

Map-A7R II Full-Frame Mapping Camera

User Manual

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FOXTECH

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Description

Disclaimer

Thank you for purchasing this product. You can log in to the website for the latest product information, technical support and user manual. It is recommended that you download and use the latest version of the user manual. This manual is subject to change without notice.

You can also get product usage information or technical support through official customer service. Due to different production batches, the appearance or function parameters are slightly different and will not affect the normal use of the product.

Please read this statement carefully before using. Once used, it is deemed to be an endorsement and acceptance of the entire contents of this statement. Please read the instruction manual carefully and strictly follow the instructions in this manual to use this product. Foxtech will not be liable for any result or loss caused by improper use, installation, assembly or modification of users.

Intellectual Property

The intellectual property rights of this product and manual are owned by Foxtech. Any organization or individual may not copy, reproduce or distribute in any form without written permission. If you need to quote, you need to indicate the source, and you should not make any modifications, deletions and references to this manual.

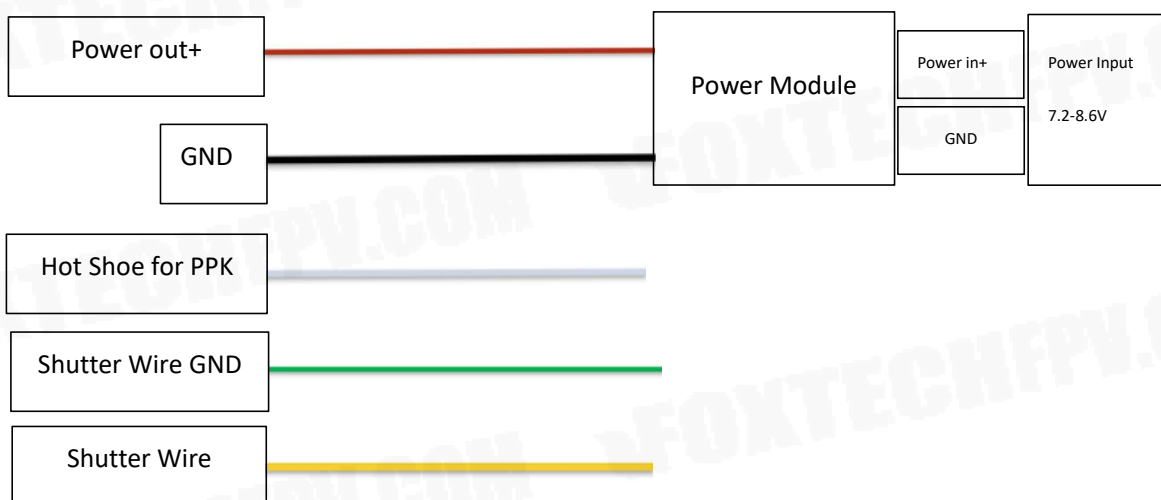
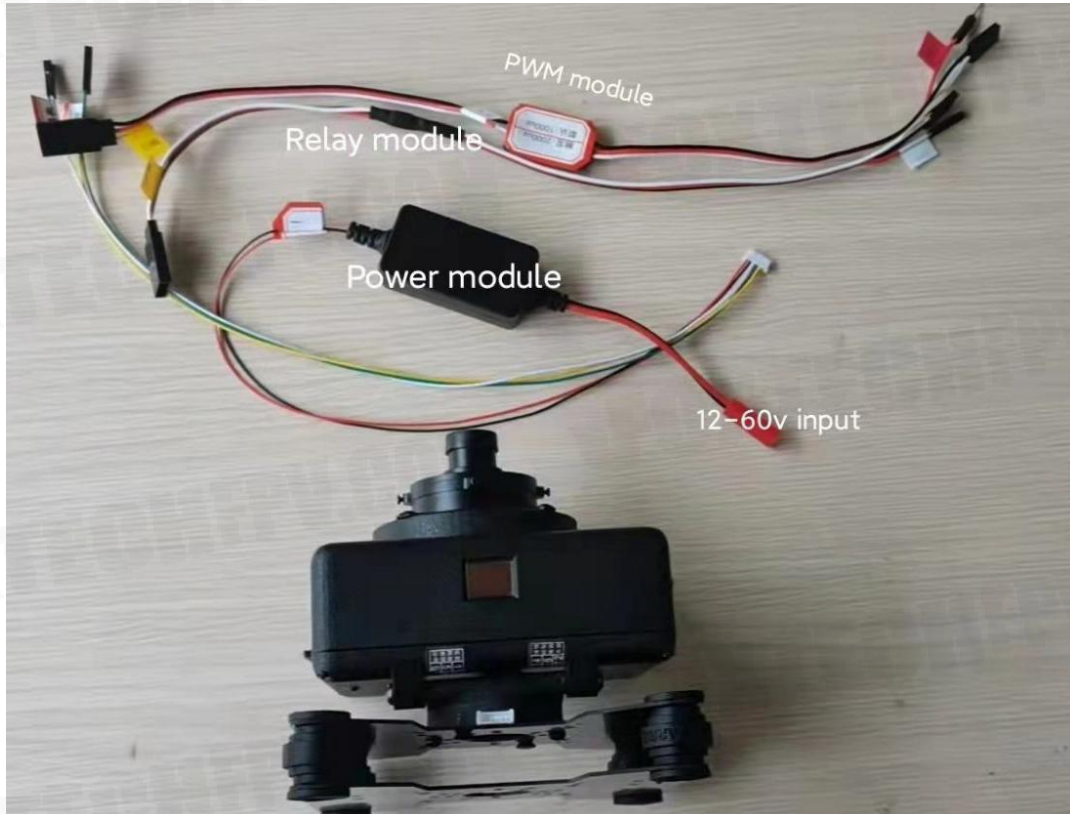
Specification

Product	A7R II
Pixels	42.2 mega pixels
pixel size	4.5μm
Minimum exposure time	0.8s
Sensor size	35.8*23.9mm
Hot shoes for PPK	Support
Image size(pixels)	7952*5304
Shutter speed	30—1/8000
Size	95mm*75mm*43mm
Lens	35mm/40mm/56mm
Power	7.2-8.6V
weight	219g(Standard),234g(PSDK)
Parameter Setting	Button/USB
Date reading	USB/SD card

Interface Definition

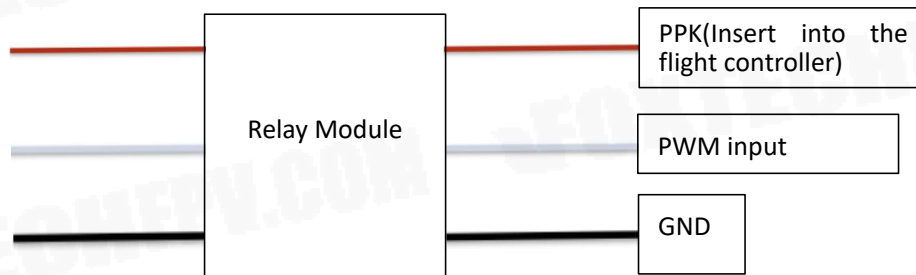


No.	Description	No.	Description
1	POS Card	5	Setting
2	Screen	6	HDMI/USB
3	SkyPort	7	SD Card
4	Restart/Save	8	Menu





PWM module



Operating Instructions

1. The camera will take a picture automatically, then it can be used via flight controller or manually.
2. If the memory card is used for the first time. After camera self-check, insert the memory card into the camera and click “OK” button to format, then it can be used normally.
3. When debugging the camera, it is recommended to connect the camera to the monitor or TV using HDMI wire.

Camera Shutter Setting

Triggered by Relay

1. Connect the shutter release cable to AUX OUT 5 on flight controller. If there is no PPK module, connect the PPK cable to AUX OUT 6 on flight controller.
2. Connect the flight controller to the computer using USB or other data links and open the mission planner.
3. Proceed to the CONFIG > FULL PARAMETER LIST and locate the CAM_TRIGG_TYPE parameter. This parameter must show as “1”. If it is not set to 1, change this parameter to 1 before proceeding to the next step.

CAM_TRIGG_TYPE	1	0: Servo 1 Relay 2: GoPro in Solo Gimbal	how to trigger the camera to take a picture	
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4. Locate the BRD_PWM_COUNT parameter in the same category, and set it to “4”, meaning that only the top four of AUX ports will emit PWM signal.

BRD_PWM_COUNT	4			
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5. Locate the RELAY_PIN in the same category and set its value to “54” which means the shutter release cable connects to the flight controller via AUX OUT 5.

RELAY_PIN	54	1: Disabled 49: BB Blue GPIO pin 4 50: AUX-OUT1 51: AUX-OUT2 52: AUX-OUT3 53: AUX-OUT4 54: AUX-OUT5 55: AUX-OUT6 57: BB Blue GPIO pin 3 113: BB Blue GPIO pin 5 116: BB Blue GPIO pin 5 27: BBMini Pin P6.17	Digital pin number for first relay control. This is the pin used for camera control.	
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6. Locate the CAM_FEEDBACK_PIN parameter in the same category, and set it to “55”, which means the PPK module connects to flight controller via AUX OUT 6.

CAM_FEEDBACK_PIN	55	1: Disabled 50: AUX1 51: AUX2 52: AUX3 53: AUX4 54: AUX5 55: AUX6	pin number to use for save accurate camera feedback messages. If set to -1 then don't use a pin flag for this, otherwise this is a pin number which if held high after a picture trigger order, will save camera messages when camera really takes a picture. A universal camera hot shoe is needed. The pin should be held high for at least 2 milliseconds for reliable trigger detection. See also the CAM_FEEDBACK_POL option.	
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Triggered by PWM signal

1. Connect the shutter release cable to AUX OUT 5 on flight controller. If there is no PPK module, connect the PPK cable to AUX OUT 6 on flight controller.
2. Connect the flight controller to the computer using USB or other data links and open the mission planner.
3. Proceed to the CONFIG > FULL PARAMETER LIST and reset these four parameters:

Param	Value	Unit	Min	Max	Description	Factory
CAM_AUTO_ONLY	0	no	0	1	When enabled, triggering by distance is done in AUTO mode only.	
CAM_DURATION	10	sec	0	10	How long the shutter will be held open in 1/10th of a second (e.g. 10sec = 1000ms, 50sec = 5000ms).	
CAM_FEEDBACK_PIN	55	no	1	55	pin number to use for save accurate camera feedback messages. If set to -1 then don't use a pin flag for this, otherwise this is a pin number which if held high after a picture trigger order, will save camera messages when camera really takes a picture. A universal camera hot shoe is needed. The pin should be held high for at least 2 milliseconds for reliable trigger detection. See also the CAM_FEEDBACK_POL option.	
CAM_FEEDBACK_POL	1	no	0	1	Polarity for feedback pin. If set to 1 then the feedback pin should go high on trigger. If set to 0 then it should go low.	
CAM_MIN_ROLL	0	deg	0	180	Postpone shooting if roll is greater than limit. (0=Disable, will shoot regardless of roll).	
CAM_MIN_PITCH	0	deg	0	180	Postpone shooting if pitch is greater than limit. (0=Disable, will shoot regardless of pitch).	
CAM_MIN_YAW	0	deg	0	360	Postpone shooting if yaw is greater than limit. (0=Disable, will shoot regardless of yaw).	
CAM_RELAY_PIN	54	no	1	54	Pin number for first relay control. This is the pin used for camera control.	
CAM_RELAY_ON	1	no	0	1	Pin number to use for save accurate camera feedback messages. If set to -1 then don't use a pin flag for this, otherwise this is a pin number which if held high after a picture trigger order, will save camera messages when camera really takes a picture. A universal camera hot shoe is needed. The pin should be held high for at least 2 milliseconds for reliable trigger detection. See also the CAM_FEEDBACK_POL option.	
CAM_RELAY_OFF	116	no	0	116	Pin number to use for save accurate camera feedback messages. If set to -1 then don't use a pin flag for this, otherwise this is a pin number which if held high after a picture trigger order, will save camera messages when camera really takes a picture. A universal camera hot shoe is needed. The pin should be held high for at least 2 milliseconds for reliable trigger detection. See also the CAM_FEEDBACK_POL option.	
CAM_RELAY_ON	116	no	0	116	Pin number to use for save accurate camera feedback messages. If set to -1 then don't use a pin flag for this, otherwise this is a pin number which if held high after a picture trigger order, will save camera messages when camera really takes a picture. A universal camera hot shoe is needed. The pin should be held high for at least 2 milliseconds for reliable trigger detection. See also the CAM_FEEDBACK_POL option.	
CAM_TRIGG_DIST	0	m	0	1000	Distance in meters between camera trigger. If the value is 0 then the camera will trigger whenever the position changes by the number of meters regardless of what mode the AP is in. Note that this parameter can also be set in an auto mission using the DO_SET_CAM_TRIGG_DIST command, allowing you to enable/disable the triggering of the camera during the flight.	
CAM_TRIGG_TYPE	0	no	0	0	How to trigger the camera to take a picture.	
CAM_TYPE	0	no	0	0	Set the camera type that is being used. Custom cameras have custom functions that need further configuration. This enables that.	

4. Set the value of BRD_PWM_COUNT in the same category to “5”, meaning that only the top five of AUX ports will emit PWM signal.

BRD_PWM_COUNT	5
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5. Locate the SERVO13_FUNCTION in the same category and set its value to “10” which means the shutter release cable connects to the flight controller 13 port.

SERVO13_FUNCTION	10	Function assigned to this servo. Setting this to Disabled will setup this output for control by auto mixers or MAVLink servo set commands, any other value will enable the corresponding function.	■
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6. Locate the CAM_FEEDBACK_PIN parameter in the same category, and set it to “55”, which means the PPK module connects to flight controller via AUX OUT 6.

CAM_FEEDBACK_PIN	55	pin number to use for save accurate camera feedback messages. If set to -1 then don't use a pin flag for this; otherwise this is a pin number which if held high after a picture trigger order, will save camera messages when camera really takes a picture. A universal camera hot shoe is needed. The pin should be held high for at least 2 milliseconds for reliable trigger detection. See also the CAM_FEEDBACK_PULSLEN parameter.	■
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Setting camera on APP and PC

<https://helpguide.sony.net/ilc/1520/v1/en/index.html>

Imaging Edge Mobile for Android

https://www.foxtechfpv.com/product/cameras/map-a7r-2/imaging_edge_mobile_7.6.0.apk

Please download Imaging Edge Mobile(for IOS) in APP Store.

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