

UM100/200 IP Camera/Encoder Basic User Guide

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1. Hardware Installation

1.1 Check the Contents.

Open the wrapper carefully before using your IP Camera, check the contents. It is composed as the following items:



UM100 IP Camera



UM200 IP Encoder

- A . UM100 IP Camera or UM200 IP Encoder
- B . Power supply
- C . Lens (Optional accessories)
- D . CD with IP Camera Software and documentation
- E . Network cable

If you have found any damage or accessory missing, please contact to your dealer immediately.

1.2 Basic Installation

Step 1. Mount the IP Camera firmly.

Step 2. Decoder of the PTZ controller can be connected via RS485 connector by cable link to GPIO in the back cover panel if necessary. Joint with symbol '+' is linked to the connector RS485+ (A) of the decoder, joint with symbol '-' is linked to RS485- (B) ;

Step 3. Connect the network cable.

Step 4. Plug in the power, the [RUN] LED indicator flashes when IP Camera is working normally; the [LINK] LED indicator turns on when it gets connection to the network correctly. Refer to [Back Cover Layout](#) for detailed descriptions.

Step 5. Refer to Readme.txt located on the installation CD for finding an IP address of the camera.

Step 6. Now you can access the IP Camera by navigating to its IP address in the web browser.

1.3 Back Cover Layout



Back cover layout

A . General Purpose Input/Output port (GPIO)

GPIO can be used to I/O ports of alarm notification, port RS232, port RS485. Factory default setting is 3 ports for alarm input, 2 for alarm output, 1 for RS485 and no RS232. Each of the pins is defined as the following table:

Pin	No RS232 (Default setting)	RS232
1	Alarm Input GPIO1	Alarm Input GPIO1
2	Alarm Input GPIO2	Alarm Input GPIO2
3	Alarm Input GPIO3	Alarm Input GPIO3
4	Alarm Output GPIO4	RS232 Transmit Data
5	Alarm Output GPIO5	RS232 Received Data
+	RS485-A	RS485-A
-	RS485-B	RS485-B
GND	Ground	Ground

Table 2-1 Definitions of GPIO

* 2 Output ports are 0/3.3V TTL level compatible; the I/O driven current is 8mA.

** 3 Input ports are 0/5V TTL level with pull-up resistor can be used to connect with the alarm input sensor.

*** RS485 is used to connect with PTZ control decoder. Bite rate 9600, 1 start bit, 8 data bit, 1 stop bit, and no parity bit. UM series IP Cameras/Encoders support PTZ control protocols of PELCO-D, PELCO-P and B01. You can have them configured using the IP Camera application software. Refer to IP Camera Surveillance System Viewer User's Manual for detailed descriptions.

B . USB port. To connect to an external hard-disk with USB port or a wireless network adaptor (the function is not available now)

C . +12V PWR power input

Single pin ($\phi 2$) Power connector, DC+12V, 800mA, the pin is anode. Power consumption of the camera is 5 Watts maximum

D . AUDIO 4 pins audio port

G : Ground (GND)

I : Audio line level input (LINE IN)

O : Audio line level output (LINE OUT)

V : +12V DC power output, supply the power for an external microphone.

There is a built-in microphone within the camera. It can be configured by the application software whether the audio input signal to use when an external surveillance tone arm is being used.

E . Program running indicator (RUN)

LED in orange color, flashes when power is input to the camera. It flashes each time per second under normal operating.

F . Network indicator (LINK)

LED in green color, shows steady when connection to network, unlit when there is no connection, flashes for network activities.

G . RJ45 network connector (LAN)

1 - TX-P, TxData +

2 - TX-N, TxData -

3 - RX-P, RecvData +

4 - Not used

5 - Not used

6 - RX-N, RecvData -

7 - Not used

8 - Not used

It is recommended to follow Wiring Standards of T568B

1.4 Install the Lens

The IP Camera should be assembled with the lens before operating. Usually you should choose the suitable lens (e.g. fix focal lens, zoom lens, manual iris lens, auto iris lens, standard lens, wide-angle lens, telephoto lens) according to the condition. CS-mount lens mode is the standard type for UM100 series IP Camera, When use C-mount lens, please use the CS-C conversion ring. Make sure to remove the protective cap of the camera and lens first. Mount a lens onto the camera by lightly turning it to the exact position. When auto iris lens is used, connect the plug of the lens (for iris terminal) to the IRIS terminal.

Adjusting the iris and focusing: Aim the camera at a surveillance scene, open the irises to maximum, and turn the focusing ring to obtain the optimum image on the monitor. And then adjust the iris to a proper value according to the illumination and the depth of field in the scene. If the illumination of the scene varies in a wide range, it is recommended using auto iris lens. If manual iris lens is being used, open your iris as much as possible and keep the optimum image when it is the brightest in the scene (for the largest environment illumination). During the adjustment, if the iris has not been wide opened enough in the most brightest moment, the electric shutter of the camera will auto change to the low speed mode, so that to display better image on the monitor. When the environment became darker and the electric shutter was in the slowest mode (1/50s), the image would be dullish to see.

If there is still no clear image after the adjust procedure above, you should adjust the back focus of the camera as following instruction.

1.5 Adjust the Back Focus

Back focus refers to the "focal flange length". This is the distance between the rear lens element and the CCD after mounting on the standard lens (standard C/CS mount lens). The back focus has been well adjusted when the camera shipping from the factory. Yet it still needs adjusting when the zoom lens is being applied. Sometimes you can not obtain clear images when the focusing ring is adjusted to the limit position. Just make sure that you have the correct lens mounted and then adjust the back focus. According to the past experience, the back focus should be adjusted in most application of IP Camera mounted electric zoom lens. Following shows the steps of the adjustment:

- A . Mount a lens onto the camera
- B . Wide open aperture (Reducing the depth of field to obtain the imaging focus)
- C . Set zoom ring to fully TELE position; take a close-up to the subject 10m away. And then turn the focus ring of the lens until the image is clear.
- D . Zoom out to fully WIDE position. The shot with the above subject becomes a wide-angle view and the focus could not be adjusted any more.



- E . Loosen the back-focus ring's fixing screw, and adjust the ring until the picture is clear. Tighten the back-focus fixing screw temporarily.
- F . Set the lens to fully TELE position again to see whether the close-up object is still clear. If not, repeat steps C, D, E, F until the focus is consistently clear.
- G . Usually the adjustment could be finished within repeating the above steps once or twice.
- H . Tighten the back-focus fixing screw.

2. Parameters Configuration

In the "Live View" webpage, Click on "Config" button to configure the parameters.

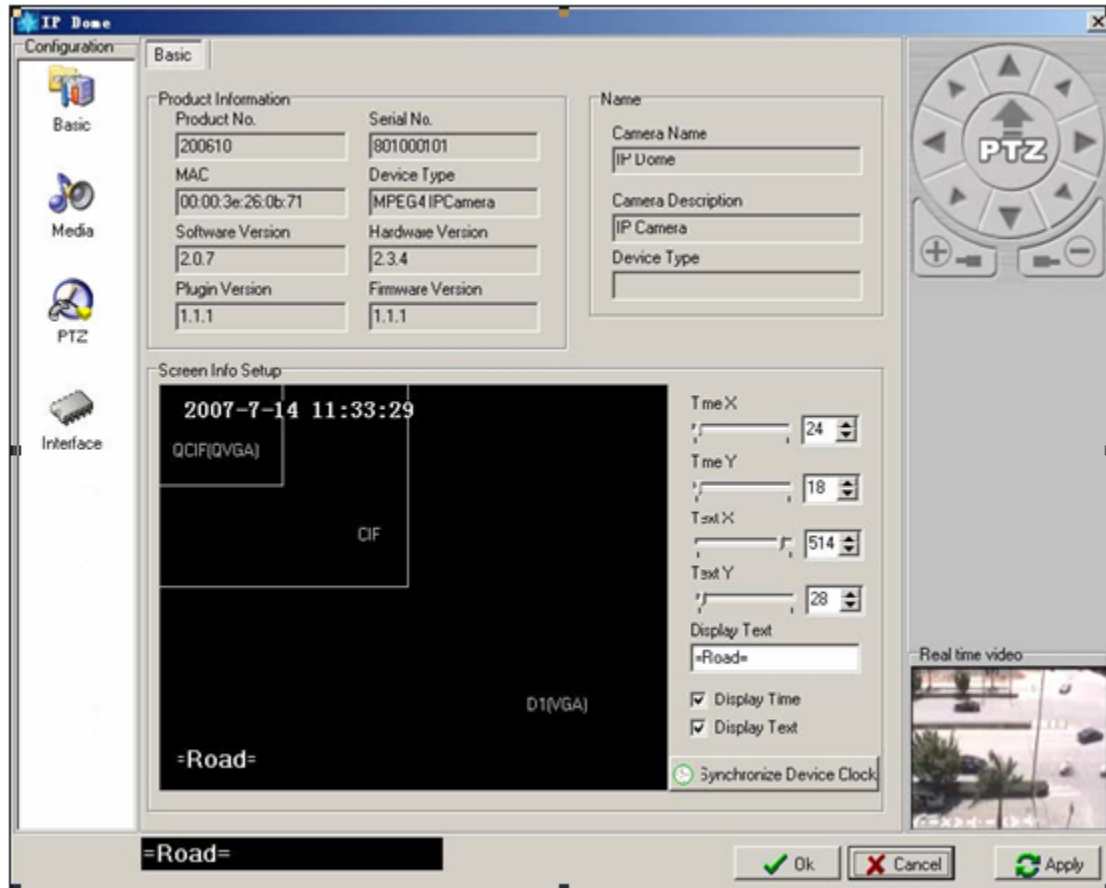


Figure 1.0 Basic Parameter Setting

2.1 Basic Setting

Shown as Figure 1.0, upper of the Basic Setting panel displays the basic information of the device which can not be modified. Main purpose of Basic Setting is to adjust the position of device name and time that show on the screen.

Display time: Time information is auto added to video which is the system clock of current device.

Display text: Name information of a device is auto added to the screen. Device name input by Device Name setting that mentioned in last part would be presented in the text edit box as a default. You can modify it to any content as you wish. Positions of displaying time and text can be adjusted though modifying values of the coordinates. The position can also be adjusted by left-clicking on the text and time to drag. Click "OK".

2.2 Media Setting

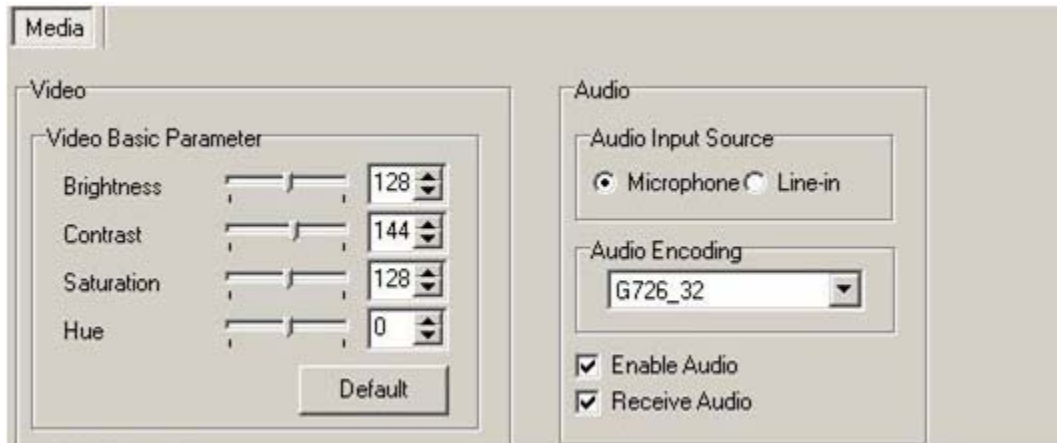


Figure 1.1 Media Parameters Setting

Video Basic Parameters: Set brightness, contrast, hue and saturation of encoded output image and save it to the device. Notice that the setting here is not the display parameter of your display which can be adjust by the buttons on it. The range of each parameter is listed in the following table:

	Minimum	Maximum	Default Value
Brightness	0	255	128
Contrast	0	255	144
Saturation	0	255	128
Hue	-180	+180	0

Table 1.1 Basic Audio/Video Parameters Settings

Audio Input Source: Either of microphone or Line-in can be set for. Build-in microphone will not work when Line-in is selected.

Receive Audio: Make sure to select this item if you need to listen to the voice of the terminal device. The item is saved in your current computer only.

2.3 PTZ Setting

PTZ

PTZ Control

Protocol:

PTZ Address:

Horizontal Speed Limit:

Zoom Speed Limit:

Vertical Speed Limit:

Enable PTZ

Preset & Patrol

Patrol No.:

Preset List

Index	Name
01	Cross
02	Road view
03	Steps
04	Building
29	Test position

Sequence

Preset No.	Preset Name	Stay Time
01	Cross	5
02	Road view	5
03	Steps	10

Preset Stay Time:

Figure 1.3 PTZ Settings

PTZ Control

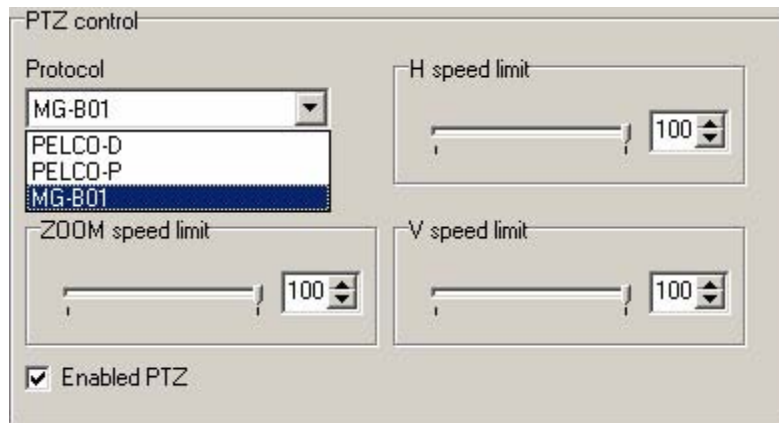


Figure 1.3.1 PTZ control

Protocol: PELCO-D, PELCO-P and MG_B01 protocols is supported in the devices, shown as Figure 2.9.

PTZ Address: This setting should be agreed with the PTZ device. Pay attention to that port RS-485 baud rate should be the same as the PTZ device.

Rotation speed limit of Pan/Tilt is set between 0-100. To high speed dome, it is recommended to set the value in 32 about. If the value is set too large, it is hard to control the dome camera in tracking some objects with high speed rotating to stop in a specific location.

Preset Position and Patrol Settings

Preset Position Setting: Turn the PTZ and adjust the camera to a right position by controlling the PTZ Control Button on the right side. Click "Add a preset position" button, shown as Figure 1.3.2.

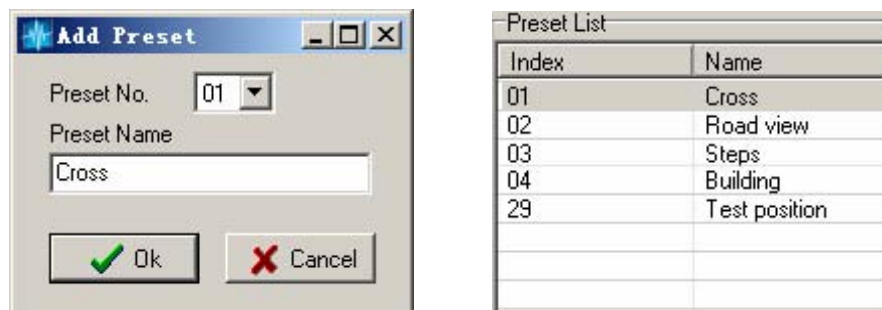


Figure 1.3.2 adding preset position

Choose a preset position number; enter a descriptive name "Cross", click "OK" to save it. Repeat the operation above can set multiple preset positions.

Patrol Setting:

Steps:

- ① Select a patrol number in the drop-down list, shown as Figure 2.12
- ② Select a preset position
- ③ Set a stay time in seconds
- ④ Add this preset position to the patrol sequence

Preset & Patrol

Add Preset Delete Preset

Patrol No. 01

Preset List	
Index	Name
01	Cross
02	Road view
03	Steps
04	Building
29	Test position




Sequence		
Preset No.	Preset Name	Stay Time
01	Cross	5
02	Road view	5
03	Steps	10

Preset Stay Time 1

Insert the preset into patrol

Navigation buttons: Up arrow, Delete (X), Down arrow

Figure 1.3.3 Patrol Setting

Using  &  buttons to arrange the sequence of preset positions in the patrol list.
Press  icon to delete a preset position.

Click "OK" to save the configuration.

2.4 Interface Setting

The image shows a configuration interface with two panels: RS232 and RS485. Each panel contains five dropdown menus for BaudRate, StartBit, DataBit, Parity, and StopBit, and a checkbox for enabling the respective interface. The RS232 panel has its checkbox unchecked, while the RS485 panel has its checkbox checked. All dropdown menus are set to the same values: BaudRate: 9600, StartBit: 1, DataBit: 8, Parity: Non, and StopBit: 1.

Interface	BaudRate	StartBit	DataBit	Parity	StopBit	Enabled
RS232	9600	1	8	Non	1	<input type="checkbox"/>
RS485	9600	1	8	Non	1	<input checked="" type="checkbox"/>

Figure 1.4 Interface Setting

IP Camera connects with the PTZ device and PTZ controller by port RS-485. The data format output by RS-485 is required to match with the PTZ controller. You can configure RS485 data format here.

If you want to use port RS-232, you should configure the data format as well.