

## Operational Instruction Manual / Quick start guide V3.0 Remote Boson

This guide will give a comprehensive overview of the operation of the V2.0 Remote for the Boson. To power on the Remote, press and hold the top-left button until the opening screen appears.<sup>(PWR)</sup>



The first screen that appears is the home screen. The top row of tiles switches the screen to the different menus. From left to right:

1. Palette Menu
2. Home screen
3. AGC Settings
4. System Settings
5. FFC button
6. Record button
7. Tilt up / down buttons
8. Palettes buttons

The following paragraphs explain each of these menus.

The physical buttons on the Remote also have functionalities which always do the same thing, regardless of which menu is selected. The left-side buttons<sup>(7)</sup> tilt the camera up and down. The current camera tilt is displayed with the camera icon on the bottom right of the Home Screen.

The right-side buttons<sup>(8)</sup> change the colour palette. More information about colour palettes can be found in the Palette Menu paragraph.

The FFC button<sup>(5)</sup> will trigger a Flat Field Correction on the Boson. FFC is a process that recalibrates the internal camera sensor. The Boson will also automatically perform an FFC periodically.

The Recording button<sup>(6)</sup> starts and stops recording video to the microSD card in the Digital Video Recorder (DVR). When recording is started, the icon will blink red. Check the video feed to see if the recording was started successfully.

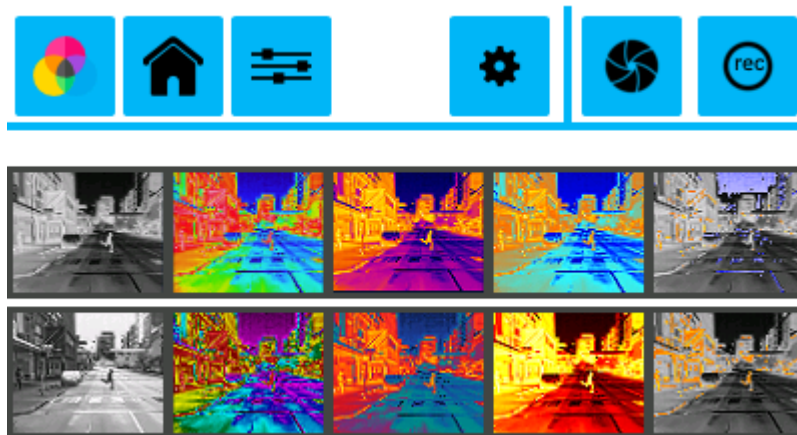
## Home screen (Pic 1)

The slider at the bottom of the screen changes the digital zoom factor. Sliding it to the left results in 0X digital zoom, sliding to the right will result in a maximum digital zoom of 49 which corresponds to 8X zoom. The camera tilt icon in the bottom right displays the current camera tilt angle. This angle can be changed using the physical buttons on the left of the Remote. The camera angle is limited between 0 degrees and 90 degrees, which corresponds to looking straight forwards, and straight downwards respectively.

The Preset button change the appearance of the image according to what was pre-programmed into these buttons. The first two Presets, called Equalization and Linear, are two recommended settings provided by FLIR. The last two Presets, called Custom 1 and Custom 2, can be configured freely as the user desires. It will be explained how to do this in the third menu, the AGC Settings menu<sup>(3)</sup>.

The Gain Mode button toggles between High and Low Gain Mode. This setting determines whether or not the Boson automatically determines the optimum gain state based on current scene conditions. More information about this and all of the AGC settings can be found in the [Boson Datasheet](#).

## The Palette Menu (Pic 2)

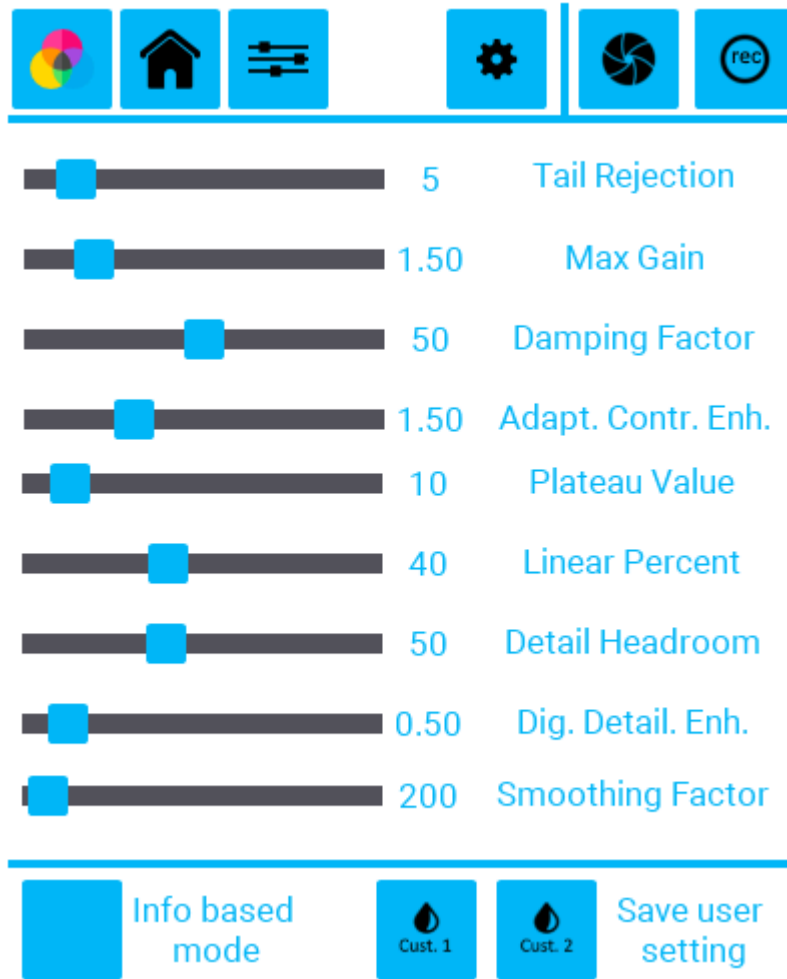


Pic.2

This allows the user to change the colour palette of the camera image. Colour palettes are a visual representation of the temperature of the image. For example, the palette White-hot makes hot objects on screen white, cold objects black, and everything in between shades of grey.

The rainbow palette makes hot objects appear red, turns cold objects blue, and uses yellow, orange and green to show the temperatures in between.

## AGC Settings Menu (Pic 3)



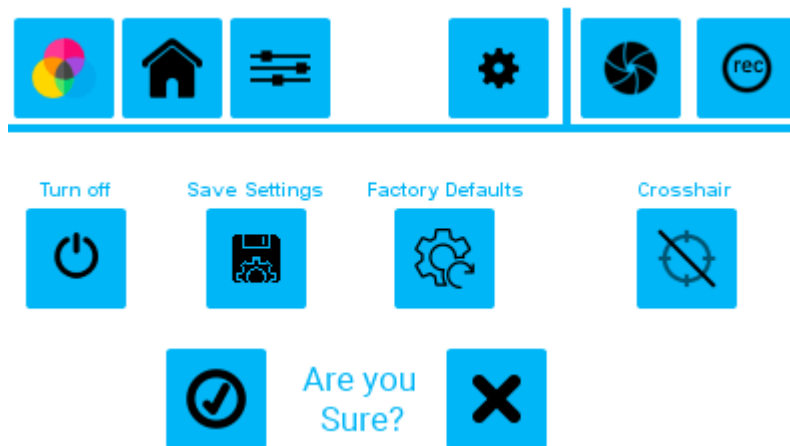
**Automatic Gain Control (AGC)** is a process that converts the raw data collected by the sensor to a visual 8-bit representation suitable for displaying video.

There are 9 sliders that change the behaviour of this AGC algorithm. These 9 parameters each have their own influence on the appearance of the final image output. Again detailed explanation about all these parameters can be found in the [Boson Datasheet](#).

At the bottom of this menu are the Save User Settings buttons. When pressed, the current settings are written to the memory of both the remote and the camera, which can then be recalled by pressing the Preset buttons on the Home Screen<sup>(pic 1)</sup>.

*Important:* The AGC settings are saved, along with the current camera tilt angle, the selected Palette, Gain Mode, and Info Based mode.

## System Settings menu



Pic.4

There are 4 options available on this page. When pressing one of the first three buttons, there will be a prompt to confirm the action.

1. The first option is to turn off the Remote.
2. The second option is Save Settings. This does a number of things. It saves all settings made in the AGC Settings menu, along with the Custom Presets created. It also instructs the Bosen to save the current set of settings to its memory, which will be loaded when the Bosen is powered on.
3. The third button is the Factory Defaults button. This is a very useful button for when the current user settings result in an output image that is unclear or undesirable. This button clears the AGC Settings to its default values, switches the palette back to White-hot and re-enables the analog video output.  
*Note: It does not clear the saved Custom Presets.*
4. The last button on this page is the Crosshair button. This button cycles through the available crosshairs to be drawn in the middle of the screen. This can be useful when attempting to centre an object of interest on screen.

*In general, every button press or every slider movement sends a command to the camera's controller over wireless communication (LoRa). If the command was received correctly, there will be an indication on the video feed which shows what command was received. It is important for the user to check this indication after each command, to confirm that the intended button press was received correctly.*

