Acknowledgement

Thank you very much for purchasing the ATEYE of Network Korea.

- ATEYE Web Camera is developed and produced with only Korean technologies.
- ATEYE Web Camera is marketed and sold after thorough quality verification.
- ATEYE Web Camera guarantees the rights and interests of consumers with perfect customer service.
- ATEYE Web Camera will expand the ranges of your selection with various products.

Customer Service Center

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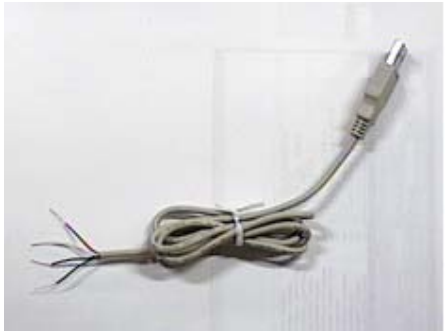
1. ATEYE Web Camera Items & Specifications

1) Items

(1) ATEYE Web Camera

(2) DC 12V 600mA Adaptor

(3) Serial Cable (RS485)



(4) Composite cable(BNC & RCA)

(5) User's Manual

2) Specifications

ATEYE Web Camera

Video Format	NTSC Standard : 525 Lines 30 Frames/sec
Scanning System	1/4 Interline
Effective Total Pixel No.	510(H) * 492(V)
Signal System	525 Lines Interface
Scanning Frequency	Horizontal : 15.734KHz, Vertical : 59.94Hz
Synchronization	Internal Synchronization
Resolution	More than 360 Lines
Signal Output	Analog Composite (1.0Vp-p, 75 ohm)
S/N ratio	More than 48dB
Minimum Illumination	2Lux
Gamma	0.45
Motion range	PAN : 320° TILT : -30° ~ +45°
Maximun Pan Speed	80°/sec
Maximun Tilt Speed	80°/sec
Control Interface	RS485
Preset	64 Positions
Sensor Out	One
Power	DC 12V, 600mA

2. ATEYE Web Camera Installation

1) Setting ATEYE Web Camera

[Figure.1] the 8-bit DIP switch factory setting

1.1) Setting the camera ID

ATEYE Web Camera has an inherent camera ID. The total number of camera ID is 64 from number 0 to number 63. How to set the camera ID is followed.

There is a 8-bit DIP switch in the bottom of ATEYE Web Camera

Among those switches in Figure.1, the pins of number 1-6 are used for setting camera ID.

Number 1 switch is the lowest level bit(LSB) and number 6 is the highest level bit(MSB).

If the switch is set on, the value is “1”, otherwise, it is “0”. (binary number)

Example) In case camera ID is number 5

Switch number 1 => On

Switch number 2 => Off

Switch number 3 => On

Switch number 4 => Off

Switch number 5 => Off

Switch number 6 => Off

That is

101000 => Camera ID is number 5

1.2) Setting the baud rate

ATEYE Web Camera is allowed to use two type of baud rate

;4800[bps], 9600[bps].

Number 7 switch of 8-bit DIP switch is used for that purpose.

If the switch is on, the baud rate is 9600bps, otherwise it is 4800bps.

1.3) Setting the termination

In case that you control more than two ATEYE Web Cameras with one controller, you must set the termination for preventing the control signal being lost.

You can use this by handling the last switch of 8-bit DIP switch at figure.1.

If you use only one ATEYE Web Camera with one controller, the switch must be on,

Otherwise, you must set the switch of one ATEYE Web Camera on and that of the others off.

 the 8-bit DIP switch factory setting is followed.

Camera ID : 1

Baud rate : 9600 bps

Termination : On

2) Composite cable (BNC & RCA)

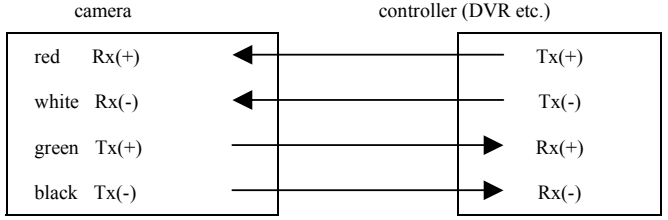
A composite cable (BNC & RCA connector) is used in video out & Alarm out.

It is described the protocol of Alarm out in detail in the next pages.

3) Connection the serial cable

ATEYE Web Camera originally uses RS485 communications.

The color information of serial cable is followed.



It is described the protocol in detail in the next pages

3. ATEYE Web Camera Protocol

Data Length	1 Byte (8 bit)
Start/Stop Bit	1 Bit
Parity Bit	None
Baud rate	4800bps, 9600bps(default)

Protocol Format

start code	Func_num	Data3	Data2	Data1	Data0	Cam_ID	Cam_ID

start code : 0x01

Func_num : Function byte

Data3 ~ Data0 : Data bytes

Cam_ID : Camera ID

Check Sum : Check Sum

Sum = FC_NUM + DATA3 + DATA2 + DATA1 + DATA0 + CAM_ID

Low level byte of Sum is used for Check Sum

example

0x165 = 0x11 + 0x22 + 0x33 + 0x44 + 0x55 + 0x66

Check_sum = 0x65

-. Pan/Tilt Home(send signal once without signal of stopping)

0x01	0x8a	0x00	0x00	0x00	0x00	Cam_ID	Cam_ID

-. LEFT

0x01	0x88	0x10	0x00	0x00	0x00	Cam_ID	Cam_ID

-. RIGHT

0x01	0x88	0x11	0x00	0x00	0x00	Cam_ID	Cam_ID

-. UP

0x01	0x88	0x22	0x00	0x00	0x00	Cam_ID	Cam_ID

- DOWN

0x01	0x88	0x20	0x00	0x00	0x00	Cam_ID	Cam_ID

-. LEFT_UP

0x01	0x88	0x32	0x00	0x00	0x00	Cam_ID	Cam_ID

-. RIGHT_UP

0x01	0x88	0x33	0x00	0x00	0x00	Cam_ID	Cam_ID

-. LEFT_DOWN

0x01	0x88	0x30	0x00	0x00	0x00	Cam_ID	Cam_ID

-. RIGHT_DOWN

0x01	0x88	0x31	0x00	0x00	0x00	Cam_ID	Cam_ID

-. Pan/Tilt Stop

0x01	0x80	0x30	0x00	0x00	0x00	Cam_ID	Cam_ID

Setting 64 Positions in preset

-. assignment(Pos_Num : 0x00 ~ 0x3F)

0x01	0x81	0x01	Pos_Num	0x00	0x00	Cam_ID	Cam_ID

-. moving(Pos_Num : 0x00 ~ 0x3F)

0x01	0x81	0x02	Pos_Num	0x00	0x00	Cam_ID	Cam_ID

Sensor Output(Alarm out)

-. Open

0x01	0x8	0x44	0x00	0x00	0x00	Cam_ID	Cam_ID

-. Close

0x01	0x8	0x40	0x00	0x00	0x00	Cam_ID	Cam_ID

4. Troubleshooting

1) Video output is not shown in the monitor.

- Is the camera's power cable attached correctly?
- Is the BNC cable attached correctly?
- Is the video output format correct? (NTSC, Analog Composite (1.0V p-p, 75ohm))
- In case all the above is correct, but it does not work right, please contact us.

2) Pan/tilt motion of camera does not be controlled.

- Is the camera's power LED of the camera on?
- Is the switch of 8-bit DIP switch set correctly?
- Is the protocol of pan/tilt motion set correctly? (confirm that in chapter 3)
- Is the serial cable connected correctly?
- In case all the above is correct, but it does not work right, please contact us.

FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment of and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.