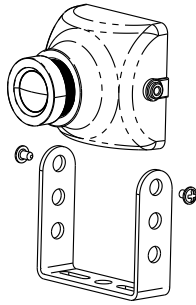


**600TVL/650TVL  
CCD Mini FPV Camera**

**Instruction Manual**



**WARNING:** Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

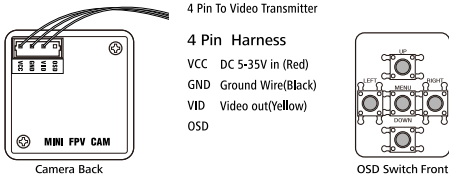


*Age Recommendation:  
Not for children under 14 years. This is not a toy.*

**NOTICE:** This product is only intended for use with unmanned, hobby-grade, remote-controlled vehicles and aircraft. FOXEEER disclaims all liability outside of the intended purpose and will not provide warranty service related thereto.

**SUPPORT:** Visit [www.foxeer.com/support](http://www.foxeer.com/support) to get more information.

**CAMERA-OSD SWITCH CONNECTION**



**CAUTION:** If you are using ESC's with active braking, we recommend powering the camera system through a BEC or voltage regulator.

**CAMERA-VIDEO TRANSMITTER CONNECTION**

To connect the camera directly to the video transmitter, plug the 4 pin wiring harness from the video transmitter into the camera leaving the OSD pin open.

**OSD MENU**

**MENU:** Push MENU (center button) to go to the main menu.  
**UP/DOWN:** Move up and down through the menu.  
**Left/Right:** Modify the menu parameters.

**1. Lens**

This function is used to adjust the brightness of the screen.

1. MANUAL: For use with a manual iris lens.
2. DC: For use with a DC drive auto iris lens.
3. VIDEO: For use with a video drive auto iris lens.

SETUP	
LENS	MANUAL
EXPOSURE	↵
WHITE BAL.	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO↵
DPC	↵
SPECIAL	↵
RESET	↵
EXIT	↵

**2. EXPOSURE**

1.SHUTTER- Condition and speed control

- Auto: Shutter speed is controlled automatically according to the brightness of the scene.
- FIXED: Select shutter speeds from 1/50 to 1/100000.
- FLK: Select when flickering occurs due to imbalance between illumination and frequency. PAL Mode: 1/100, NTSC Mode: 1/120.

SETUP	
LENS	MANUAL
EXPOSURE	↵
WHITE BAL.	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO↵
DPC	↵
SPECIAL	↵
RESET	↵
EXIT	↵

EXPOSURE	
SHUTTER	AUTO
BRIGHTNESS	050
AGC	---
DWDR	OFF
RETURN	RET↵

2. BRIGHTNESS- Adjust brightness from 0-255
3. AGC- Depending on lightness of surroundings select HIGH, MID, LOW or OFF.
4. DWDR- Depending on lightness of surroundings turn OFF or ON (Adjust brightness from 0-63).

**3 WHITE BAL (WHITE BALANCE)**

1. ATW (Auto Tracking White Balance)
  - Ideal for color temps from 1800°K~10500°K ( fluorescent light, outdoor, sodium vapor lamp, etc.)

SETUP	
LENS	MANUAL
EXPOSURE	↵
WHITE BAL.	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO↵
DPC	↵
SPECIAL	↵
RESET	↵
EXIT	↵

2. MANUAL- Select ATW and change to Manual mode.

- Red 0~255
- Blue 0~255

Select RETURN when finished.

**4. BACKLIGHT**

1. BLC ( Backlight Compensation)

Use when there is a strong backlight behind the object, clear images of the background as well as the object can still be obtained.

SETUP	
LENS	MANUAL
EXPOSURE	↵
WHITE BAL.	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO↵
DPC	↵
SPECIAL	↵
RESET	↵
EXIT	↵

2. HLC

Adjust level from 0~255. There are two options: night only, all day.

## 5. Day & Night

Day & Night switch is specially designed for different occasions. There are four kinds of modes.

- Auto mode
- Color mode
- B/W mode
- External switch

### 1. Color to B/W

When in External Control this can't be adjusted. This is color to B/W accumulated light intensity, when it reach "alternating light" state, camera could be damaged by frequent switch. It might cause to not correct judgment of image and reduction of span life of the device.

### 2. B/W TO COLOR

When in External Control this can't be adjusted. This is B/W to color accumulated light intensity, when it reach "alternating light" state, camera could be damaged by frequent switch. It might cause to not correct judgment of image and reduction of span life of the device.

### 3. DELAY TIME

Delay before color state begins to alternate.

SETUP	
LENS	MANUAL
EXPOSURE	↓
WHITE_BAL	ATW1
BACKLIGHT	OFF
▶ DAY&NIGHT	AUTO ↓
DPC	↓
SPECIAL	↓
RESET	↓
EXIT	

## 6. DPC

Set the black point and white point as auto-completion-point numbers.

SETUP	
LENS	MANUAL
EXPOSURE	↓
WHITE_BAL	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO ↓
▶ DPC	↓
SPECIAL	↓
RESET	↓
EXIT	

## 7. SPECIAL

### 1. CAM Title - Set the title background

SETUP	
LENS	MANUAL
EXPOSURE	↓
WHITE_BAL	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO ↓
DPC	↓
▶ SPECIAL	↓
RESET	↓
EXIT	

### 2. MOITON - Motion detection

Choose the area and press ENTER to confirm. The color of the chosen area will change. Repeat to choose other areas. After 1 second of inactivity it will move to the next menu item.

### 3. PRIVACY - Conceal the areas(OFF/ON)

Conceal the areas where you don't wish to appear on the screen.

- (1) AREA SEL: Set 4 privacy areas.
- (2) AREA STATE: Select AREA STATE ON to conceal AREA selected. OFF to disable Privacy.

(3) LEFT/RIGHT/TOP/BOTTOM: Set the dimension of each privacy area by slider.

(4) COLOR: Select the color of each privacy area by slider.

(5) RETRUN: Return to previous menu.

## 4. PARK LINE - OFF/ON

### 5. IMAGE ADJ

(1) Lens sharp: OFF/ON, adjust from 0~255

(2) 2DNR: OFF/ON

(3) Mirror: switch

(4) FONT COLOR: Adjusted from 0 to 51

(5) CONTRASR: Adjusted from 0 to 255

(6) SHARPNESS: Adjusted from 0 to 255

(7) DISPLAY CRT/LCD

(8) NEG IMAGE: OFF/ON

IMAGE ADJ	
▶ LENS SHAD	ON ↓
2DNR	OFF
MIRROR	↓
FONT COLOR	---
CONTRAST	160
SHARPNESS	024
DISPLAY	CRT ↓
NEG. IMAGE	OFF
RETURN	RET ↓

### 6. COMM ADJ

(1) CAM ID: Set camera ID from 0~255

(2) BAUD RATE: Set camera communication speed from 2400 to 38400

(3) PROTOCOL

(4) DISPLAY ID: OFF/ON

(5) ID POS

COMM ADJ	
▶ CAM ID	001
BAUD RATE	4800
PROTOCOL	FELCO-D
DISPLAY ID	OFF
ID POS	↓
RETURN	RET ↓

## 7. LANGUAGE: ENGLISH/CHINESE

## 8. VERSION

## 8. RESET

### 1. FACTORY

Return to camera's initial setting.

### 2. RETURN

SETUP	
LENS	MANUAL
EXPOSURE	↓
WHITE_BAL	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO ↓
DPC	↓
SPECIAL	↓
▶ RESET	↓
EXIT	

## 9. EXIT

Save all settings and exit to Main Menu.

SETUP	
LENS	MANUAL
EXPOSURE	↓
WHITE_BAL	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO ↓
DPC	↓
SPECIAL	↓
RESET	↓
▶ EXIT	

