

fSTOP Wireless WiFi Receiver Manual

With WirelessIris App. for use with iPhone™ / iPod™ / iPad™



Document Number: PLC850-0002

Document Version: 008

*Copyright 2011 by PLC Electronic Solutions Ltd.
9-3871 North Fraser Way, Burnaby BC Canada V5J 5G6*

www.plcelectronicsolutions.com

1-877-832-3476

604-708-3502

TABLE OF CONTENTS

1. Introduction	4
2. Installation	4
2.1. Necessary Hardware	4
2.2. Downloading Wireless Iris Application	4
2.3. fSTOP Wireless Receiver	5
3. fSTOP Wireless Receiver Setup	6
3.1. Motor Calibration	6
3.2. fSTOP Switch Settings	6
3.2.1. CHAN Switch Settings	7
3.2.2. DIRECTION Switch	8
3.2.3. SECURITY Switch	8
3.2.4. MODE Button	8
3.2.5. STATUS LED	8
3.2.6. CAL Button	8
4. iPhone®, iPod Touch® or iPad® Setup	9
4.1. Settings	9
4.1.1. WirelessIris Settings	9
4.1.1.1. Build Date	10
4.1.1.2. Camera ON/OFF	10
4.1.1.3. fSTOP Wifi Mode	11
4.1.1.4. Camera IP and Device Entering	13
4.1.1.5. Smooth Slider	14
4.1.1.6. Left Handed Mode	14
4.1.2. Wi-Fi Settings	15
4.1.2.1. Choose a Network	16
4.1.2.2. IP Address Setting	17
4.1.2.2.1. DHCP to Static	17
4.1.2.2.2. IP Address	17
4.1.2.2.3. Subnet Mask	18

4.1.2.2.4. Router.....	18
4.2. WirelessIris.....	19
4.2.1. A Camera Button	20
4.2.2. Lock.....	21
4.2.3. Camera Run.....	21
4.2.4. Connected Area.....	22
4.2.5. Torque	23
4.2.6. New Lens File Creation.....	24
4.2.6.1. Lens Name	24
4.2.6.2. Lens Marks.....	25
4.2.6.3. Calibrate.....	26
5. Connector Pinouts.....	27
5.1. Power (10-30V) Camera ON/OFF Connector	27
5.2. Digital Motor Connector.....	27
6. Specifications.....	28
7. Quick Start.....	29
8. Troubleshooting.....	30
8.1. Connectivity	30
8.2. Inaccurate Lens Marks	30
8.3. Range Issues.....	30
9. Limited Warranty.....	31
10. Technical Support.....	31

1. Introduction

The **fStop Wireless Receiver** and **WirelessIris** application allows Directors of Photography, camera assistants, or Digital Technicians the freedom of being able to move around the film set without the usual additional hardware, and wirelessly control the focus, iris or zoom of each camera from an iPhone[®], iPod Touch[®] or iPad[®].

2. Installation

2.1. Necessary Hardware

- fSTOP Wireless Receiver (PLC955-0013)
 - comes with 2.4GHz Antenna (PLC477-0002)
- fSTOP Power Cable examples:
 - fSTOP WiFi PV Power Cable (PLC940-0002)
 - fSTOP WiFi ARRI Power Cable (PLC940-0008)
 - fSTOP WiFi P-TAP Power Cable (PLC940-0009)
- Digital Motor examples:
 - Heden M21VE (PLC950-0005)
 - Heden M26VE (PLC950-0006)
- Digital Motor Cable (PLC940-0001)
- iPhone[®], iPod Touch[®] or iPad[®] (user supplied)

2.2. Downloading Wireless Iris Application

Using iTunes on your computer download the **WirelessIris** application and Sync it onto your iPhone[®], iPod Touch[®] or iPad[®]. Check for regular updates. The **WirelessIris** application is available for download from the Apple[™] App Store[™].

2.3. fSTOP Wireless Receiver



Attach the **2.4GHz Antenna** (PLC477-0002) to the **fSTOP Wireless Receiver**.



Plug one end of the **fSTOP Power Cable** into the power output connector of a camera or battery and the other end into the 10pin Hirose connector on the **fSTOP Wireless Receiver**.

Attach the motor to the gearing of the desired focus, iris or zoom lens ring. Plug one end of the 7pin motor cable into the digital motor and the other end into the 7 pin connector of the **fSTOP Wireless Receiver**. Do not power up the system at this time.

****You must ensure that the Camera Power output connector is able to source up to 3.0 Amps if you wish to power the fSTOP Receiver Directly from the Camera.****

3. fSTOP Wireless Receiver Setup

3.1. Motor Calibration

After you have completed your installation power up the camera. The motor will automatically calibrate by moving the lens gear to both end stops. It is now ready to communicate with your iPhone[®], iPod Touch[®] or iPad[®].

**You can also calibrate the motor by hand to test the system if no camera lens is available. Once you power the motor it will start to rotate one direction; after some movement apply pressure to the gear to stop the motor moving in that direction. The motor will Stop and then move in the other direction; after one revolution in this direction apply pressure to stop it from moving. The motor will now be calibrated.

Note: Do not let the motor spin for more than 10 seconds, as it will fail calibration as it assumes that no lens is present. If this happens simply unplug the motor cable and then plug it in again to restart the calibration.

3.2. fSTOP Switch Settings



3.2.1. CHAN Switch Settings

These settings are used to allow multiple fSTOPS, up to 3, to be used on one iPhone®, iPod Touch® or iPad® as well as to limit the possibility of radio interference with other devices by changing the Frequency range being occupied within the 2.4GHz band

Single Camera Setup

CHAN Switch Pos	Camera	Wi-Fi Channel	Freq Low (GHz)	Freq High (GHz)	SSID
0	A	1	2.401	2.423	fStop_Setup
1	A	1	2.401	2.423	A_Cam_ch1
2	B	1	2.401	2.423	B_Cam_ch1
3	C	1	2.401	2.423	C_Cam_ch1
4	A	6	2.426	2.448	A_Cam_ch6
5	B	6	2.426	2.448	B_Cam_ch6
6	C	6	2.426	2.448	C_Cam_ch6
7	A	11	2.451	2.473	A_Cam_ch11
8	B	11	2.451	2.473	B_Cam_ch11
9	C	11	2.451	2.473	C_Cam_ch11

Multi Camera Setup

CHAN Switch Pos	Camera	Wi-Fi Channel	Freq Low (GHz)	Freq High (GHz)	SSID
A	A	1	2.401	2.423	Camera_Network_ch1
B	B	1	2.401	2.423	Camera_Network_ch1
C	C	1	2.401	2.423	Camera_Network_ch1
D	A	11	2.451	2.473	Camera_Network_ch11
E	B	11	2.451	2.473	Camera_Network_ch11
F	C	11	2.451	2.473	Camera_Network_ch11

3.2.2. DIRECTION Switch

The **DIRECTION** Switch sets the direction of the motor.

3.2.3. SECURITY Switch

The **SECURITY** switch switches the **fSTOP Wifi Mode** between **Security** and **Long Range**.

- **Security** – In the ON position is a send-and-receive communications protocol that verifies the **fSTOP Wireless Receiver** is connected and receiving information back to the **WirelessIris** application. It allows a network monitor light to flash in the lower right hand corner of the **WirelessIris** application showing that it is connected.
- **Long Range** – In the OFF position is Send Only and does not verify communications being sent so there is no way of being sure that commands are being received by the **fSTOP Wireless Receiver** if it is out of range or not connected. It does however allow for a greater range.

3.2.4. MODE Button

The **MODE** button is a setting for future use and will have no bearing on the functionality of the unit at this time.

3.2.5. STATUS LED

When the unit is powered up the **STATUS** LED will indicate this by being ON. When the iPhone[®], iPod Touch[®] or iPad[®] is connected the **fSTOP Wireless Receiver** the **STATUS** LED will flicker indicating this.

3.2.6. CAL Button

The **CAL** or calibrate button is a soft reset of the unit. When the button is depressed and released it will reset the unit. The motor will then start its calibrate function.

4. iPhone®, iPod Touch® or iPad® Setup

4.1. Settings

4.1.1. WirelessIris Settings

Tap on **Settings** in your iPhone®, iPod Touch® or iPad®.



Scroll down and tap on **WirelessIris**.



4.1.1.1. Build Date

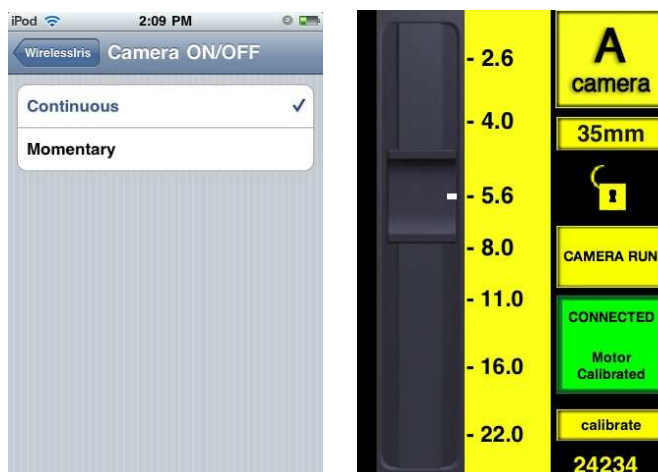
The **Build Date** at the top is the current **WirelessIris** software that you have installed in your iPhone®, iPod Touch® or iPad®.



4.1.1.2. Camera ON/OFF

Camera ON/OFF allows the camera to be turned ON and OFF through the **WirelessIris** Application.

- **Continuous** – When the **Camera Run** button is pressed the camera will stay on.
- **Momentary** – The camera will only stay on as long as the **Camera Run** button is held down. (This is needed for some cameras.)



4.1.1.3. fSTOP Wifi Mode

fSTOP Wifi Mode allows selection between the following 2 protocols, which have distinct features.



- **Security** – Is a send-and-receive communications protocol that verifies the **fSTOP Wireless Receiver** is connected and receiving information back to the **WirelessIris** application. It allows a network monitor light to flash in the lower right hand corner of the **WirelessIris** application showing that it is connected.

Note: Ensure that the **fSTOP Wireless WiFi Receiver** is set up the same way.



- **Long Range** – Is Send Only and does not verify communications being sent so there is no way of being sure that commands are being received by the **fSTOP Wireless Receiver** if it is out of range or not connected. It does however allow for a greater range.

Note: Ensure that the fSTOP Wireless WiFi Receiver is set up the same way.



4.1.1.4. Camera IP and Device Entering

Tap on **A Camera IP** and enter the **IP Addr** numbers on the side of your **fSTOP Wireless Receiver** i.e. 169.254.000.106. (This is Laser engraved on the side of the **fSTOP Receiver**)



Tap on the **return** button which will send you to the **Device ID** section, enter the **Device ID** numbers on the side of your **fSTOP Wireless Receiver** (i.e. 0106)



If you have another your **fSTOP Wireless Receiver** that you would like to use with the same iPhone®, iPod Touch® or iPad® enter its information in B Camera as you did with A Camera. C Camera would be yet another your **fSTOP Wireless Receiver**.

****Note: If you want to control more than 1 fSTOP Wireless Receiver on your iPhone®, iPod Touch® or iPad® you will have to set the CHAN...**

switch setting on your fSTOP Wireless Receiver to one of the letters A through C or D through F, a different letter for each fSTOP Wireless Receiver.

4.1.1.5. Smooth Slider

Smooth Slider is used for slowly controlling Iris pulls automatically. Its default setting is OFF.



4.1.1.6. Left Handed Mode

To change the **WirelessIris** application to **Left Handed** mode scroll to the bottom of **WirelessIris** settings and turn **Left Handed** ON.



4.1.2. Wi-Fi Settings

Tap on **Settings** in your iPhone®, iPod Touch® or iPad®.



Tap on **Wi-Fi** and turn **Wi-Fi ON** if it is not already.

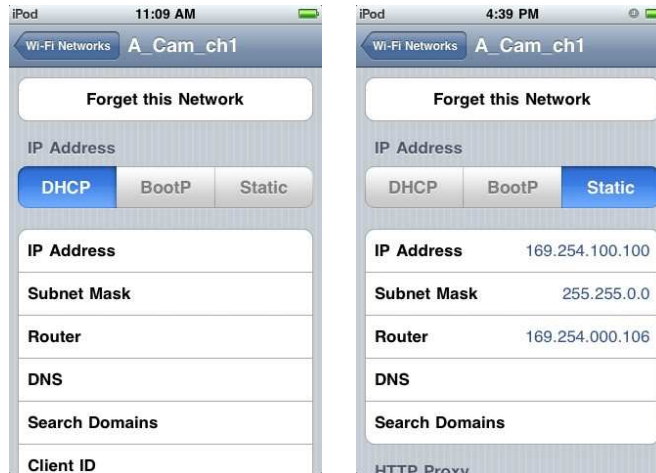


4.1.2.1. Choose a Network...

Below 'Choose a Network...' will be a network called **A_Cam_ch1** or similar to this depending on the **CHAN** switch settings of your **fSTOP Wireless Receiver**. Please see **3.2. fSTOP Switch Settings** for more information. Tap on this to choose the **fSTOP Wireless Receiver** you have just powered up. A **check mark** should appear beside it.



4.1.2.2. IP Address Setting



4.1.2.2.1. DHCP to Static

Tap on the > button, you will need to change the IP Address setting from **DHCP** to **Static**. You can do this by tapping on **Static**.

*****Note: If you leave the Network set to DHCP your connection will drop out sometimes and may not connect properly after your iPhone™ or iPod Touch™ comes out of sleep mode (black screen).*****

4.1.2.2.2. IP Address

Tap on **IP Address** and enter 169.254.100.*** (i.e. 169.254.100.100). This number must be unique to each iPhone®, iPod Touch® or iPad® you will be using on the film set with the WirelessIris application and **fSTOP Wireless Receiver** to function properly. If you have more than one **fSTOP Wireless Receiver** controlled by an iPhone®, iPod Touch® or iPad® you will only have to set this number once.

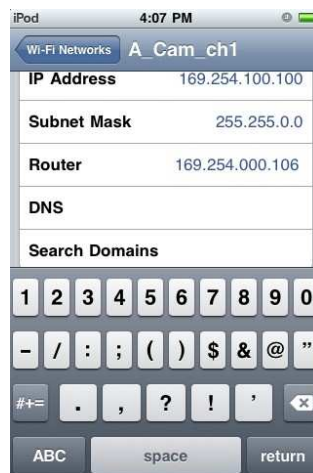
****Note: This IP Address (the IP Address of the iPhone®, iPod Touch® or iPad®) CANNOT be the same as the IP Address of the fSTOP Wireless Receiver (the IP Addr Laser Engraved on the side of the unit).**

4.1.2.2.3. Subnet Mask

Tap on **Enter** to move to **Subnet Mask** and type in 255.255.0.0

4.1.2.2.4. Router

Tap on **Enter** to move to **Router** and type in the **IP Addr** found on the side of your **fSTOP Wireless Receiver** i.e. 169.254.000.106.



Once this is done go back to the main menu.

4.2. WirelessIris

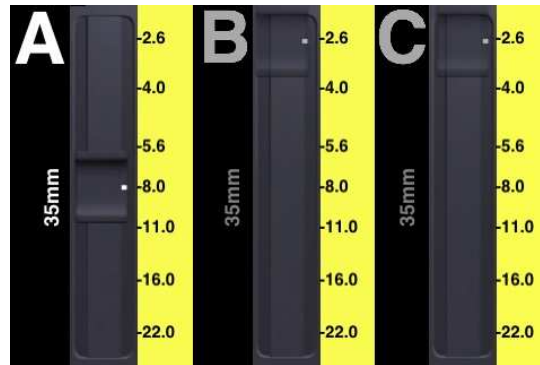
Tap on **WirelessIris**.



If the **fSTOP Wireless Receiver** is powered and the Motor is calibrated to the end stops of the lens, after a few seconds the red **Not Connected** status box will change to green and **Connected Motor Calibrated** (If in **Security Mode** otherwise it will always green and say **Long Range Mode**.)

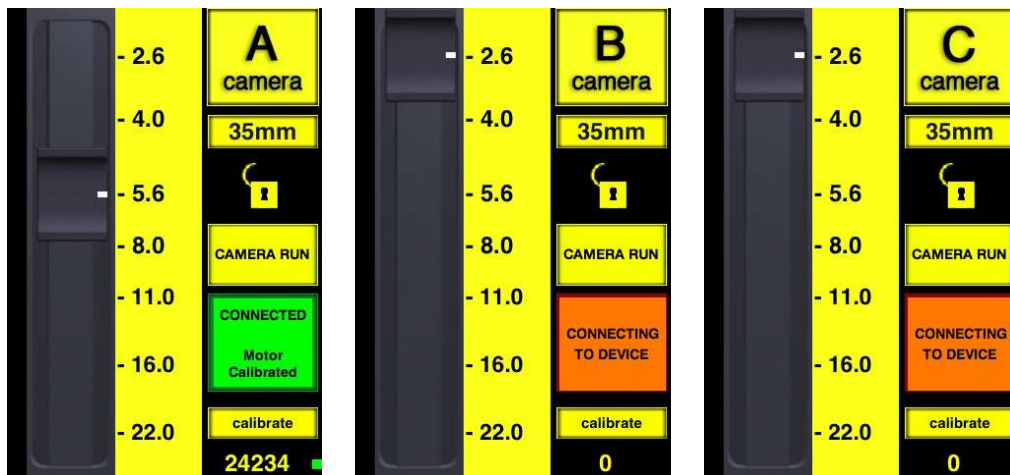


You will now be able to move the motor using the slider on the left side of the screen. You can rotate your iPhone®, iPod Touch® or iPad® to view the desired positions of the 3 motors. You are able to control the highlighted Slider



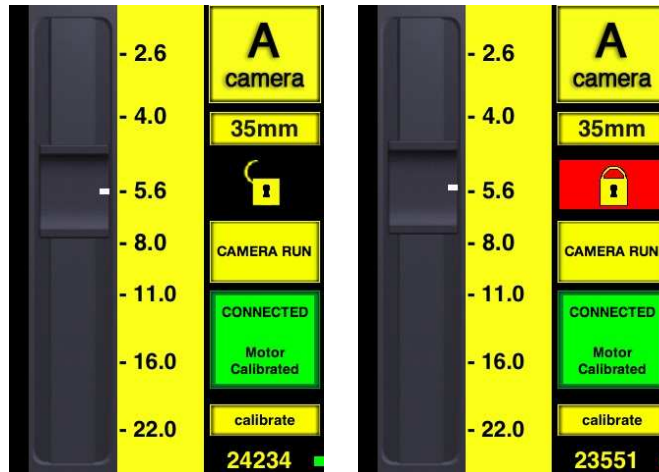
4.2.1. A Camera Button

The button on the upper right corner marked **A Camera** on the main screen when pressed switches between **A Camera**, **B Camera** and **C Camera**.



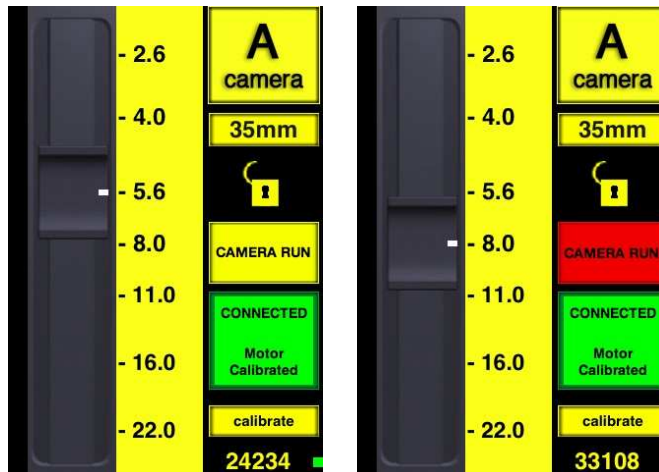
4.2.2. Lock

The Lock on the main screen allows you to Lock the WirelessIris applications functions so that there are no changes made accidentally.



4.2.3. Camera Run

The Camera Run button will turn the camera ON momentarily or continuously depending on your settings options as in section 4.1.1.2 **Camera ON/OFF**. When this is activated it will pulse red.



4.2.4. Connected Area

This area indicates the status of the WiFi connection as well as the type of connection protocol chosen as in section 4.1.1.3 fSTOP Wifi Mode.

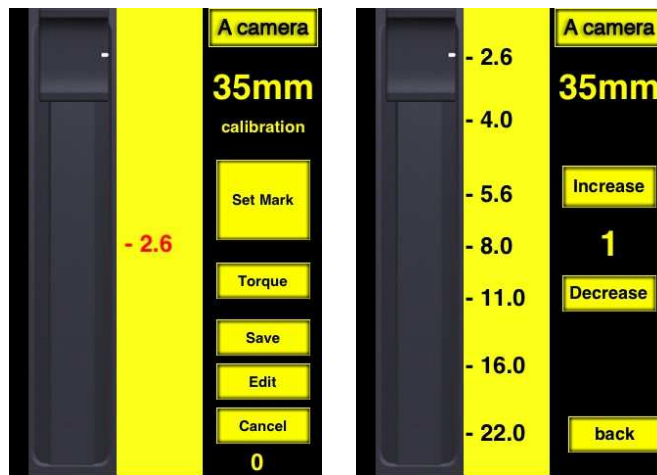
The status indicators are **NOT CONNECTED**, **CONNECTING TO DEVICE**, **CONNECTED NO MOTOR** and **CONNECTED Motor Calibrated** as shown below. (If in **Security Mode** otherwise it will always green and say **Long Range Mode**.)



4.2.5. Torque

The **Torque** menu within the **calibrate** section will allow you to set the torque of the motor from 1 to 100% in 5% increments. This is to allow for greater positional accuracy of stiffer lenses. To change the torque just tap on the **Increase** or **Decrease** buttons and hit **Back**. The setting will automatically be saved when you leave.

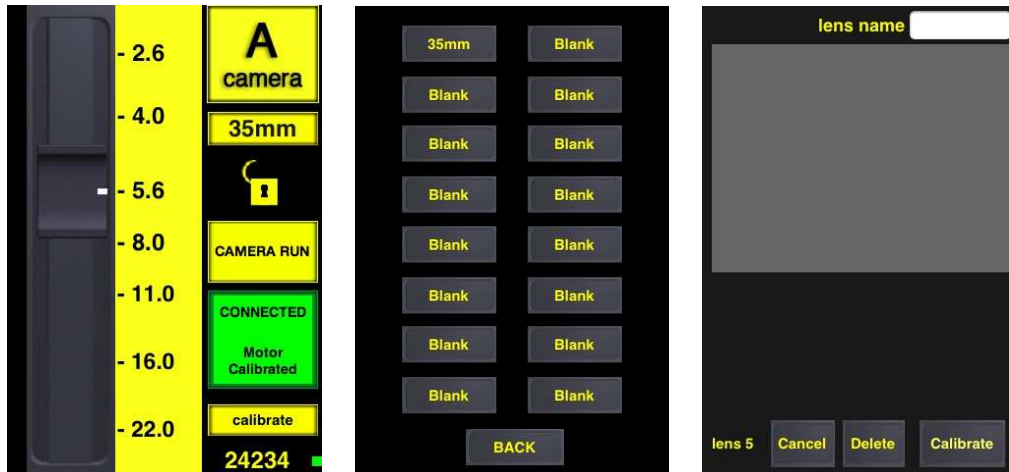
****Set the Torque to at least 50% when you are going to calibrate the Lens for more accurate lens marks. After the lens is calibrated you can adjust the Torque to your needs.****



Note: The higher the Torque the noisier the motor will be.

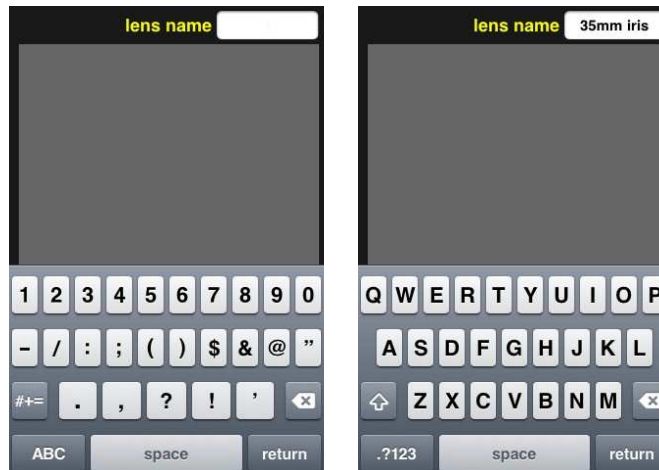
4.2.6. New Lens File Creation

Tap on the Lens icon, **35mm** in this case, below the **A camera** button and tap on a **Blank** button.



4.2.6.1. Lens Name

Once in this section tap on the white area following **lens name** and enter the type of lens e.g. 4:1, 35mm, etc..



4.2.6.2. Lens Marks

In the gray area enter the focus, iris or zoom marks, tapping **return** after each one. There are 16 lens mark spaces that you can use. When finished tap on **done** in the upper left corner. Then tap on the **Calibrate** button.

***Entering 99 will show up as INF in the main screen.**

***To enter fractions use a space and forward slash e.g. 1 2/3.**

***To enter Feet and Inches use a space between the numbers e.g. 1 2**



4.2.6.3. Calibrate

In **Calibrate** move the slider until the motor has moved the indicator on the camera lens directly over to the first physical mark and tap on the **Set Mark** button. After you have tapped on **Set Mark** the mark (i.e. 2.6) will turn from red to black indicating it is set.

Note: This may not be where the mark on the yellow bar (i.e. 2.6) is in the WirelessIris application.

Slide your finger up the yellow bar to get to the next mark to be set. Move the motor to this physical mark and tap on **Set Mark**. Continue setting each mark until all of the marks have been setup and tap on the **Save** button.

****Note: Ensure that Torque is set to at least 50% when calibrating.**



5. Connector Pinouts

5.1. Power (10-30V) Camera ON/OFF Connector

Hirose# HR10A-10R-10S(72)

2	Transmit (Tx)
3	Receive (Rx)
4	Camera (ON/OFF) contact closure
5	Camera (ON/OFF) contact closure
6 & 7	Power (10 – 30V)
9 & 10	Ground

Plug for making cables **Hirose# HR10A-10P-10P(74)**

5.2. Digital Motor Connector

Lemo# EGG.1B.307.CLL

1	Motor –
2	Motor +
3	Chan A Encoder
4	VCC +5V
5	Ground
6	Chan B Encoder
7	Motor Detect

Plug for making cables **Lemo# FGG.1B.307.CLAD52**

6. Specifications

	Min.	Avg.	Max.
Case Size w/antenna	115.9 x 53.6 x 23 mm (4.56" x 2.11" x .92")		
Weight	136g (4 3/4 oz)		
Temperature Range degC (F)	-40(-40)		+85(185)
Input Voltage	12		30
Range (yards)		~200	
Motors Tested	Preston	DM1, DM1X	
		DM2	
	Haden	Digital Motors	
	Scorpio	Digital Motors	
	Motor purchased separately from respective companies above		
iPod/iPhone/iPad Application	Minimum iPod Touch/iPhone Software OS 2.2.1 or higher		

7. Quick Start

- Plug the power Cable into the **fSTOP Wireless Receiver**.
- Plug the motor cable into the motor and then into **the fSTOP Wireless Receiver**.
- Ensure that the **Security Switch** is **ON**.
- When the motor moves let it rotate in that direction and stop it, then let it move in the other direction and then stop it. Let the motor move one full rotation in each direction at the very least.
- In Settings/ WirelessIris enter the IP Address and Device indicated on the side of the **fSTOP Wireless Receiver**. (Laser engraved on the Case)
- Ensure that **Wifi Mode** is set to **Security**.
- In Settings/Wi-Fi, turn Wi-Fi **ON**.
- In Settings/Wi-Fi choose the appropriate network i.e. A_Cam_ch1, and confirm that it is connected and set to Static with settings as follows
 - IP Address: 169.254.100.100
 - Subnet Mask: 255.255.0.0
 - Router: (the IP Addr indicated on the side of the **fSTOP Wireless Receiver**).
- Enter the **WirelessIris** application and once the red **Not Connected** indicator changes to green **Connected** move the slider up and down.

8. Troubleshooting

8.1. Connectivity

Why does my iPhone[®], iPod Touch[®] or iPad[®] sometime lose network connectivity after coming out of sleep mode (black screen)?

If your iPhone[®], iPod Touch[®] or iPad[®] is off or in sleep mode (black screen) for any period of time you may loose connectivity with your **fSTOP Wireless Receiver**. Two reasons are:

The iPhone[®], iPod Touch[®] or iPad[®] may have connected to another known network or the 3G network. Simply go into Settings/Wi-Fi and reconnect to the network.

The **iPhone™** or **iPod™** Wi-Fi Network under Settings is set to **DHCP** instead of **Static**. The network needs to be set up as **Static** Go to **4.1.2.2 IP Address Setting** for more information.

8.2. Inaccurate Lens Marks

Why are my Lens Marks not accurate?

When you calibrate the lens markings on the motor in the calibrate menu is highly recommended that the Torque in the Torque menu be set to at least 50%.

During regular operation you may also have to increase the torque of your motor. This may make the motor louder but its positioning will be more accurate. Go to **4.2.1 Torque** for more information.

8.3. Range Issues

How can I increase the Range of the **fSTOP Wireless Receiver**?

All Radio receivers are susceptible for R.F. interference and this is the most common cause of reduced range. Some suggestions are:

- Mount the **fSTOP Wireless Receiver** antenna as far away from any other antennas on the camera.
- Change the channel on the **fSTOP Wireless Receiver** to a different channel see **3.2. fSTOP Switch Settings**.

9. Limited Warranty

PLC Electronic Solutions Ltd. Warrants this equipment for 1 year from the date of original purchase against defects in materials or workmanship, provided it was purchased from an authorized dealer. This warranty does not cover equipment, which has been abused or damaged by careless handling or shipping, nor does it cover products subjected to customer alteration, modification, negligence or misuse. This warranty does not apply to used or demonstrator equipment.

Should any defect develop within the warranted time period, PLC Electronic Solutions Ltd. will at its sole option, repair or replace the defective instrument without charge. To obtain warranty service, the defective instrument must be returned within 1 year from original purchase date to PLC Electronic Solutions Ltd., along with a brief description of the issue claimed.

10. Technical Support

Address any technical question to:



PLC Electronic Solutions Ltd.

9-3871 North Fraser Way

Burnaby, BC V5J 5G6

Tel: 1-877-832-3576 (M-F 9:00 am/ 5:00 pm PST)

Tel: 604-708-3502

e-mail: info@plcelectronicsolutions.com

At PLC Electronic Solutions Ltd we continually enhance our products based on customer feedback and requests. We will endeavor to add new features based on your input as end users of our products.

Please email us with your feedback or feature requests at:

info@plcelectronicsolutions.com

Be sure to check for software updates of the WirelessIris App.