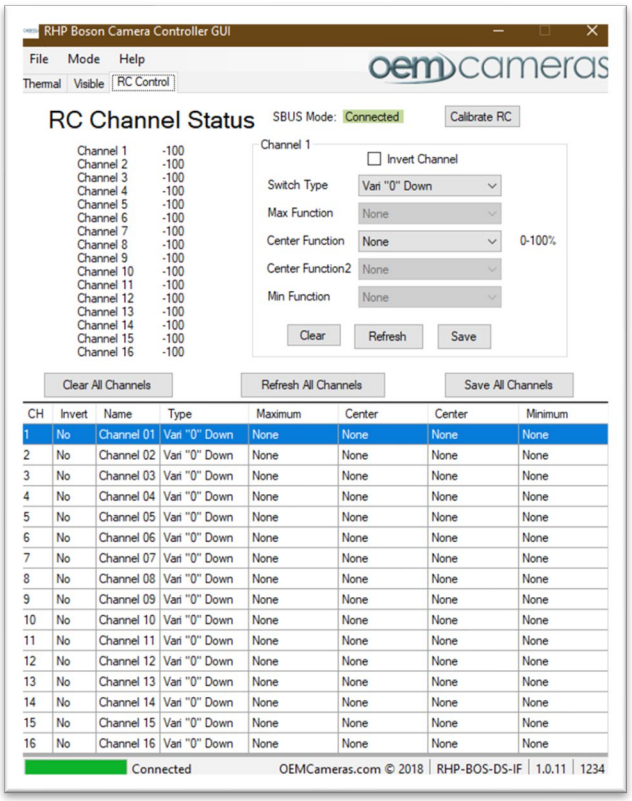
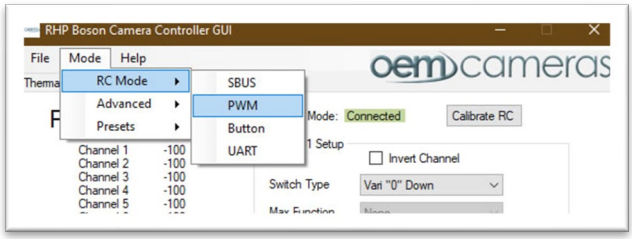
Changing Controller Modes:

SBUS to PWM Mode:
When connected, the RHP Controller Software is set to **S-BUS** by default.

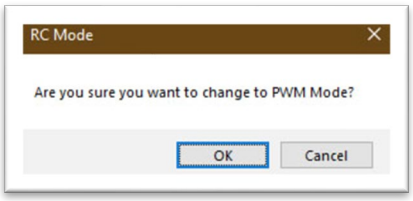


To change from S-BUS to PWM, Choose:
Mode > RC Mode
and select *PWM*.



You will be prompted for confirmation.

Click OK.



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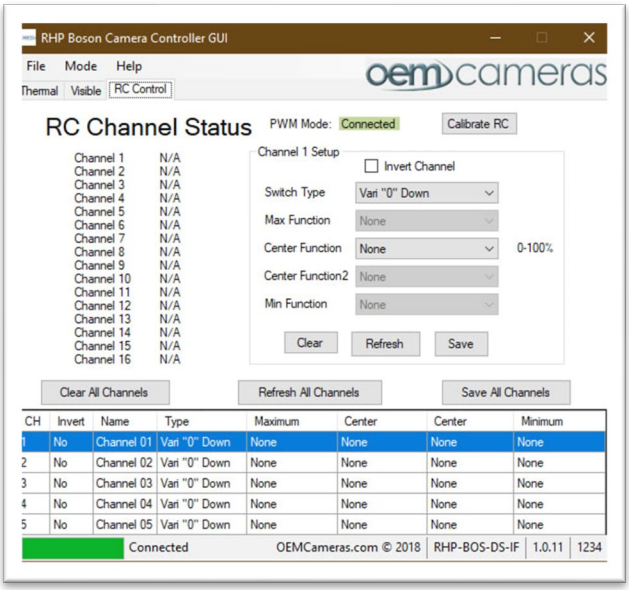
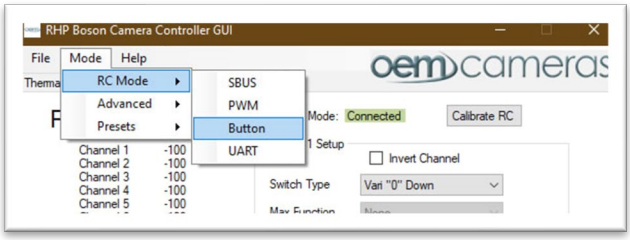
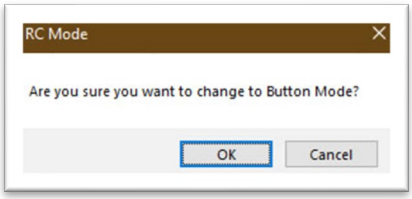
PWM to Button Mode:



The page will refresh and is now in PWM Mode.

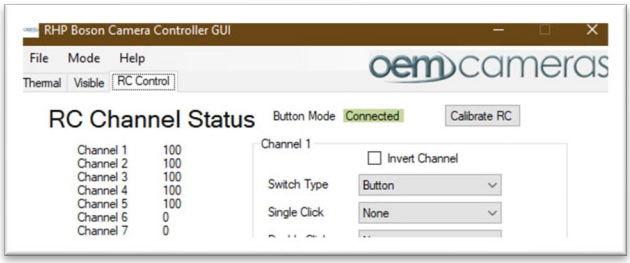


The same principal applies when changing to Button Mode. Choose:
Mode > RC Mode
and select *Button*.



You will be prompted for confirmation.

Click OK.



The page will refresh and is now in Button Mode.

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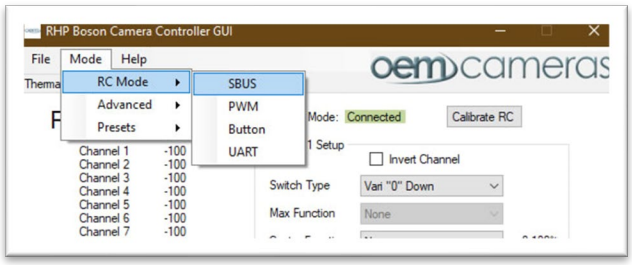
Button to SBUS Mode:

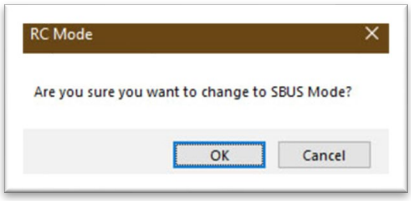
To revert to SBUS Mode, select:

Mode > RC Mode
and select SBUS

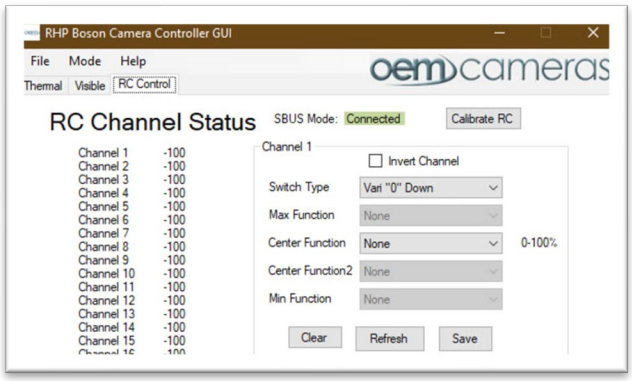


You will be prompted for confirmation.

Click OK.



The page will refresh and is now in SBUS Mode.



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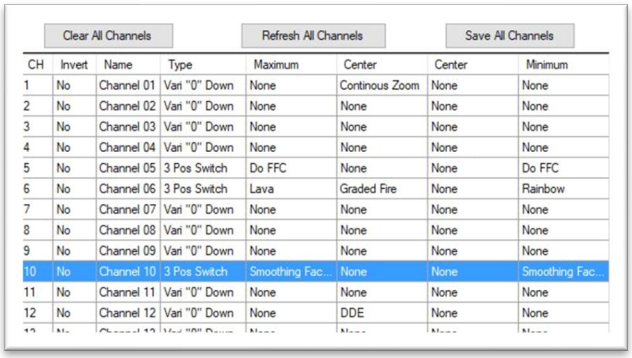
Controller Assignment:

Select Channel:

To assign a Function on the RHP-BOS-DS-IF to a switch type on the RC Controller follow these steps:

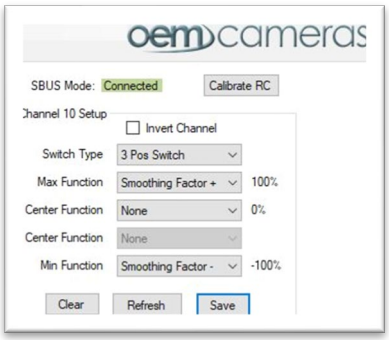
1. Choose a channel from the Channel Table in the lower portion of the screen.



CH	Invert	Name	Type	Maximum	Center	Center	Minimum
1	No	Channel 01	Vari "0" Down	None	Continous Zoom	None	None
2	No	Channel 02	Vari "0" Down	None	None	None	None
3	No	Channel 03	Vari "0" Down	None	None	None	None
4	No	Channel 04	Vari "0" Down	None	None	None	None
5	No	Channel 05	3 Pos Switch	Do FFC	None	None	Do FFC
6	No	Channel 06	3 Pos Switch	Lava	Graded Fire	None	Rainbow
7	No	Channel 07	Vari "0" Down	None	None	None	None
8	No	Channel 08	Vari "0" Down	None	None	None	None
9	No	Channel 09	Vari "0" Down	None	None	None	None
10	No	Channel 10	3 Pos Switch	Smoothing Fac...	None	None	Smoothing Fac...
11	No	Channel 11	Vari "0" Down	None	None	None	None
12	No	Channel 12	Vari "0" Down	None	DDE	None	None

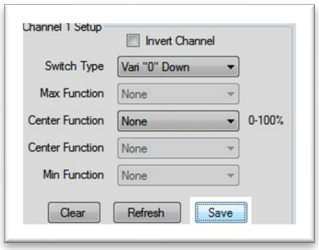
NOTE: When in PWM Mode, only five (5) Channels will show.

2. **Select the switch type**:
   - ***2 position* switches** will only show the Max Function and the Min Function.
   - ***3 position* switches** will show Max Function, Center Function and Min Function.
   - ***Variable +/-*** will only show the Center Function.
   - ***Variable with Center*** will show Max Function, Center Function, Center Function and Min Function



Configure the function:

Choose a function and assign a command to that function. i.e., Max Function: Smoothing Factor + adjust the smoothing factor to 100% when activated.



NOTE: Functions are dependent on the switch type selected. Therefore, some functions may not be available for every switch type.

Click save. The channel parameters will reflect the changes in the channel table and save to the RC Controller.

NOTE: Be sure to save your work on each channel. Changing channels before saving will reset the settings for that previous channel.

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RHP-BOS-DS-IF Controller Sample Configurations

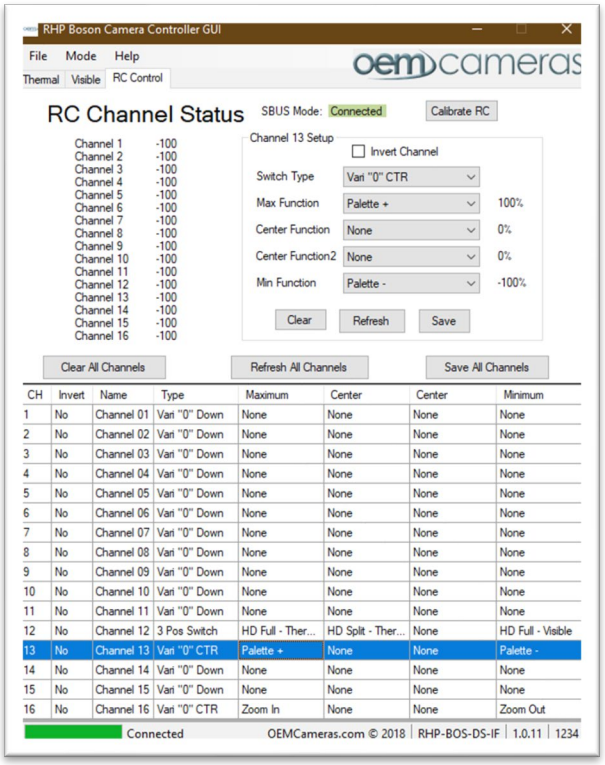
SBUS - Controller Assignment Example:

In our example, we have modified and saved channels 12, 13 and 16.

Channel 12 is a 3-position switch. At maximum, the switch is assigned to show HD FULL Screen of the Thermal Image. The center function is assigned to show Thermal/Visible Picture in Picture. The Min Function is set to show HD FULL Visible Camera.

Channel 13 (highlighted) is a Variable “0” Center POT which is assigned to cycle up through the color palettes when turned to the right. When turned to the left, it will cycle down through the color palettes.

Channel 16 is a Variable “0” Center POT which is assigned to zoom in (+) when turned to the right and zoom out (-) when turned to the left.



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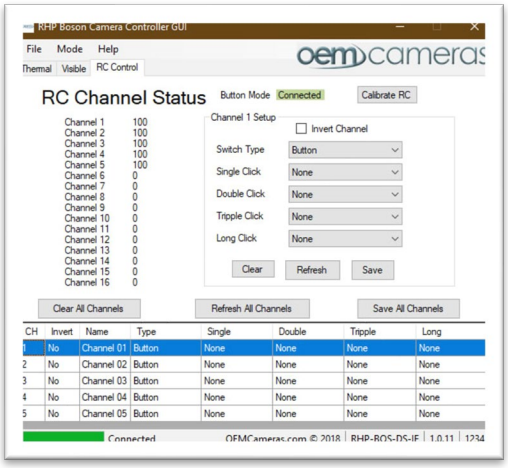
5 Button Direction Pad:

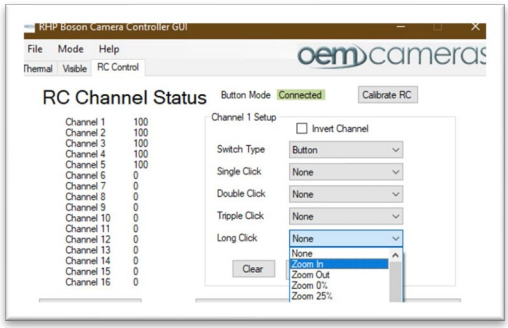
This example will walk through setting up a 5 Button Direction Pad. Two of the buttons will zoom in and zoom out. Another two will change palettes. The final button will perform a manual Flat Field Correction (FFC).

This walkthrough is designed to show how a channel is selected, switch type is defined, and function is assigned and saved to the channel. Ensure that you have Button Mode active.

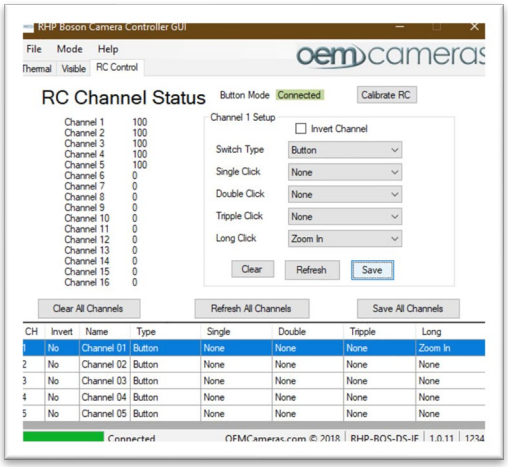


Select Channel 1 from the bottom list.

In our example, each channel will be chosen in succession.



Next, Assign a function. We have assigned the 'Long Click' to Zoom in on Channel 1 of our 5 button Pad.



Next, click Save and the function will be saved to the channel (channel 1) that we selected.

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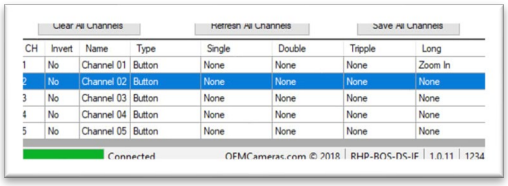
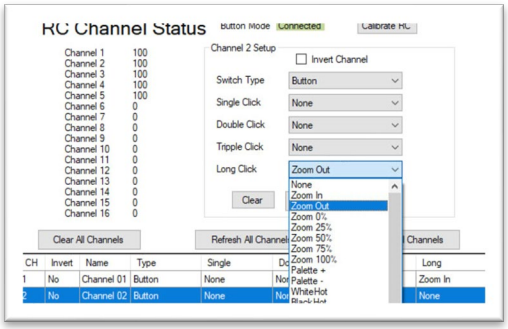
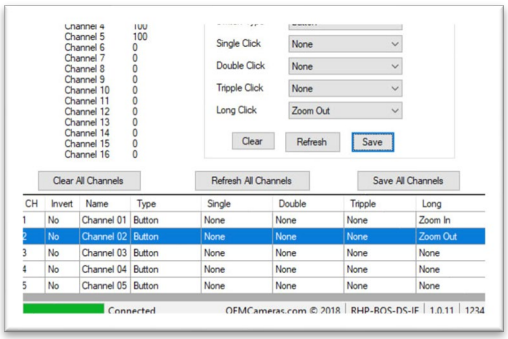
Select Channel 2 from the bottom list.



We have assigned the ‘Long Click’ to Zoom out on Channel 2.



Next, click Save and the function will be saved to the channel (channel 2).



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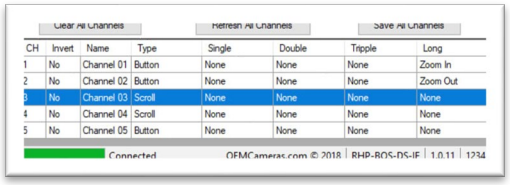
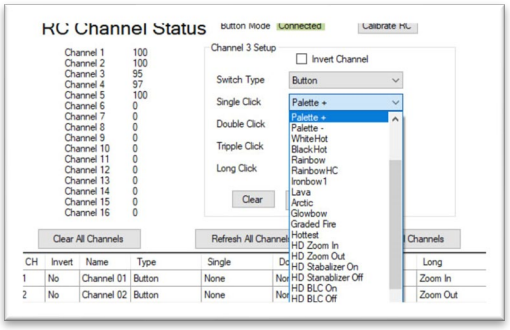
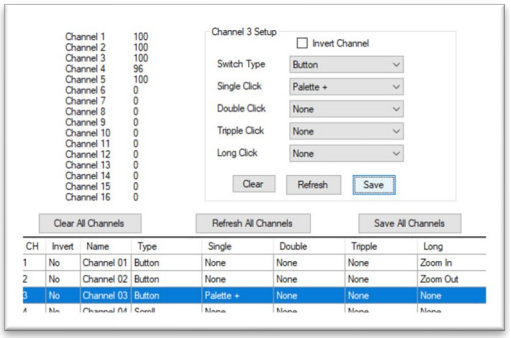
Select Channel 3 from the bottom list.



We have assigned the ‘Palette +’ to cycle forward through the available palettes with a single click on the FLIR Boson on Channel 3.



Next, click Save and the function will be saved to the channel (channel 3).



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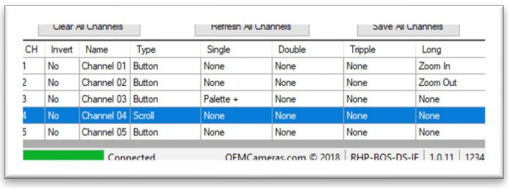
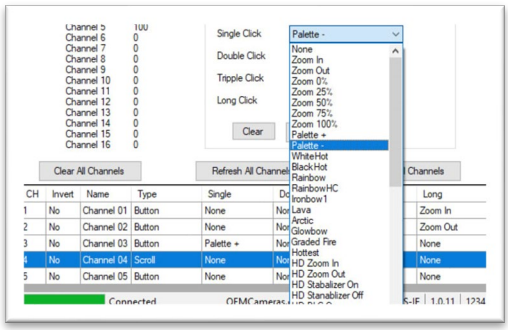
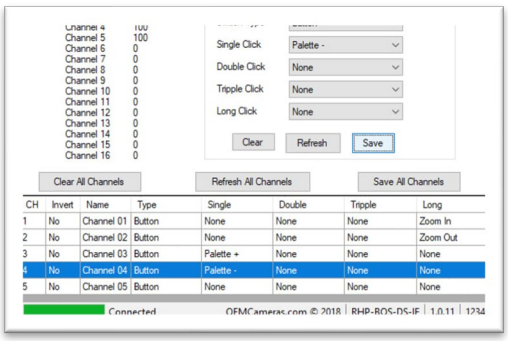
Select Channel 4 from the bottom list.



We have assigned the ‘Palette - ’ to reverse through the palettes with a single click on the on Channel 4.



Next, click Save and the function will be saved to the channel (channel 4).



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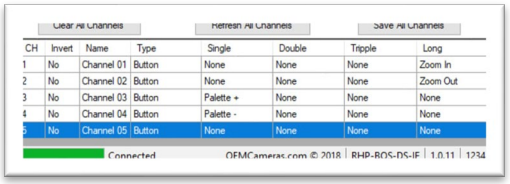
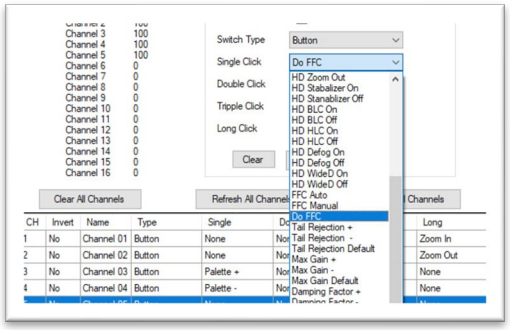
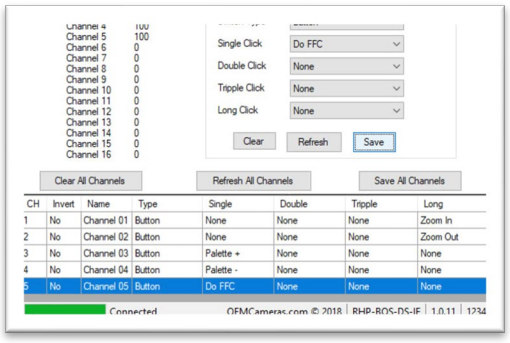
Select Channel 5 from the bottom list.



We have assigned the 'Do FFC' command to initiate a Flat Field Correction event on press on Channel 5.



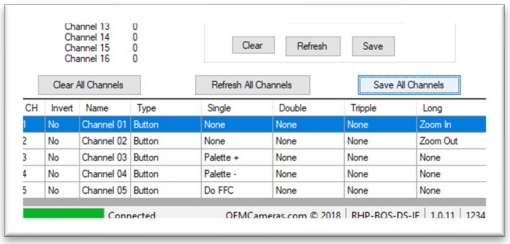
Next, click Save to store on channel (channel 5).



THE FINAL STEP:

Once the channels have been assigned and saved, the last step is done by clicking **Save All Channels** located below the Channel Setup Save button.

This will write the settings to the RHP-BOS-DS-IF.



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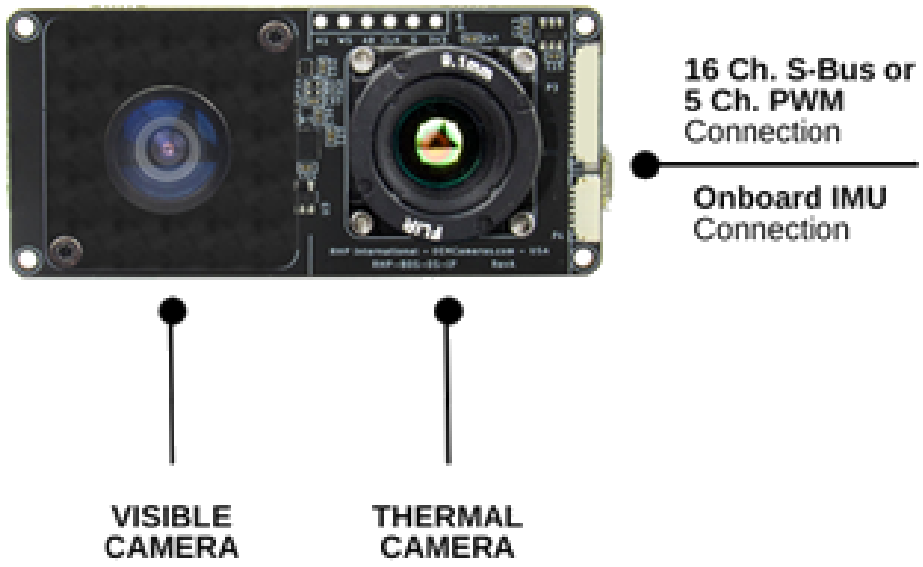
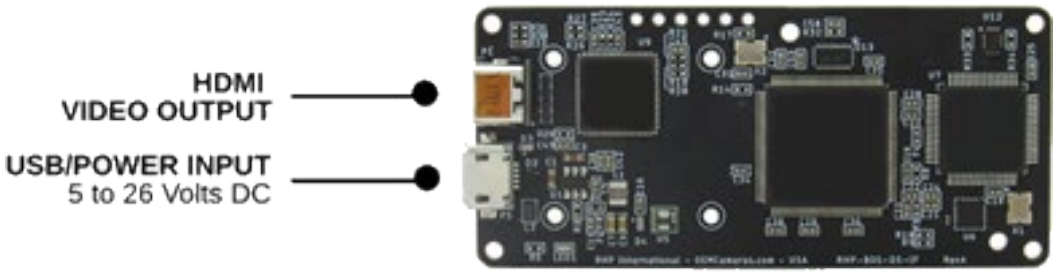
RHP-BOS-DS-IF Example Configurations



RHP-BOS-DS-IF Front View



RHP-BOS-DS-IF Rear View

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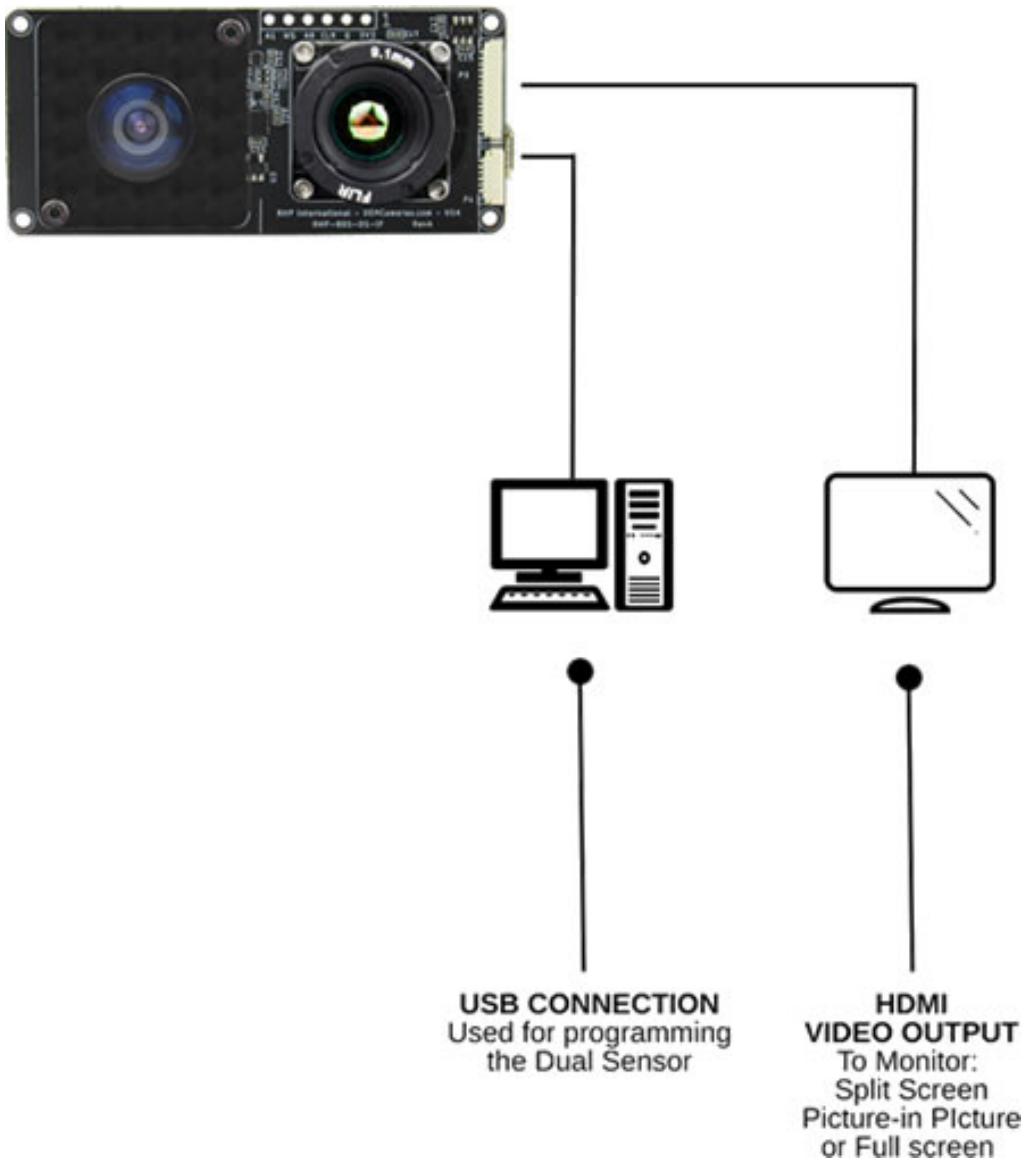
RHP-BOS-DS-IF Example Configurations

Programming Setup



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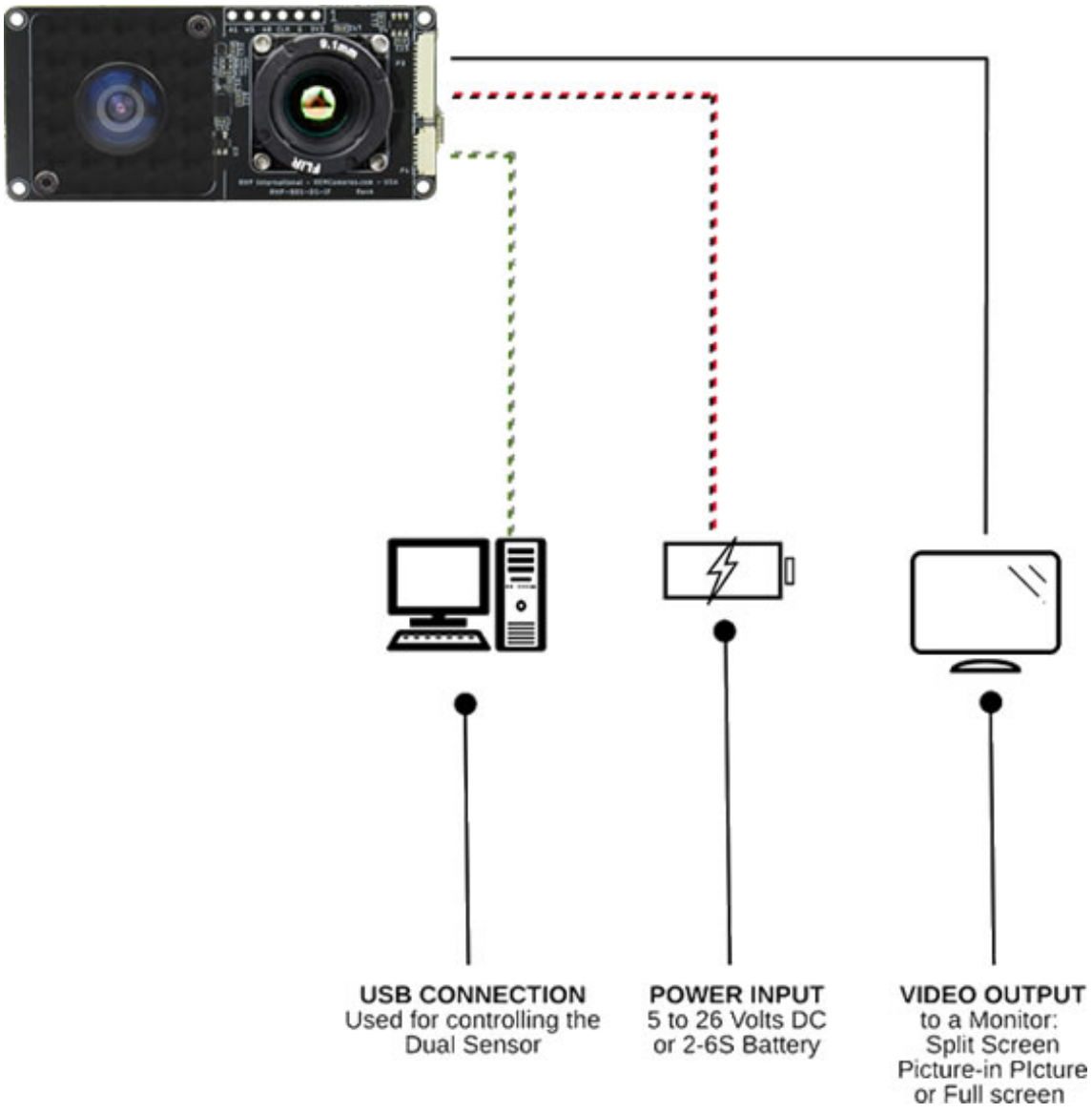
RHP-BOS-DS-IF Example Configurations

Control with PC with Video Monitor



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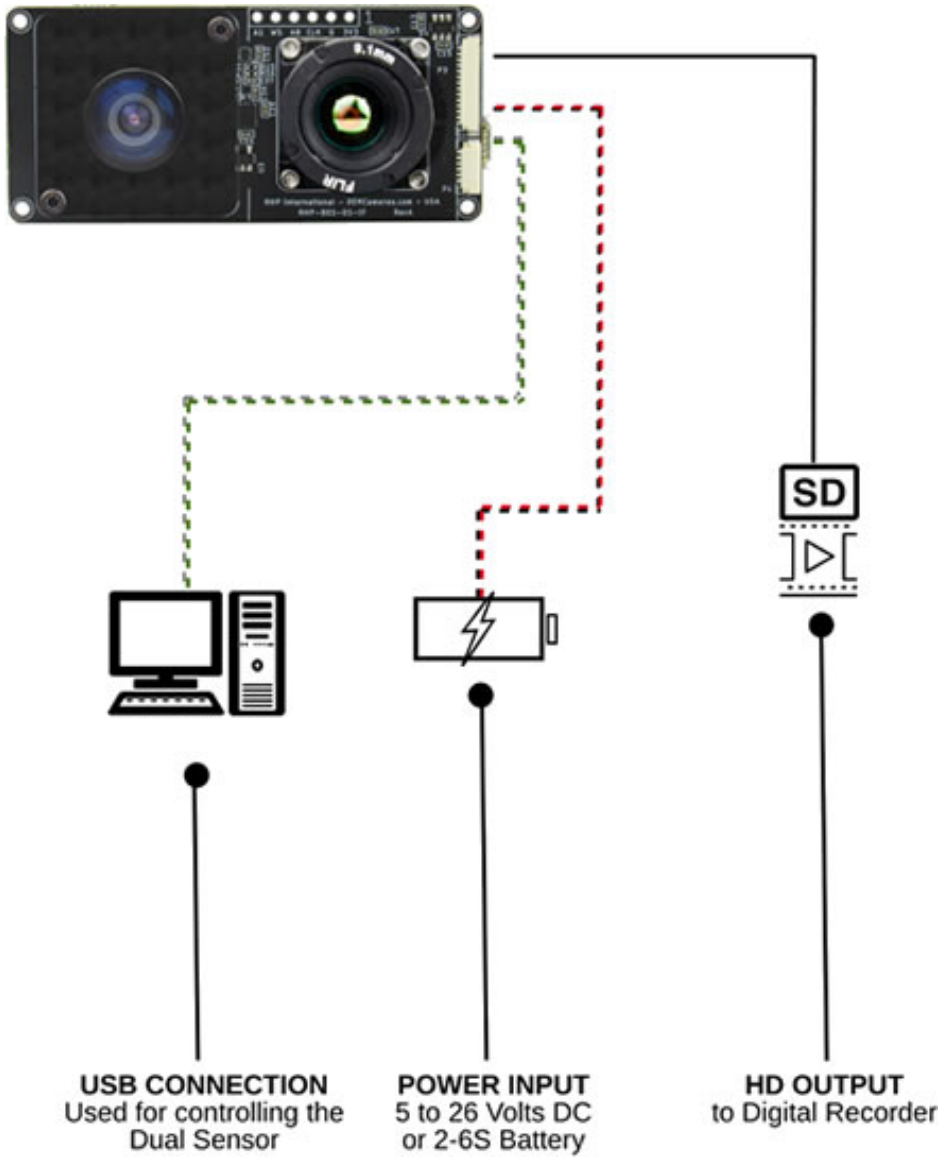
RHP-BOS-DS-IF Example Configurations

Control with PC with HD Recording



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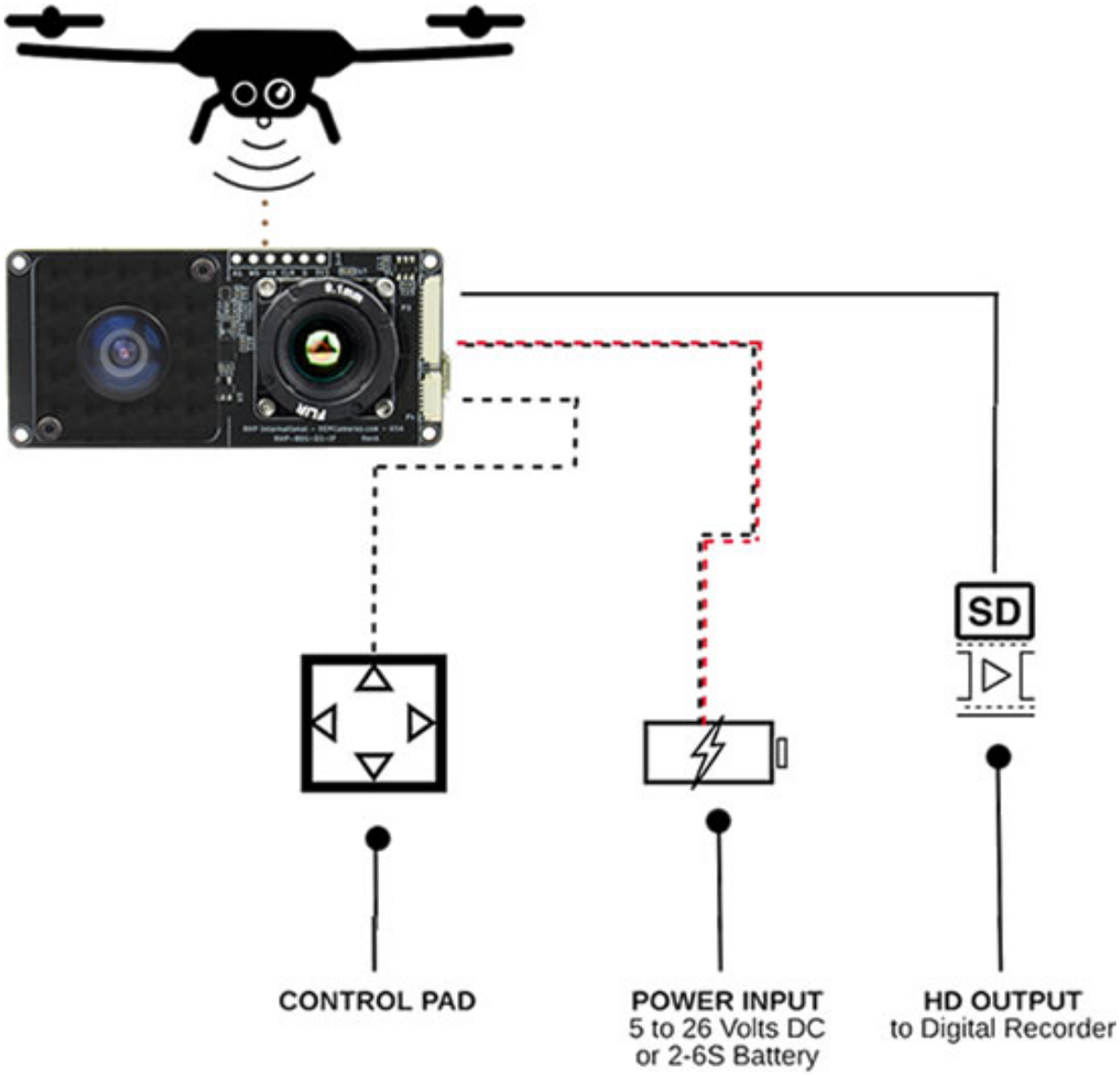
RHP-BOS-DS-IF Example Configurations

Control with 5 Button Control Pad with HD Output to Recording Device



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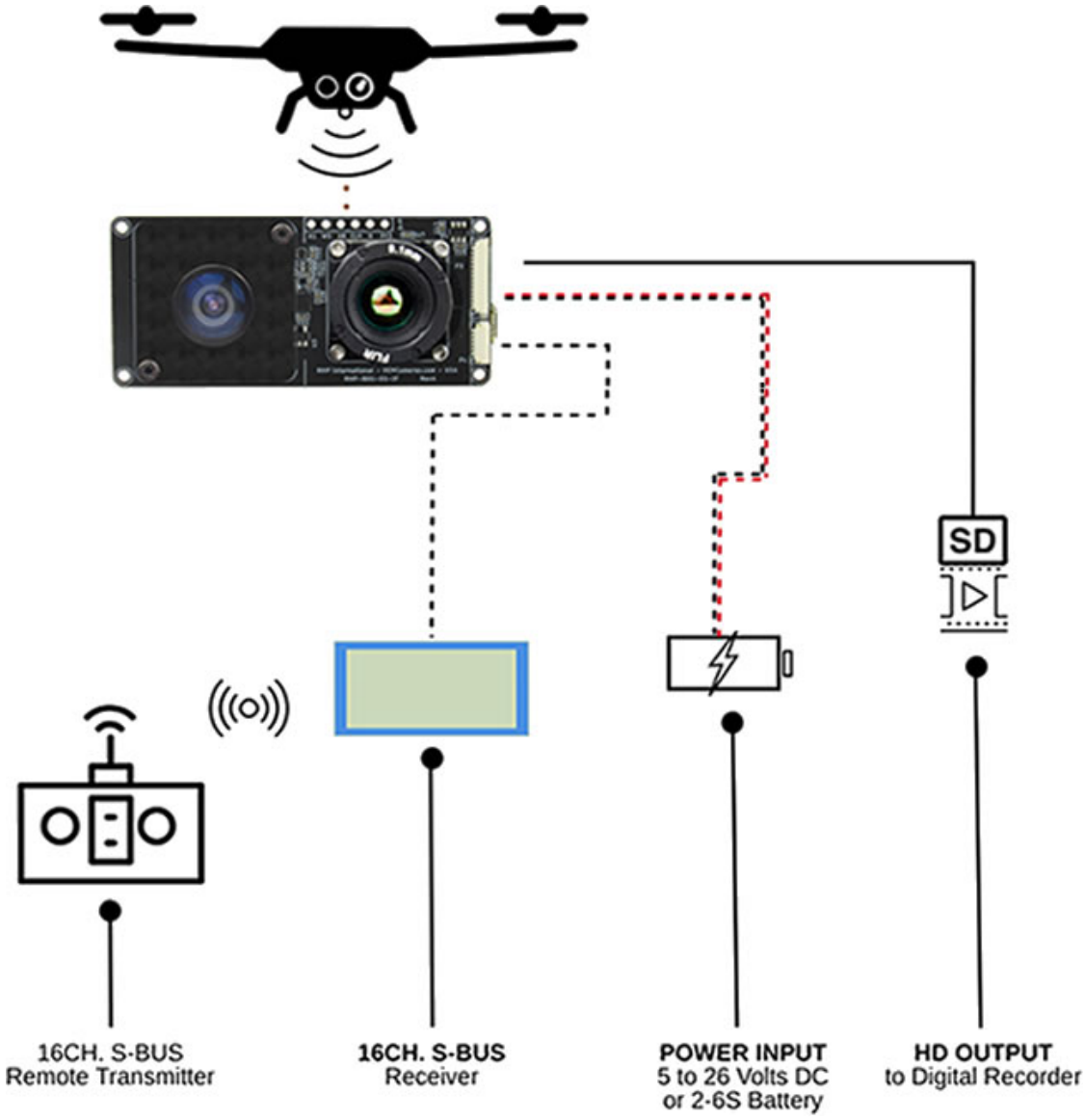
RHP-BOS-DS-IF Example Configurations

Control with 16Ch S-BUS Tx/Rx with HD Output to Recording Device



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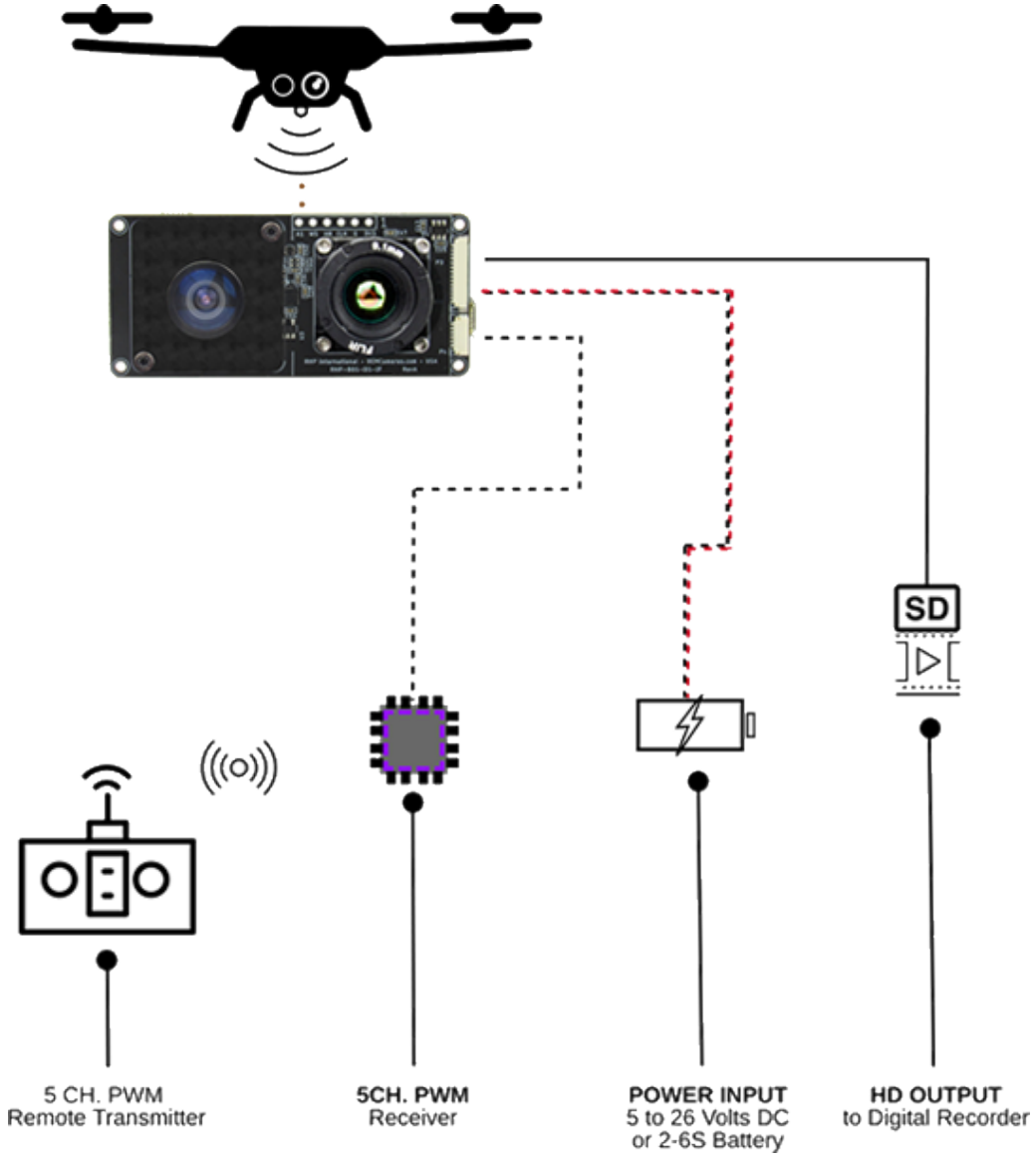
RHP-BOS-DS-IF Example Configurations

Control with 5Ch PWM Tx/Rx with HD Output to Recording Device



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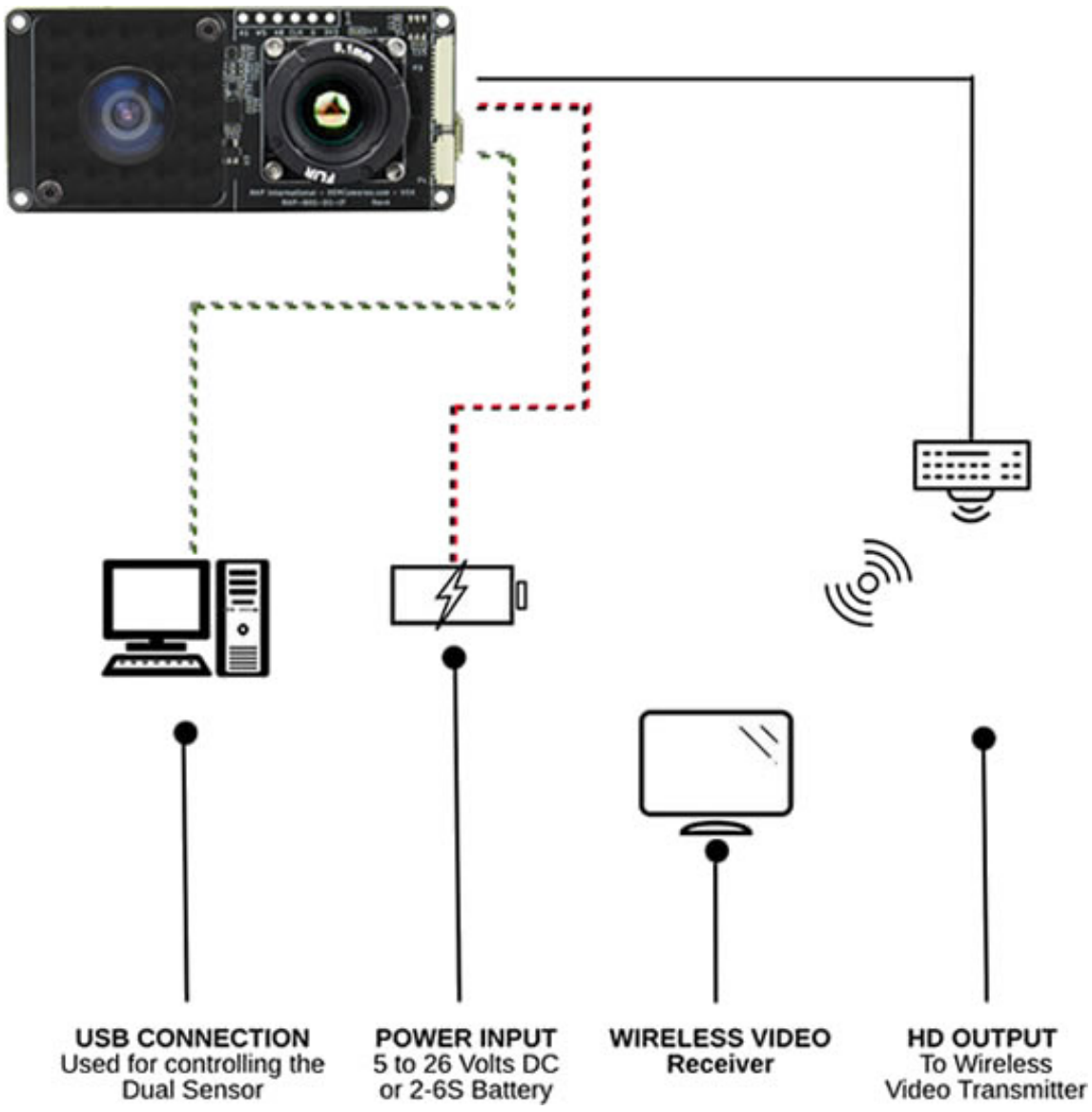
RHP-BOS-DS-IF Example Configurations

Control with PC with HD Output to Wireless Video Rx/Tx Monitor



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