HD Color Video Camera

TS-0695

User Manual

Please Read This Manual Before Operation

Precautions

Safety Tips

- Please read this manual carefully before use the Camera.
- To avoid damage from stress, violent vibration, soaking during transportation, storage and installation.
- Take care of each components of Camera during installation, and install camera at where is affordable enough, to avoid drop or scratches of camera case.
- Do not apply excessive voltage. (Use only the specified voltage.) Otherwise, you may get an electric shock or a fire may occur.
- Keep the transmission of RS-485, Video signal away from powerful electromagnetic radiation resources.
- Do not shoot images that are extremely bright (e.g., light sources, the sun, etc.) for long periods of time. Do not use or store the camera in the specified extreme conditions. (Please refer to specification sheet of camera.)
- Do not clean camera with active chemical or corrosive detergents, and remove dust or dirt on the surface of the lens with a blower (Commercially available)
- Do not disassemble any camera components, in case of abnormal operation, contact your authorized dealer or the store where you purchased the product.
- After long time operation, these components may get machine wear like Motor, slip ring, you can contact for repair or change, the local dealer or the shop where you bought this camera.

Supplied Accessories

- HD Color Video Camera (1)
- 12V/2.0A DC Power adaptor (1)
- Installation bracket (1) Installation screw (1)
- USB3.0 data lines (3m),serial control line,RS-232C to RS-485 cable
- IR Remote Controller (1)
- User's Manual (1)
-

Main Features

Camera and Lens

Video CMOS Sensor: 1/2.8" Type Exmor CMOS 3.27 Megapixel

Image: 16:9 3.27 pixel

Video Signal:

60Hz mode, camera output 1080p30 as default, support 1080p@30/25/20/15/10/5, 720p, 800x600, 640x480/60/50/30/25/20/15/10/5;

50Hz mode, camera output 1080p@25 as default, support 1080p@25/20/15/10/5, 720p, 800x600, 640x480/50/25/20/15/10/5;

Lens zoom: 20 Optical x 12 digital zoom, f=4.7-90mm F1.6-3.5

Wide angle lens: 55.4 degree

Minimum Illumination: 0.1Lux

White Balance: Auto/Sunlight/Cloudiness/Shade/fluorescence white balance

Focus: Auto/Manual

Iris: Auto/Manual

Shutter Speed: 1/1 - 1/10,000S

Black light compensation: On/Off

Pan/Tilt Movement

Pan Movement: 0-355°
Tilt Rotation: Up: 45°, Down: 45°
Built in Pan/Tilt Motor: Pan Speed: 1-200°/Second Tilt speed: 1-150°/Second
Preset Speed: Pan running: 120°/sec Tilt running: 100°/sec
Preset: 64 preset position, 4 Patrol lines

Rear board connectors

High Definition Interface: HDMI, HD-SDI, DVI, CVBS, YPbPr
Controller Signal Interface: 8 leads mini DIN (VISCA IN, VISCA OUT/RS485)
Controller Signal Interface: Dip-switch Pin 7/TTL Signal;
Baud Ratio: 9600/ 38400 bps
Power supply interface: DC 12V 2A

Electrical Index

Power supply adapter: 12V DC/2A
Input voltage: 12V DC(10.5-14V DC)
Input power: 24W(MAX)

Structure

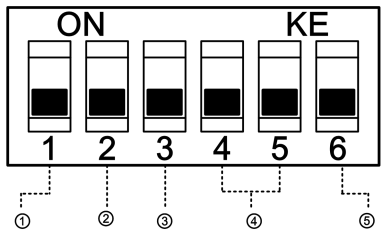
Material: All-alloy, PC plastic
Dimension (Width x highness x depth) :
154x250x140mm / 330x210x230mm (NET/PACKAGE)
Working environment: Indoor
Temperature: -0℃ to +45℃
Storage temperature: -10℃ to +60℃
Color: Silver Gray

Rear Board & function

1. Front View

1) Lens
Adopted 10x optical auto focus lens
2) IR Receiver
To receive IR mote controller signal LED
3) Power LED
LED Blinking when power plug in, Blue color Led
4) Stand by LED
LED blinking while shut down camera use remote controller, and Orange color
5) IR Receiver
To receive IR mote controller signal LED

2. Dip-switch Settings



1) Dip-switch 1(Set Communication baud rate)

ON=>38400bps, OFF=>9600bps

(Please set the baud rate before turn on power. Baud rate setting failed if turn off power.)

2) Dip-Switch 2(Set Control protocol)

ON: RS-485 &PELCO-D (ON=RS485&Pelco-D)

OFF: RS-232C&VISCA (OFF=RS232C &VISCA)

3) Dip-Switch 3 (Set as Upgrading)

Set dip switch 3 as ON, then you can do upgrading of the camera, Must Set OFF as usual working.

4) Dip-Switch 4& 5 (Set address code)

When you used RS232C &VISCA to control multi-cameras, suggest to set address code as **OFF;**

When you used RS-485 &PELCO-D to control multi-cameras, suggest to refer to below Camera address code setting

table;

5) Switch 6 (Set IR signal output switch)

When set as ON, it will receive the signal from remote control and VISCA IN to control this device, if set it to OFF means close signal output.

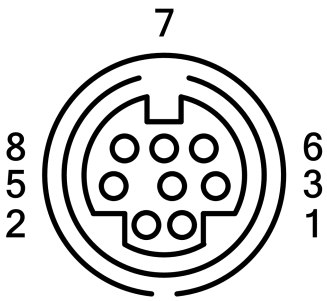
Camera address code setting

	Dip-switch4	Dip-switch 5
1	OFF	OFF
1	OFF	ON
2	ON	OFF
3	ON	ON

Cable Connection info

VISCA RS-232C IN Reference

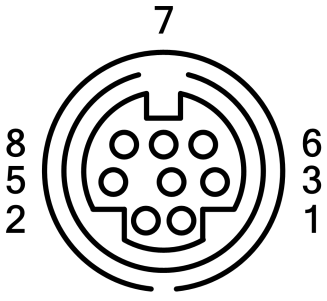
VISCA RS-232C IN



Pin S/N	Function
1	DTR IN
2	DSR IN
3	TXD IN
4	GND
5	RXD IN
6	GND
7	IR Commander Signal OUTPUT
8	NO Connection

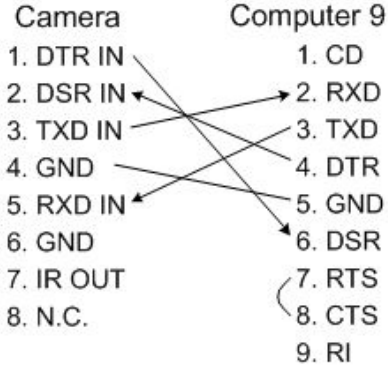
VISCA Out Reference

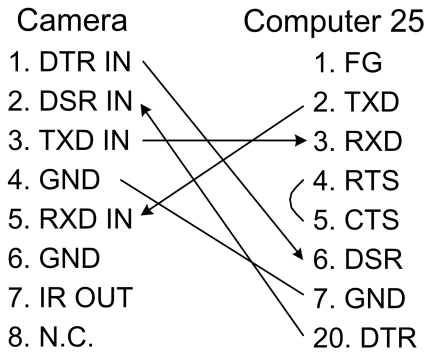
VISCA RS-232C OUT



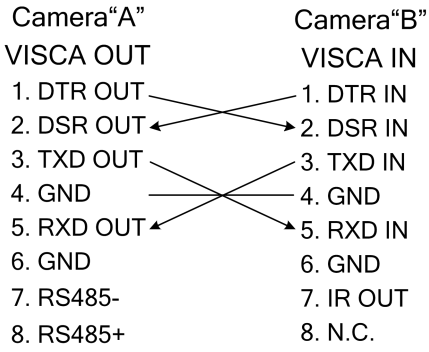
Pin S/N	Function
1	DTR OUT
2	DSR OUT
3	TXD OUT
4	GND
5	RXD OUT
6	GND
7	RS-485 -
8	RS-485 +

Camera to PC connection





Camera Cascade



OSD Menu

Access OSD menu to understand the features of camera and change the settings.
Note: Camera can't move pan/tilt when OSD menu is displaying on screen.

Self-testing OSD Menu

There are OSD menu as following when camera start on, and it will be disappear after self-testing completed.
Following is the parameter of camera, and different camera module adopted display different OSD menu parameters.

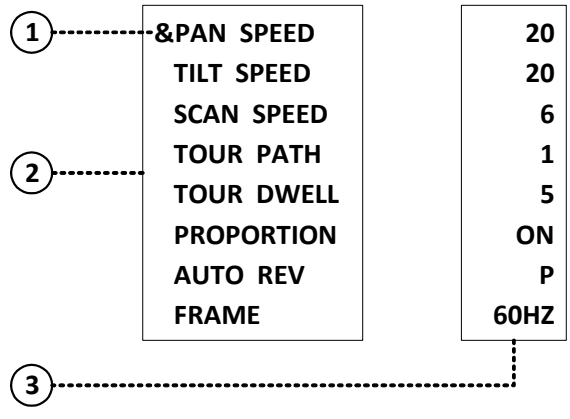
- **ADDRESS** (Camera address))
- **BUADRATE** (Camera baud rate)
- **PROTOCOL** (PTZ Control Protocol)
- **CONTROL** (Camera control type)
- **LENSTYPE** (Camera module adopted)
- **DOMETYPE** (Camera model No.)
- **VENDOR** (Manufacturer name)
- **VERSION** (Initial Factory version)

INFORMATION

ADDRESS	**1**
BUADRATE	**9600**
PROTOCOL	**VISCA**
CONTROL	**RS-232C**
LENSTYPE	**ACUTE**
DOMETYPE	
VENDER	
VERSION	**2.3.4.4**

Dome OSD

Press "DOME OSD" button on remote controller to display:
1) Pin
Chose OSD menu
Move by ↑ or ↓ key
2) Parameters
Chose by ↑ or ↓ key
3) Values
Display OSD parameters, chose by ← or → to change the parameters value of menu **OSD**



Menu Parameters:

- PAN SPEED Default value: 30
  Adjustable pan movement speed scope 1~63
- TILT SPEED Default value: 30
  Adjustable tile movement speed scope 1~63
- SCAN SPEED Default value: 6
  Adjustable pan movement speed scope 1~63
- TOUR PATH Default value: 1
  Optional tour path at 1~4
- TOUR DWELL(Tour duration time) Default value: 5
  Tour duration is 1~60 seconds
- PROPORTION (Speed matching) Default value: ON
  ON means enable speed match function, OFF means not.
- AUTO REV Default value: P
  Image auto flip(positive)/N(upside down)/OFF
- FRAME Default value: 60HZ
  Support 60Hz & 50Hz for optional

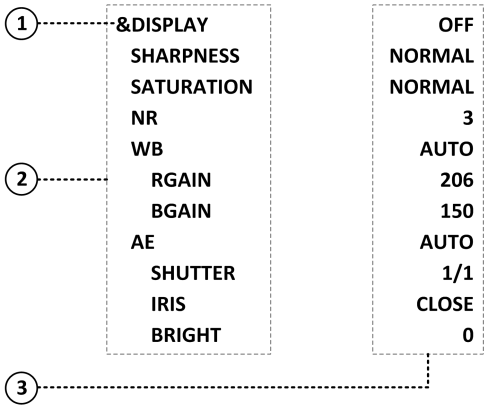
Note:

***60Hz mode,* camera output *1080p30* as default, support 1080p@30/25/20/15/10/5, 720p, 800x600, 640x480/60/50/30/25/20/15/10/5;**

***50Hz mode,* camera output *1080p@25* as default, support 1080p@25/20/15/10/5, 720p, 800x600, 640x480/50/25/20/15/10/5;**

LENS OSD

Access **LENS OSD** from remote controller, there is OSD menu display on screen and its possible to adjust or change any settings of lens OSD. (Up/down direction key to change the menu, left/right direction key to change the parameters value)



- DISPLAY Default value: OFF
  SUPPORT ON/OFF
- SHARPNESS Default value: NORMAL
  LOW/HIGH
- SATURATION Default value: NORMAL
  LOW/HIGH
- NR (Noise Reduction) Default value: 3
  Adjustable Value 0~5
- WB (White Balance) Default value: Auto
  AUTO/MANUAL/OUTDOOR/INDOOR/ONE PUSH/ATW
- R GAIN (RED RAIN) Default value: 206

Adjustable scope: 0~255

- B GAIN (Blue Gain) Default value: 150

  Adjustable scope 0~255

- AE (Auto Exposure) Default value: Auto

  AUTO/MANUAL/SHUTTER/IRIS/BRIGHT

- SHUTTER SPEED Default value: 1/1

  Shutter speed range: 1/1—1/10000

- IRIS Default value: Close

  Close/F1.4-F22

- BRIGHT Default value: 0

  0 ~ 31

IR Remote Controller

1. Reset:

Restart Camera and restore to factory default settings

2. Camera Selection

Select Camera of IR 1,2,3

3. Preset positions

1-9: preset positions

Set: Setting preset position

Clear: Clear preset position

Call: Call preset position

Note: if you need set number 1 preset position, you should press Number key "1", then press "Set" to setting

this position;

4. Zoom in/out Control Zone

+: Zoom in

-: Zoom out

5. Pan/tilt Control

⬆: move up

⬇: move down

⬅: move left

➡: move right

⮌: auto Pan moving

6. Additional Function zone

Freeze: image freeze

BL: Backlight compensation

WB: White Balance

AE: Auto Exposure

D zoom: Digital Zoom

HDMI: swap to HDMI Video output

DVI: Swap to DVI video output

Format: swap between different format

7. Power supply Switch

Switch of stand by and working status

8. OSD Menu Zone

Dome OSD: enter Camera OSD Menu

Lens OSD: enter Lens OSD Menu

9. Slow Zoom in/out Zone

+: Zoom in slowly

-: Zoom out slowly

10. **Focus Control Zone**

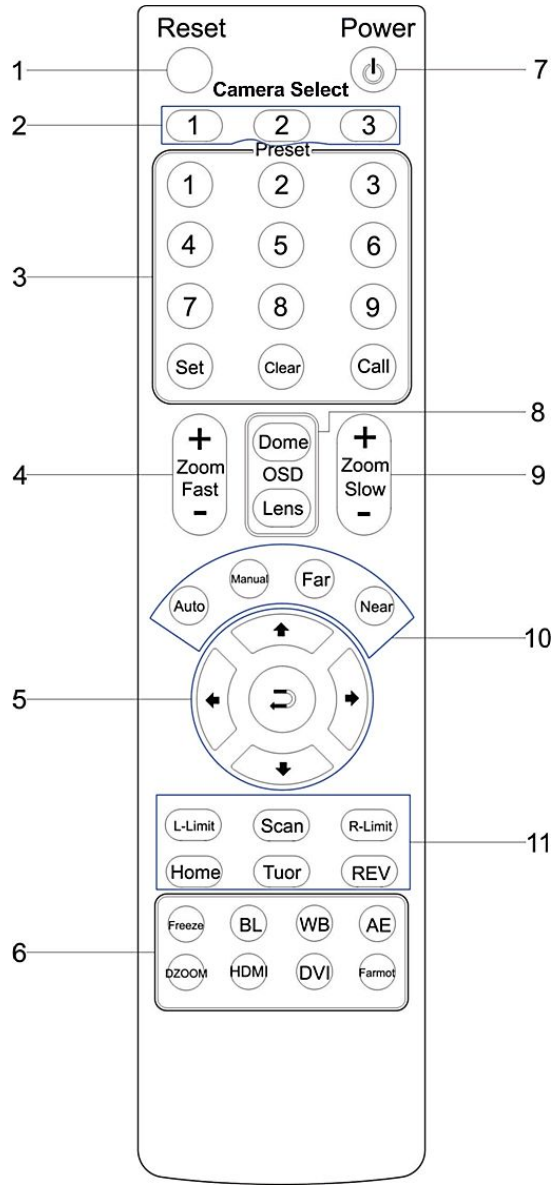
Auto: auto focus of lens

Manual: manual focus of lens

Far: focus at far distance objects

Near: focus at near distance objects

11. Pan/Tilt Function Zone



L-Limit: Set Left limit Scanning position
Scan: Enable Boundary scanning
R-Limit: Set Right limit scanning position
Home: Camera Home position
Tour: Enable Patrolling
Rev: Image auto-flip

Remote controller Function Summary

S/N	Regional	Keynote	functions
1	**Reset**		Restart Camera and back to default Factory settings.
2	**Camera ID Chose**		Chose camera according to your Remote control
3	**Preset position function area**		Chose serial no. of preset position
			To “Set” as preset position
			To “Clear” preset position
			To “Call” preset position
4	**Fast-speed Zoom in/out**		Zoom in of camera Lens
			Zoom out of camera lens
5	**Pan/Tilt control**		Move camera up-side
			Move camera down-side
			Move camera go left
			Move camera go right
			Enable Pan movement scanning
6	**Auxiliary**		Image Freeze
			Backlight compensation
			White Balance
			Auto Exposure
			Digital Zoom

			Swift as HDMI Video output (not available with this camera)
			Swift as DVI Video output (not available with this camera)
			Swipe different video formats (not available with this camera)
7	**Power on/off**		Power-on/off
8	**OSD Menu**		Login DOME OSD Menu
			Login Lens OSD Menu
9	**Slow speed Zoom in/out**		Zoom in slowly speed
			Zoom out slowly speed
10	**Lens Focus adjustments**		Auto focus automatically
			Manual focus
			Lens zoom in far end
			Lens zoom in Near end
11	**Pan & Tilt Function area**		Set Left points for boundary scanning
			Enable Scanning automatically
			Set Right limit point for Boundary scanning
			Home position of Camera
			Enable Touring
			Image Up-side down option

Operation instruction

Joy-stick PTZ Keybaord operation

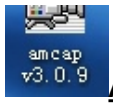
To use joy-stick PTZ keyboard to control Camera including, pan/tilt/zoom movement, set Tour scanning, enable boundary scanning, etc.

option	function
turn up	Down-side movement
turn down	Up-side movement
turn left	Left movement
turn right	Right movement
Rotate left	Zoom in
Rotate right	Zoom out

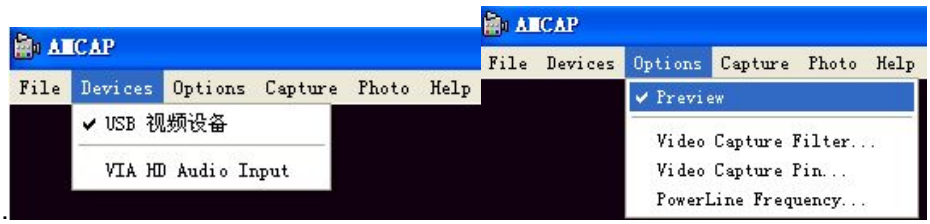
Special Preset positions function

Preset position No.	Functions
76	Enable stand-by status
77	To display Self-testing menu on screen
90	Image up-side down
91	Login system OSD Menu
92	Set Left limit position of scanning
93	Set right limit position of scanning
94	Restart Camera and return default settings
95	Call Lens OSD Menu of Lens
96	Home position
97	Enable regional Pan scanning
98	Enable Tour scanning
99	Enable 360 degree Horizontal scanning

Amcap Software application

Open the CD-ROM 

AMCAP v3.0.9.exe software, choose **Device**s->**USB video** equipment (or similar options), then chose "**preview**", as shown in the diagram below, you can preview image.



Before Preview Video output, please check Capture-> 

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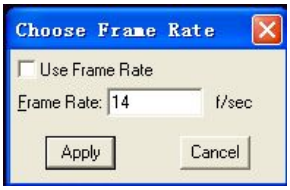
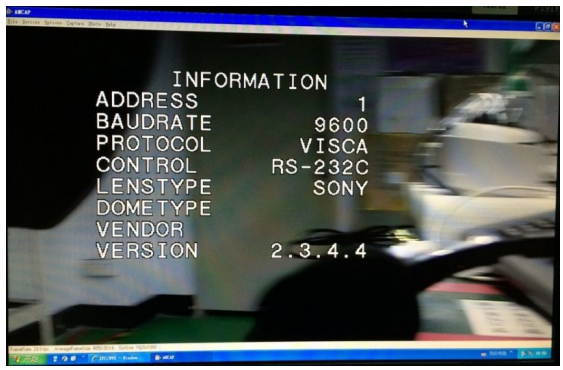
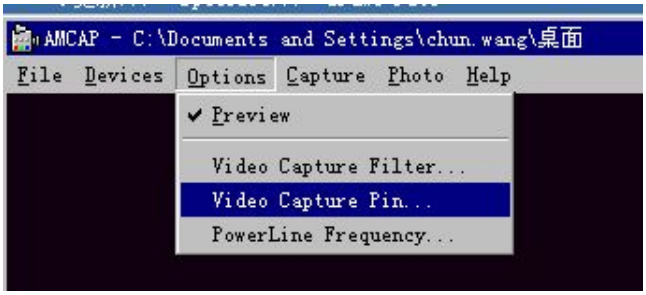




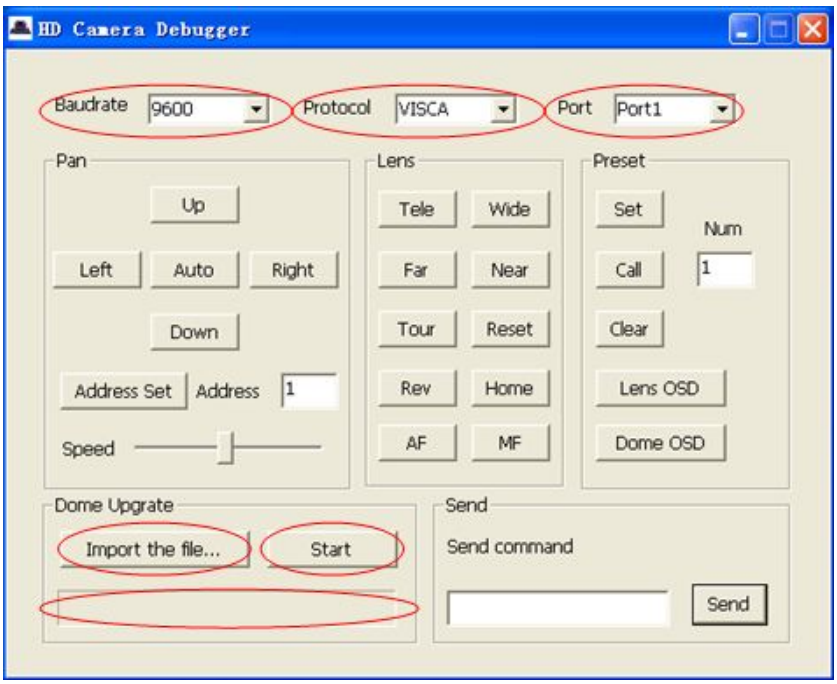
Adjust different video format



60Hz mode, camera output **1080p30** as default, support 1080p@30/25/20/15/10/5, 720p, 800x600, 640x480/60/50/30/25/20/15/10/5;
50Hz mode, camera output **1080p@25** as default, support 1080p@25/20/15/10/5, 720p, 800x600, 640x480/50/25/20/15/10/5;

The Camera upgrade (control)

Install the HD Camera Debugger Tool in your PC while connected VISCA IN of Camera to RS232 at PC, please refer to follow Steps:



a) Connected Camera (VISCA IN) to PC (RS-232) with RS232 Cable which provided along with Camera in the Package;
b) Select Baud rate, Protocol, Port info match with your Camera dip-switch settings, default settings is 9600, VISCA, 1
c) Try to control Pan, Tilt, Zoom while settings completed, to make sure camera is connected properly.
d) Dome Upgrading-> import the file-> chose correct firmware of camera->Click “Start” to proceeding upgrading…
e) It said “upgrading process successfully ” after upgrading completed, then camera will RESET automatically to initial settings;
f) Need to upgrade camera’s software, choose the upgrade via IMPORT THE FILE, and click START begin the upgrade, when complete the upgrade, the camera restart.

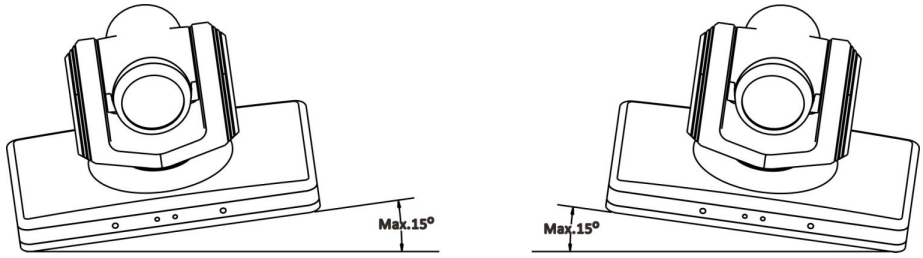
Specification sheet

Model No.		**TS-0695**
Image Sensor	Image Sensor	1/2.8" Type Exmor CMOS
	Effective Pix	3.27 Megapixel
	Min. Illumination	0.5Lux
	White balance	Auto/Manual
	Gain control	Auto/Manual
	B/L compensation	On/Off
	Shutter speed	1/1 - 1/10,000S
	S/N ratio	>50db
Lens	Focus	f=4.7-90mm F1.6-3.5
	Iris	Auto/Manual
	Lens	20 Optical x 12 digital zoom
	Horizontal view angle	55.4
Video output		HDMI, HD-SDI, DVI, CVBS, YPbPr Video output
Signal system		YUY2 | 1920x108030p, 1280x 720 30p
Control terminal		EIA/RS232C,EIA/RS485(Bidirectional)
Control Protocol		VISCA,PELCO-D
baud rate		9600/38400bps
patrol line		4 cruise sequence
preset position		64 preset positions
Speed Match		Pan/Tilt movement speed depends on camera module zoom in/out
OSD Menu		Access to OSD Menu and adjust camera module parameters
Image auto flp		Support Horizontal/Vertical image flip
Pan movement speed		1-200°/Second
Tilt movement speed		1-150°/Second
Pan movement range		Pan: 0-355°
Tilt movement range		Up: 90°, Down: 45°
Pan scanning automatically		Support Pan scanning automatically
Boundary scanning		0-355°(programmable)
Remote controller		IR Wireless Remote controller P/T/Z
Power supply		DC12V,2A
Work Temperature		0-50℃
Humidity		0-95%RH
LxWxH		250mm x 140mm x 154mm
Weight		1380g

Installation instruction

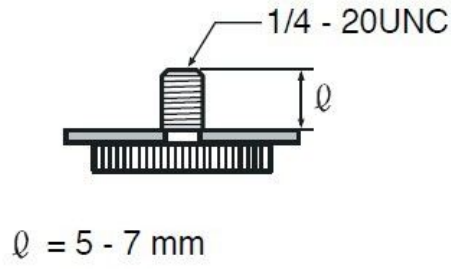
Desktop Installation

Put the camera on the desk flat, and make sure the camera in level. If wan to put the camera on oblique surface, please make sure the angle of inclination less than 15 degree for ensure camera pal and tilt working in normal operation.



Tripod Installation

Twist the tripod's screw on the camera tripod hole, then the tripod could be installed on the bottom of camera. The tripod screw must fit below specifications:

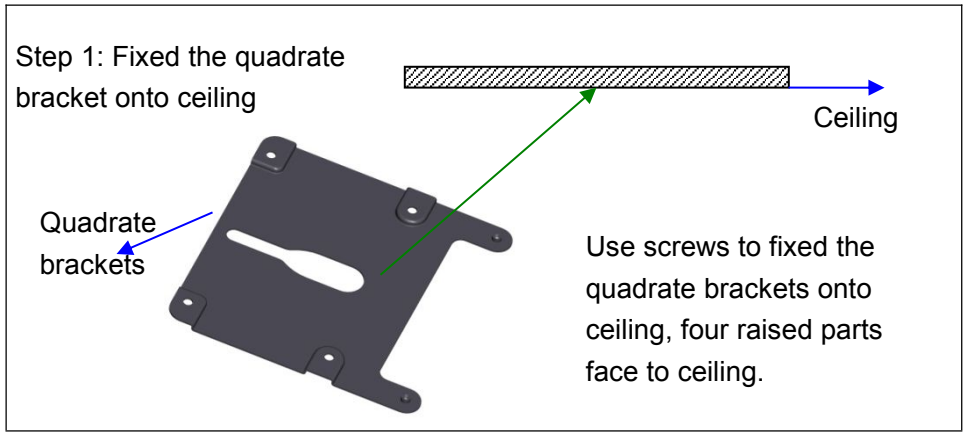


ℓ = 5 - 7 mm

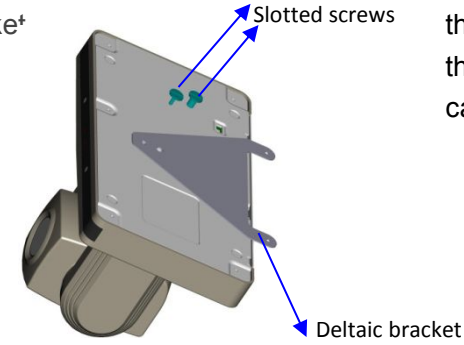
Note:

- Tripod must stand on a flat surface.
- The screws and cap which used for tripod must not be used for a higher position, such as ceiling mount.

Ceiling Mount

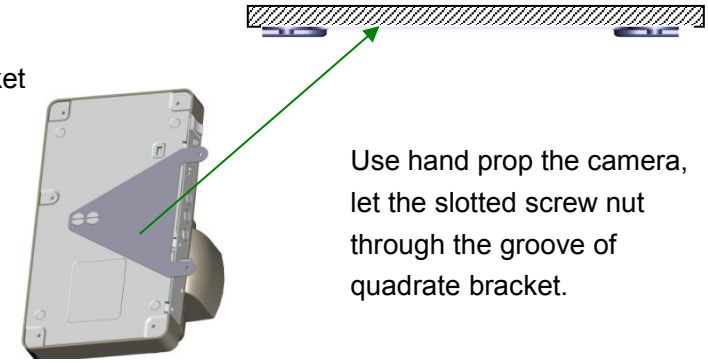


Step 2: Fixed the deltaic bracket



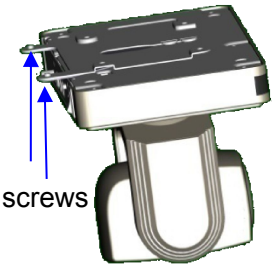
Use the screws to fix the deltaic bracket with the bottom plate of camera.

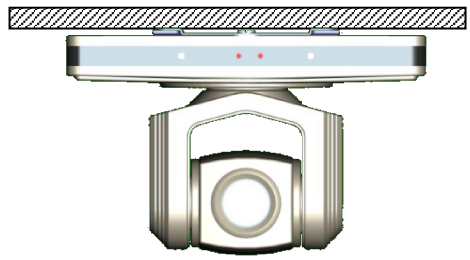
Step 3: Connect the deltaic bracket to quadrate bracket.



Use hand prop the camera, let the slotted screw nut through the groove of quadrate bracket.

Step 4: Lock the





Use the screws to lock the quadrate and deltaic brackets to finish the installation.

Compatibility

As we tested with Amcap S/W, Skype, Microsoft Lync, VSEE, Vidyo, DEBUT Software, most of them are Video Conferencing system application, and it works perfect;

Troubleshooting

Before bringing in your camera for service, check the following as a guide to troubleshoot the problem. If the problem cannot be corrected, consult with your Dealer.

Symptom	Cause	Remedy
The power of the camera is not turned on.	The supplied AC power adaptor is not connected to the DC IN 12V jack firmly, or the AC power cord is not inserted firmly into the AC power adaptor or the AC outlet.	Insert the power cord firmly as far as it will go.
	Not Turn On the Power switch as “ON”.	Turn On the Power switch as “ON”.
Insufficient frame rate detected	MJPEG1920X108030FPS YUY21920X10809FPS	Make sure you Chose correct video format.
Pan,tilt or zoom cannot be operated.	Any menu is displayed on the monitor screen.	Press the “Dome OSD” OR “Lens OSD” on the Camera remote control Unit to turn off the menu from the monitor screen.
	The panning or tilting range is limited	Pan/Tilt movement range is ± 45 degree.
The Remote Commander does not work.	The Camera Select button you pressed on the Remote Commander does not match the number set with the IRSELECT switch on the camera.	Press the Camera Select button corresponding to the IR SELECT SWITCH setting on the Camera.
	Used out of battery	Change new battery (AA x 2)
The VISCA control is not available with a computer connected to the camera.	The computer is not correctly connected to the camera.	Make sure the connection between the computer and camera is made correctly. Check that the VISCA control setting (RS-232C or RS-422) and the baud rate setting (9600 bps or 38,400 bps) are properly made with the BOTTOM switch on the bottom of camera and the COM Port which configured in your computer.
The camera cannot be operated at all.		Pull out the plug of the power cord from the AC outlet, then reinsert it into the AC outlet after a while.