ROCWARE RC17/RC18 Camera

User Manual

English (V1.2)

Copyright Notice

⚠ Warning

This is class A production. Electromagnetic radiation at specific frequencies may affect the image quality of TV in home environment.

Catalogue

1 Note

● **Electric Safety**

Installation and operation must accord with electric safety standard.

● **Caution to Transport**

Avoid stress, vibration or soakage in transport, storage and installation.

● **Careful Installation**

The product should be placed on smooth desktop. The shell of product is an organic material and is strictly prohibited from contact with any liquid, gas or solid material that may cause corrosion to the shell.

● **Do not Disassemble the Camera**

This product has no parts which can be repaired by the user. The damage caused by the user's own disassembly is not covered by warranty.

 Warning

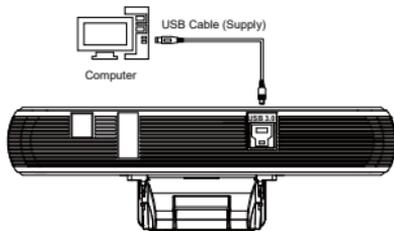Specific frequencies of electromagnetic field may affect the image of the camera!

2 Accessories

When unpacking the package, check that all the following accessories are included:

Name	Quantity
Camera	1
USB Cable	1
Remote Control	1
User Manual	1

3 Quick Start

Please check the connections are correct before starting.

4 About Product

4.1 Features

● **4K UHD**

Support 4K UHD with resolution up to 4K@30fps/25fps encoding output, and downward compatible with 1080P and 720P etc.

● **USB 3.0**

The full-featured USB 3.0 interface integrates power supply, video and audio.

● **Lens**

Small lens, wide vision. Support EPTZ (panning and zooming), more enlarged, more clearly.

● **Built-in Microphone**

Built-in microphone array, omnidirectional pickup distance up to 6 meters. Support the unique noise suppression algorithm and makes your voice perfect.

- **Auto Frame Selection**

The built-in intelligent automatic viewfinder AI algorithm, combined with face recognition which can automatically adjust the camera to obtain the best composition as the personnel seat of the meeting room changes.

- **Speaker Tracking**

The built-in intelligent analysis algorithm supports audible position identification and intelligent linkage EPTZ function, the speaker can be automatically tracked, and it intelligently switches the speaker screen to ensure that the speaker is always clear in the screen.

- **AI Tracking**

Use the deep learning technology to extract the target's characteristics and realize the smooth tracking no matter where the face is facing. It is suitable for application scenarios such as presenter automatic tracking and can flexibly select tracking targets.

- **Low Illumination**

New CMOS image sensor with ultra-high SNR can effectively reduce the image noise under low illumination. The application of 2D and 3D noise reduction algorithm greatly reduces the image noise even under the condition of ultra-low illumination, it keeps the picture clean and clear, and the SNR of image is as high as 55dB.

- **Easy Installation**

The supplied damping rotating support can work with almost 100% of the displays on market; it's easy to install, stable & reliable.

4.2 Product Specification

Name	ROCWARE RC17/RC18
Camera	
Sensor	1/2.5'', CMOS, Effective Pixel: 8.29M
Scanning Mode	Progressive
Lens Mount	M12
Lens	RC17: Focus: f=2.8mm
	RC18: Focus: f=3.5mm
Minimal Illumination	RC17: 0.5 Lux @ (F2.5, AGC ON)
	RC18: 0.5 Lux @ (F2.0, AGC ON)
Shutter	1/30s ~ 1/10000s
White Balance	Auto, Indoor, Outdoor, One Push, Manual
Digital Noise Reduction	2D&3D Digital Noise Reduction
Backlight Compensation	Support
Digital Zoom	8x
USB Features	
Operate System	Windows 7/8/10, Linux, MacOS

Color/ Compression	YUY2/MJPG/H.264
USB Protocol	UVC 1.1
UVC PTZ	Support (EPTZ)
Input/Output Interface	
USB Interface	1 x USB 3.0: Type B, Female
Physical Parameter	
Input Voltage	5V (USB Power Supply)
Input Current	0.6A
Operating Temperature	-10°C ~ 40°C
Storage Temperature	-40°C ~ 60°C
Power Consumption	3W
Dimension (mm)	194 x 34 x 42 (without bracket)
Net Weight	0.5Kg

Item	Name
1	USB 3.0 Interface

4.4 Dimension
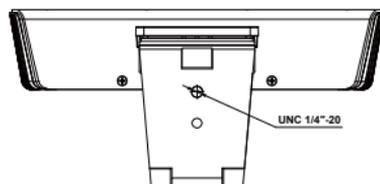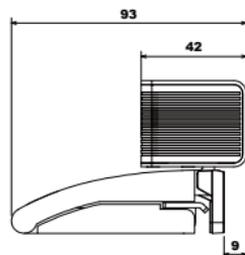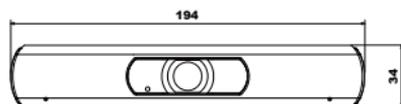
4.3 Interface and Button
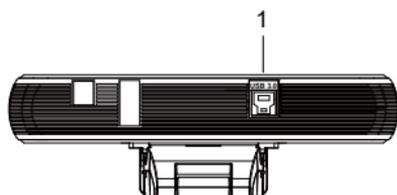
4.5 Remote Control

Key Description

1. ⏻ (Standby) Key

Press to enter standby mode. Press again to resume to normal mode.

Note: The power consumption in standby mode is approximately half of that in normal mode.

2. Number Key

To set preset or call preset.

3. * Key

Use with other keys.

4. PRESET Key

Set preset: Store a preset position.

[PRESET] + Number key (0-9): Set a corresponding preset position.

5. HOME Key

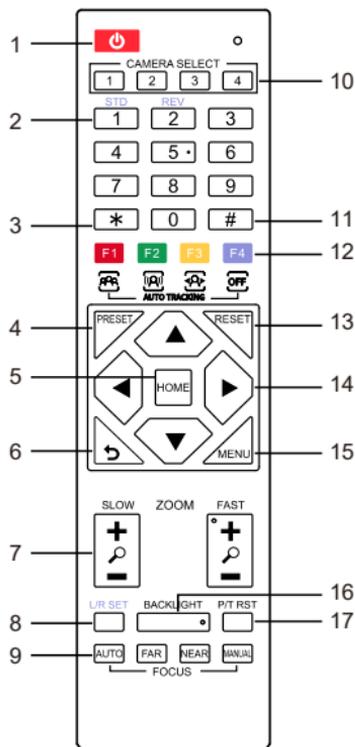Confirm selection or press to turn PTZ back to the middle position.

6. ↩ (Return) Key

Press to return to the previous menu.

7. ZOOM Key

● SLOW: Zoom In [+] or Zoom Out [-] slowly.
● FAST: Zoom In [+] or Zoom Out [-] fast.

8. L/R SET Key (for PTZ device)

Press with 1 or 2 key to set the direction of the Pan-Tilt.

● Simultaneously press L/R SET + 1 [STD]: Set the Pan-Tilt to turn same direction as the PTZ control key.
● Simultaneously press L/R SET + 2 [REV]: Set the Pan-Tilt to turn opposite direction as the PTZ control key.

9. FOCUS Key (for PTZ device)

Focus adjustment:
Press [AUTO] to adjust the focus automatically.
Press [MANUAL] to adjust the focus manually.
When in manual focus mode, press [FAR] to focus on far object or [NEAR] to focus on near object.

10. CAMERA SELECT Key

Camera selection:
Press to select and control the camera.

11. # Key

Use with other keys.

12. IR Remote Control Key
[*] + [#] + [F1]: Address 1
[*] + [#] + [F2]: Address 2
[*] + [#] + [F3]: Address 3
[*] + [#] + [F4]: Address 4
13. RESET Key
Clear the preset position: [RESET] + Number key (0-9).
14. PTZ Control Key (for PTZ device)
After zooming, press arrow button to perform panning and tilting. Press [HOME] button to face the camera back to front.
15. MENU Key
Enter or exit OSD MENU.
16. BACKLIGHT Key
Backlight ON/OFF: Press repeatedly to enable or disable the backlight compensation. NOTE: ● Effective only in exposure auto mode. ● If there is a light behind the subject, the subject will become dark, press the backlight key to enable the backlight compensation. Press again to disable this function.
17. PTZ Reset Key
It only applicable to the PTZ camera.
Shortcut Set
F1: Press to open the automatic frame selection. F2: Press to open the speaker tracking. F3: Press to open the person tracking. F4: Press to close the tracking mode and tracking effect. ◀ / ▶: Press to select the target when in non-menu state and the person tracking mode is enabled.

5 GUI Settings

5.1 MENU

Press [MENU] key to display the main menu on the screen. Use the arrow key to move the cursor to desired item and press the [HOME] key to confirm to enter the corresponding sub-menu.

```
              MENU
    ▶    Exposure
         Color
         Image
         Noise Reduction
         Setting
         Information
         Restore Default
         Exit
```

5.2 EXPOSURE

When in main menu page, move the cursor to [Exposure] and press [HOME] key to confirm to enter the exposure page as shown in below figure.

```
            EXPOSURE
    ▶   Mode            Full Auto
        ExpCompMode     Off
        Gain Limit      6
        Backlight       Off
        DRC Strength    0
        Anti Flicker    50Hz
        Return
```

Mode: Full Auto, Shutter Priority, Bright.

Shutter: 1/30s, 1/60s, 1/90s, 1/100s, 1/125s, 1/200s, 1/250s, 1/350s, 1/500s, 1/725s, 1/1000s, 1/1500s, 1/2000s, 1/3000s, 1/4000s, 1/6000s, 1/10000s (Effective in Shutter Priority mode).

ExpCompMode: On, Off (Effective in Full Auto mode).

ExpComp (Exposure Compensation Value): -7 ~ 7 (Effective in ExpCompMode On).

Gain Limit (Maximum Gain Limit): 0 ~ 15 (Effective in Full Auto, Bright mode).

Backlight: On, Off (Effective in Full Auto, Bright mode).

Bright: 0 ~ 17 (Effective in Bright mode).

DRC Strength (Dynamic Range Control): 0 ~ 8.

Anti Flicker: Off, 50Hz, 60Hz (Effective in Full Auto, Bright mode).

5.3 COLOR

When in main menu page, move the cursor to [Color] and press [HOME] key to confirm to enter the color page as shown as below.

```
           COLOR
  ▶   WB Mode        Auto
      AWB Sens       High
      RG Tuning      0
      BG Tuning      2
      Saturation     100%
      Hue            7
      Return
```

WB-Mode (White Balance Mode): Auto, Indoor, Outdoor, One Push, Manual.
AWB Sens (The White Balance Sensitivity): Low, Middle, High.

R Gain (Red Gain): 0 ~ 255 (Effective in Manual mode).
B Gain (Blue Gain): 0 ~ 255 (Effective in Manual mode).
Colortemp: 2500K ~ 8000K (Effective in VAR mode).
RG Tuning (Red Gain Tuning): -10 ~ +10 (Effective in Auto, One Push, VAR mode).
BG Tuning (Blue Gain Tuning): -10 ~ +10 (Effective in Auto, One Push, VAR mode).
Saturation: 60% ~ 200%.
Hue: 0 ~ 14.

5.4 IMAGE

When in main menu page, move the cursor to [Image] and press [HOME] key to confirm to enter the image page as shown in below figure.

```
           IMAGE
  ▶   Luminance      7
      Contrast       8
      Sharpness      3
      Flip-H         Off
      Flip-V         Off
      Gamma          EXT
      Style          Default
      LDC            10
      Return
```

Luminance: 0 ~ 14.
Contrast: 0 ~ 14.
Sharpness: Auto, 0 ~ 14.
Flip-H (Flipped Horizontally): On, Off.
Flip-V (Flip Vertical): On, Off.
Gamma: EXT, Default, 0.45, 0.5, 0.56, 0.63.

Style: Default, Norm, Clarity, Bright, PC, Clarity (LED), Face.

LDC (Lens Distortion Correction): Off, -10 ~ 10.

5.5 NOISE REDUCTION

When in main menu page, move the cursor to [Noise Reduction] and press [HOME] key to enter the noise reduction page as shown in below figure.

NOISE REDUCTION	
▶ 2D NR	Close
3D NR	2
Return	

2D NR (2D Noise Reduction): Close, Auto, 1 ~ 5.

3D NR (3D Noise Reduction): Close, 1 ~ 8.

5.6 SETTING

When in main menu page, move the cursor to [Setting] and press [HOME] key to enter the setting page as shown in below figure.

SETTING	
▶ Language	English
EPTZ	On
Zoom Limit	3x
Uvc EXT Setting	
Return	

Language: English, Chinese, French.

EPTZ: On, Off.

Zoom Limit: 1.5x, 2x, 3x, 4x, 8x (Effective in EPTZ item On).

Uvc EXT Setting: Enable or disable the H264, Bulk and Audio.

5.7 INFORMATION

When in main menu page, move the cursor to [Information] and press [HOME] key to confirm to enter the information page to check the product information as shown in below figure.

INFORMATION	
Version	8.4.062
Model	O11.V
Date	2020-03-02
▶ Return	

📄 Note

The above information is for reference only, please refer to the real product for the actual specification.

5.8 RESTORE DEFAULT

When in main menu page, move the cursor to [Restore Default] and press [HOME] key to confirm to enter the restore default page as shown in below figure.

RESTORE DEFAULT	
▶ Yes	
No	
Return	

Yes: Select to restore to factory settings.

⚠️ Notice

Press [HOME] key to confirm, all parameters will be restored to factory setting, include the IR Remote Address.

No: Cancel to restore the factory settings.

📄 Note

GUI menu and parameters are subject to change without notice.

6 Maintenance and Troubleshooting

Camera Maintains

- Use soft cloth to clean camera cover.
- Please use the soft dry cloth to clean the lens. If the camera is very dirty, clean it with diluted neuter detergent. Do not use any type of solvents, which may damage the surface.

Unqualified Application

- Do not shooting extreme bright object for a long time, such as sunlight, etc.
- Do not operating in unstable lighting conditions, otherwise image will be flickering.
- Do not operating close to powerful electromagnetic radiation, such as TV or radio transmitters, etc.

Troubleshooting

Image

- Image jitters after the camera is properly connected
1) Check that the camera installation is stable.
2) Check that any vibrating machinery or object near the camera.

Control

- Remote control does not work
1) Check and replace with new batteries.
2) Check that the camera is in normal working mode.
3) Check that the address key of remote control can match the camera.

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