Color Video Conference Camera

USER MANUAL

Preface

Thank you ordering a PTZ video conference camera.

This manual will introduce you to the video conference camera's functions, set-up and operating principles.

Safety requirement

In order to avoid the camera and other equipment from getting damaged or to avoid any potential issues, please follow the guidelines below:

1. The camera must be installed and maintained by a professionally qualified technician.

2. The camera must be kept at a constant temperature, humidity and power. The camera cannot be installed in areas of water or areas of high humidity.

2. Only use accessories that came supplied with the unit from the factory.

3. After exchange following the repair of the unit's circuit board, the unit needs to be fully tested before using.

4. To clean the unit, use a soft, dry rag. Do not use any corrosive cleaners.

5. Handle the camera with care, do not squeeze the unit or apply any external force against the unit.

6. Any bracket used should be able to hold more than 3 times the weight of camera.

Features

1. 2.1 Megapixels (DVI), 1.3 Megapixels (USB), with a high-resolution image

2. Pan 355°, Tilt 120° with Image Flip (allowing the displayed image to be turned upside down). This allows the unit to be mounted on the ceiling.

3.10x optical zoom

4. Using the latest digital signal processor (DSP) results in improved image quality when using the digital zoom

5. Multi function IR remote control allowing full operation of the Pan Tilt and Zoom and other functions

6. PC control of the camera using VISCA, Pelco P/D protocols

7. Support IR, RS422, RS232C, etc. with multi control

8. Support for 255 preset positions of the camera

9. Maximum speed of horizontal rotation: 80°/s, Tilt: 60°/s

10. Multifunctional accurate remote control

Packing list
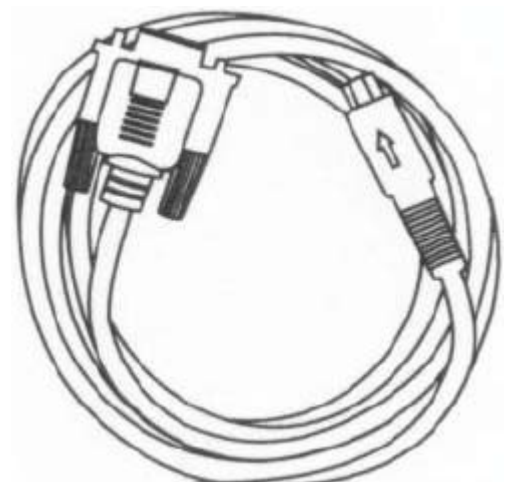Please check all contents. Please note contents vary on DVI or USB models
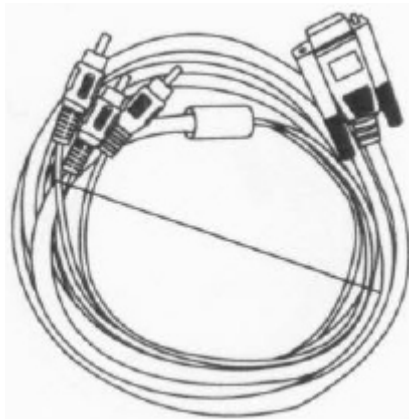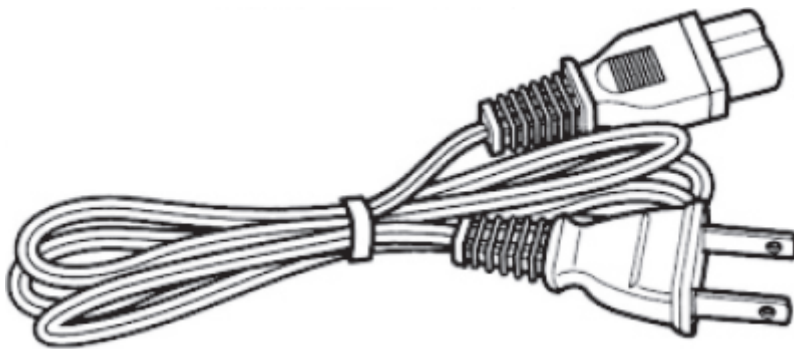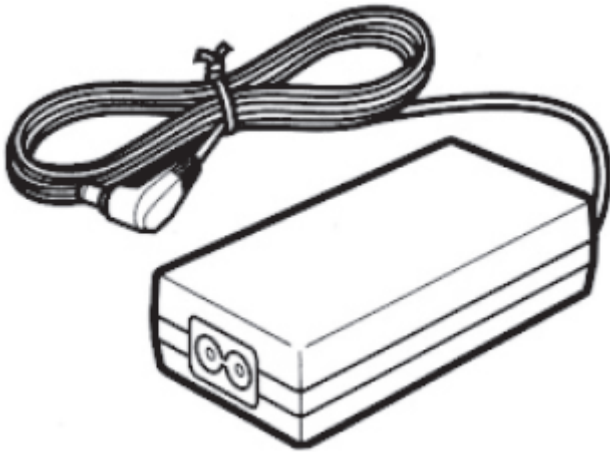

Camera---1
Power adapter---1
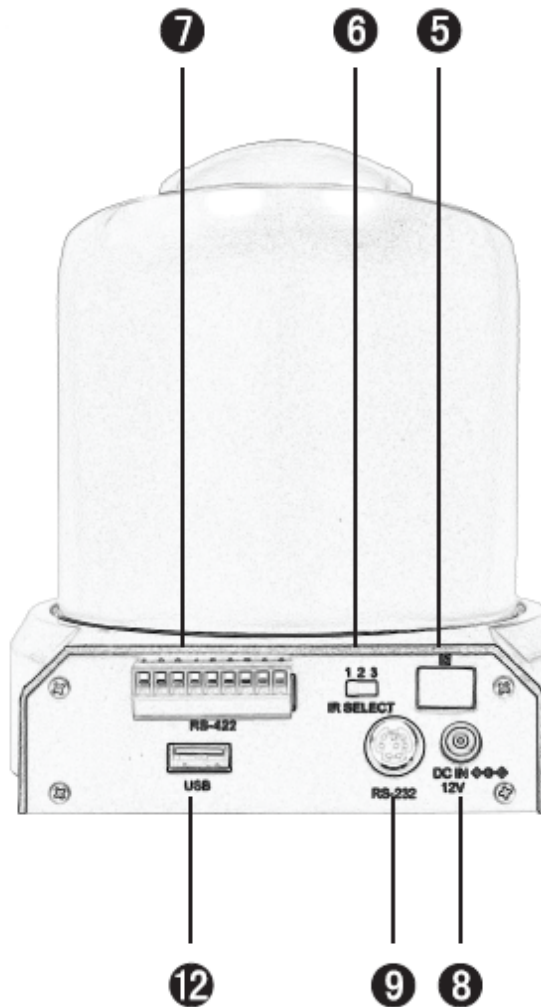Power cable----1
Remote controller------1
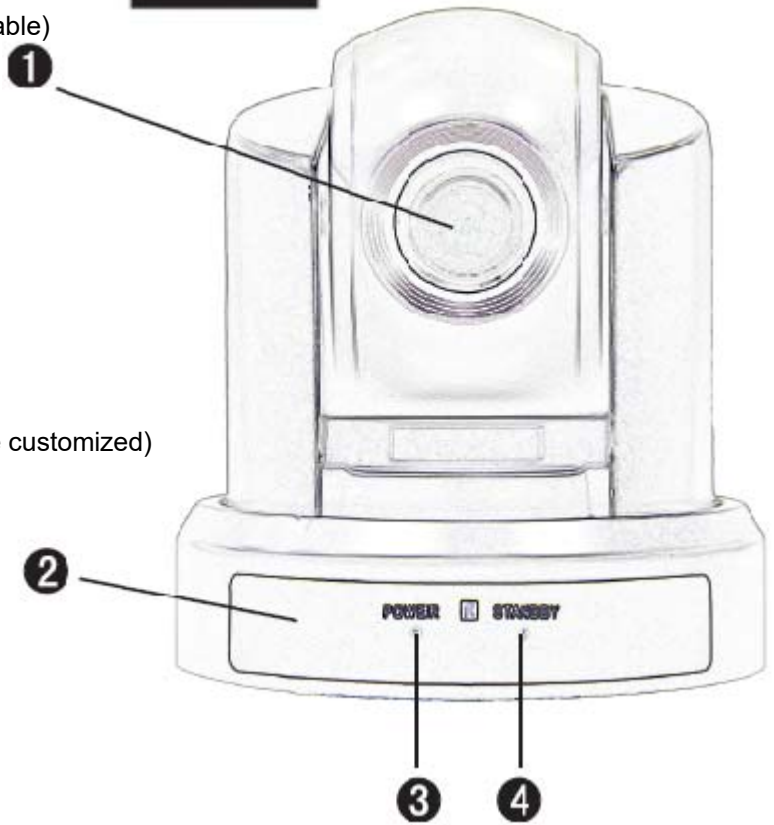DVI convert cable----1
YpbPr cable ----1
RS232 cable-----1

Parts and Introduction

1. Lens: Built-in, varies on modules (customizable)

2. Front IR receive window

3. Power indication

4. Standby indication

5. Back IR receive window

6. IR select switch

7. RS-422C VISCA

8. DC IN 12V connector

9. VISCA RS-232C IN connector

10. DVI-I video output

11. HD-SDI video output (CVBS output can be customized)

12. USB 2.0 video output

13. Camera base plate

14. DIP switch

15. Ceiling bracket screw holes

Front

Bottom

⑬ ⑭

⑮

POWER ⑤

⑬

CAMERA SELECT
① 1 2 3

FOCUS
② AUTO FAR NEAR MANUAL

WHT.BAL. BACK LIGHT ④

STD REV
⑥ 1 2 3 ⑦
4 5 6
7 8 9 ⑧
PRESET 0 RESET

POSITION
R-OPEN PAN-TILT S-SET
③ ⑮
HOME ⑪

CLOSE PAN-TILT
⑭ RESET ⑩

ZOOM
⑨ T T
W W

⑫
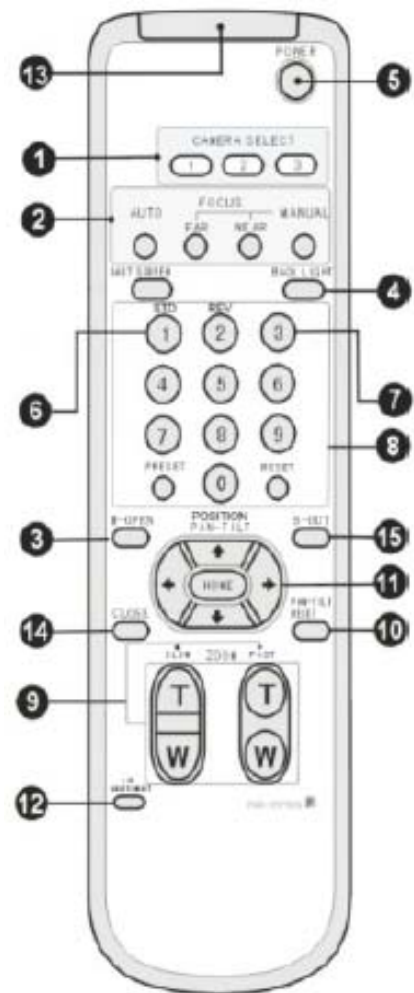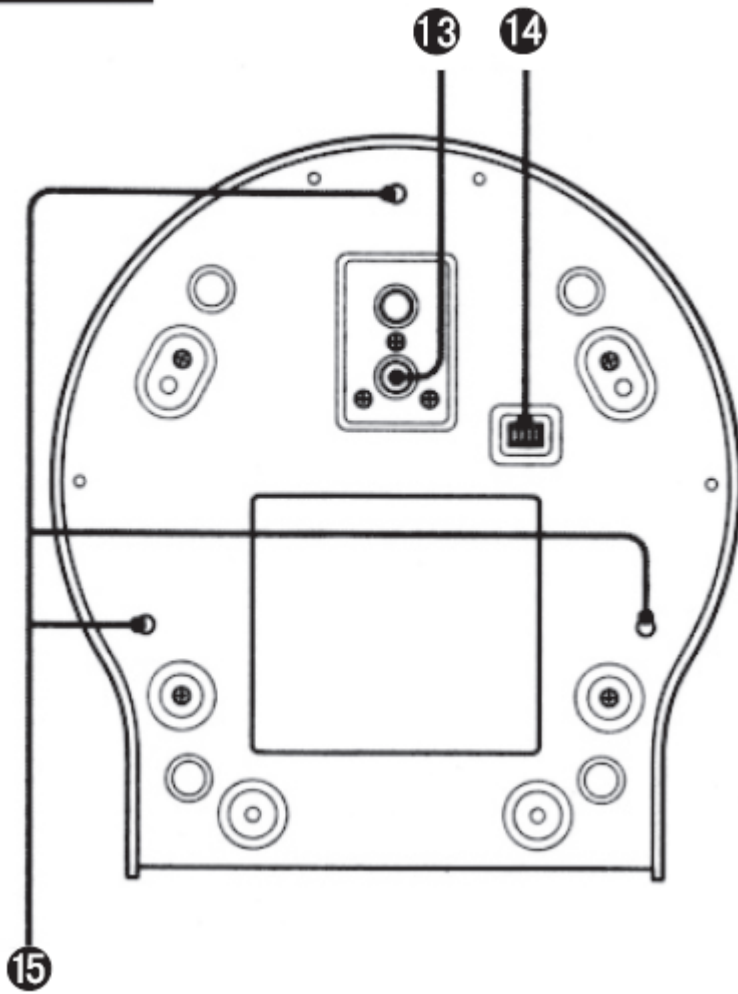
Remote Control

1. CAMERA SELECT (matches to camera IR SELECT)

2. FOCUS (auto or manual)

3. M-OPEN (Open Menu)

4. BACK LIGHT (On/Off)

5. POWER

6. STD.REV (Press L/R DIRECTION SET, and then Press 1 or 2)

7. POSITION (Number area; PRESET: press PRESET then press 1-9 to set up preset position)

8. RESET (Press RESET and then press1-9 to reset the preset position)

9. ZOOM

    SLOW T

    SLOW W

    FAST T

    FAST W

10. PAN-TILT RESET

11. PAN-TILT, HOME to return middle position

12. L/R DIRECTION SET
13. IR Transmit window
14. CLOSE (Open Menu)
15. DATA-SCREEN: (color model switch)

2. 14. 15 for DVI camera only

VISCA RS-422.

Pin No.	Function
1	TXD IN+
2	TXD IN-
3	RXD IN+(RS485+)
4	RXD IN-(RS485-)
5	GND
6	TXD OUT+
7	TXD OUT-
8	RXD OUT+
9	RXD OUT-

1 2 3 4 5 6 7 8 9

Pin No.	Function
1	TXD IN+
2	TXD IN-
3	RXD IN+(RS485+)
4	RXD IN-(RS485-)
5	GND

VISCA RS-232C

Windows D-Sub 9 pin

1. DTR	1. CD
2. DSR	2. RXD
3. TXD	3. TXD
4. GND	4. DTR
5. RXD	5. GND
6. GND	6. DSR
7. N.C.	7. RTS
8. N.C.	8. CTS
	9. RI

EVI Camara or Mini DIM 8 pin serial

1. DTR	1. DTR
2. DSR	2. DSR
3. TXD	3. TXD
4. GND	4. GND
5. RXD	5. RXD
6. GND	6. GND
7. N.C.	7. OPEN
8. N.C.	8. OPEN

Windows D-Sub 25 pin

1. DTR	1. FG
2. DSR	2. TXD
3. TXD	3. RXD
4. GND	4. RTS
5. RXD	5. CTS
6. GND	6. DSR
7. N.C.	7. GND
8. N.C.	8. DTR
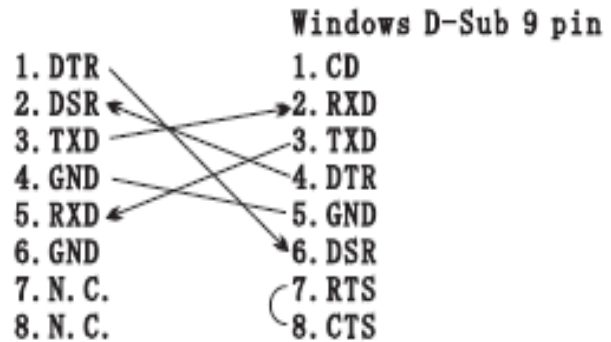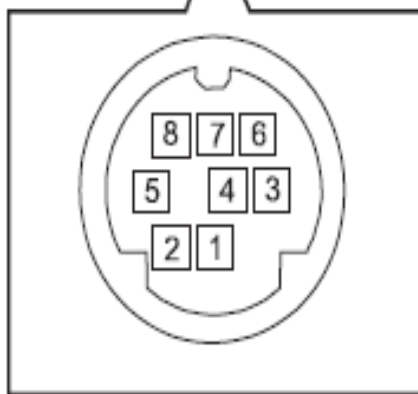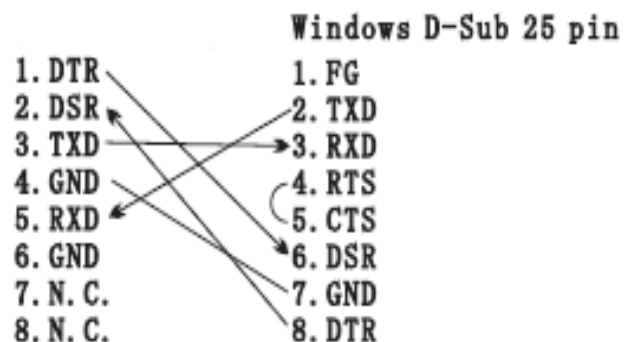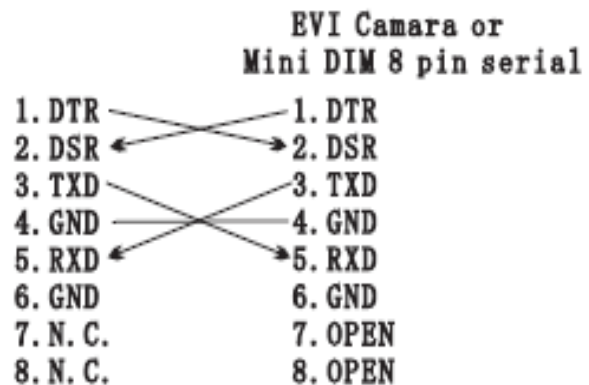
NO	Pins	Signal
1	DTR	Data Transmission Ready(OUTPUT)
2	DSR	Data Set Ready(INPUT)
3	TXD	Transmit Data(OUTPUT)
4	GND	Ground
5	RXD	Receive Data(INPUT)
6	GND	Ground
7	N.C.	No Connection
8	N.C.	No Connection

BASIC FUNCTIONS

Zoom

Camera with 10X optical lens
There are two ways to zoom

· **By pressing the T(TELE) or W (WIDE) buttons on the Remote Control**

or

· **Via VISCA**

Standard Mode
Variable Mode: 8 zoom speed optional
Direct Mode: Zoom to specified position
Digital Zoom ON/OFF

· Zoom Mode supports Combined Mode and Separate Mode.

Combined Mode
When the Optical Zoom reaches its maximum, the camera switches automatically to the Digital Zoom Mode
Separate Mode
Optical Zoom and Digital Zoom are separated

Focus

Focus with following modes, all of them use the VISCA Command

· **Auto Focus Mode**

Auto focus mode including normal auto focus, interval auto focus and zoom trigger model

- **Normal AF Mode**
- **Interval AF Mode**
- **Zoom Trigger Mode**

AF sensitivity can be set to either NORMAL or LOW.
- **NORMAL**
Fast focus. Used when shooting a subject that moves frequently. Usually, this is the most common setting.
- **LOW**
Improves the stability of the focus. When the lighting level are low, the AF function
Sometimes does not work. This setting makes for a more stable image.

· **Manual Focus Mode**
MF (Manual Focus) has both a Standard Speed Mode and a Variable Speed Mode.
Standard Speed Mode focuses at a fixed rate of speed. Variable Speed Mode has
eight speed levels that can be set using a VISCA Command.

· **One Push Trigger Mode**
When a Trigger Command is received, the lens moves to adjust the focus on the
subject. The focus then holds in the same position until the next Trigger
Command is sent.

· **Infinity Mode**
The lens is set to focus on things in a distance, such as a landscape.

· **Near Limit Mode**
Can be set in a range from 1000 (∞) to C000 (10 mm). Note: The focus range narrows the focus area

White Balance

There are various White Balance settings, all ten can be set by VISCA Commands.

· **Auto White Balance**

· **ATW**
Auto Tracing White balance (2000 to 10000 K)

· **Indoor**
3200 K Base Mode

· **Outdoor**

5800 K Base Mode

· **One Push WB**

· **Manual WB**

Manual control of R and B gain, 256 steps each

Automatic Exposure Mode

Automatic exposure can be used to output the best image under varying conditions, multi models optional

· **Full Auto**

Auto Iris and Gain, Fixed Shutter Speed (NTSC: $1/60$ s, PAL: $1/50$ s)

· **Shutter Priority** [1]

Variable Shutter Speed, Auto Iris and Gain
($1/1$ to $1/10{,}000$ s, 22 steps, std. shutter: 16 steps, slow shutter: 6 steps)

· **Iris Priority**

Variable Iris (F1.4 to Close, 18 steps), Auto Gain and Shutter speed.

· **Manual**

Shutter, Iris and Gain adjustable.

· **Brightness Gain**

Variable Iris and Gain. only when "full automatic" or "Shutter Priority" in Exposure Mode, switching to Brightness Gain is possible

Back Light Compensation

When shooting in AE mode sometimes a subject's background can look too bright or too dark. Using the backlight compensation will help make the subject clearer.

Remote Controller Operation

A Pan/Tilt control
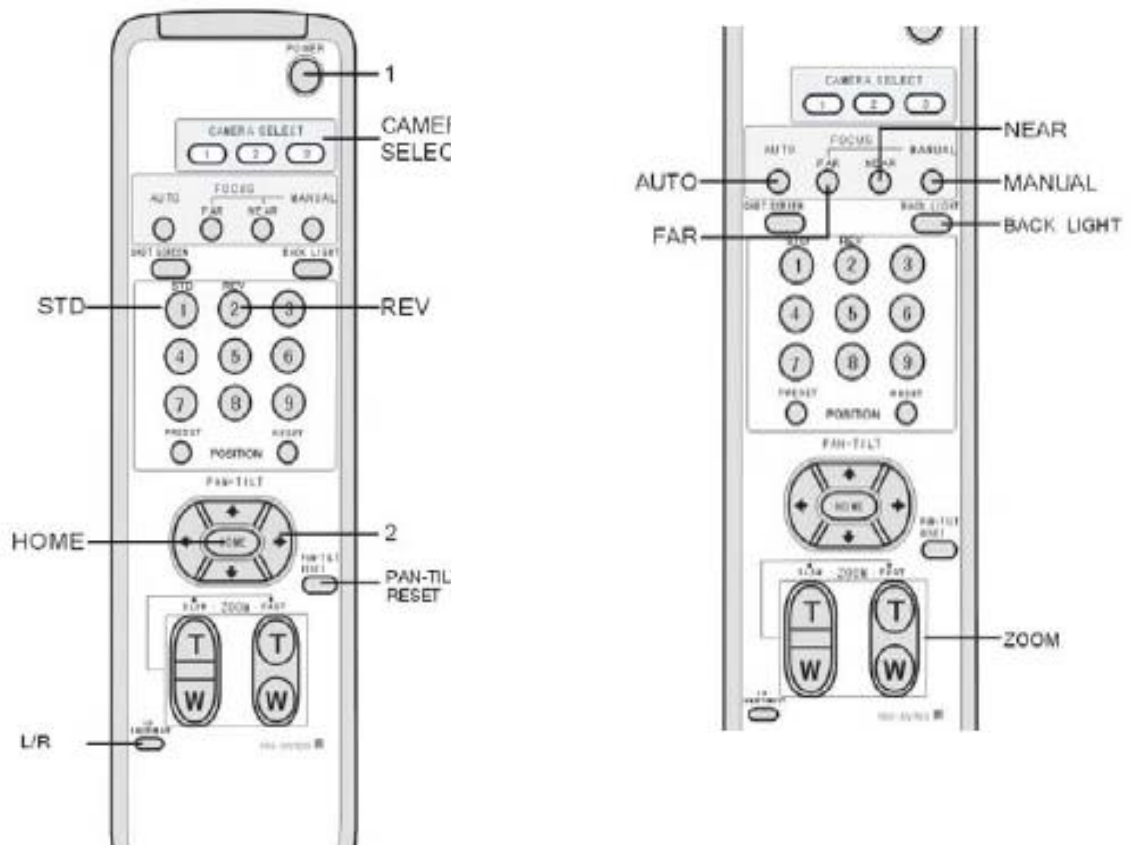
1. When you Power up, the Pan/Tilt will reset to its initial position.

2. Press the arrows to adjust the direction of the camera, up, down, left or right. You can press the arrows (up or down) and the arrow (left or right) at the same time.

3. Press HOME to put the camera into its default starting position.

4. Press PAN-TILT RESET or turn off the power and then turn it on again to reset the camera's position.

5. Press L/R DIRECTION SET (blue) and STD or REV (blue) at the same time, this will allows you to change how the left and right buttons work.

ATTENTION:

When you are using more than one commander, you will need to set up each camera independently.

B Adjusting the Camera
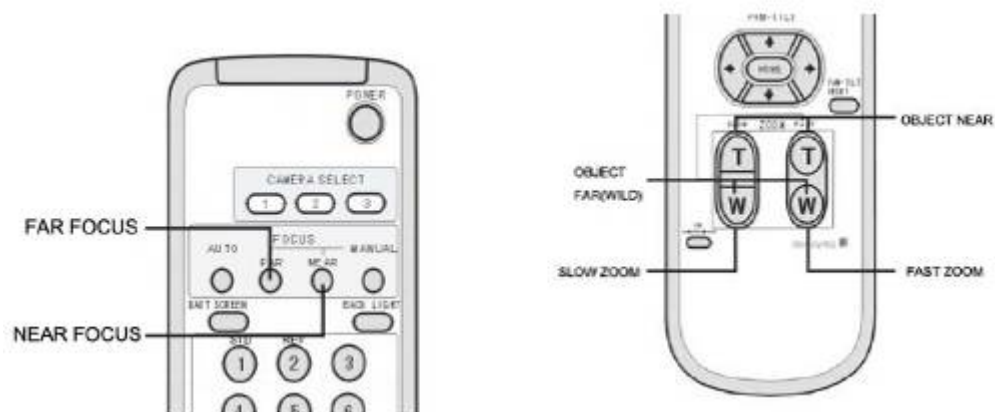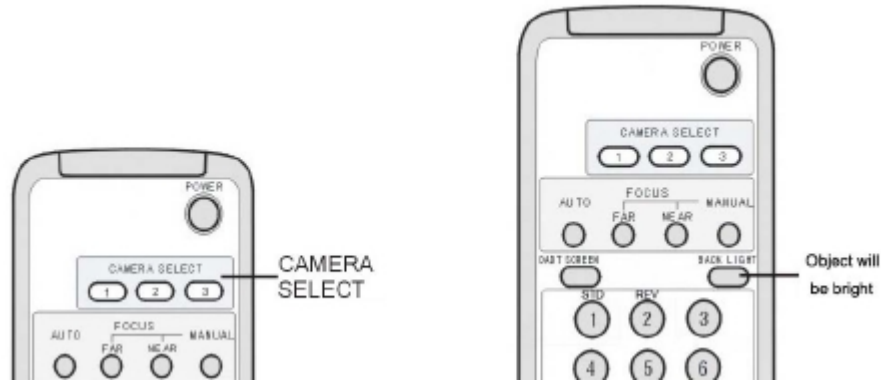
FOCUS

*Press AUTO for auto focus

*Press MANUAL and then adjust FAR OR NEAR to change the focus

ATTENTION:

When the camera is in far focus, it is normal for the image to move slowly back and forth.

ZOOM

*Adjust T and W to zoom far or near

One Remote can control up to 3 cameras

1. A maximum of 3 cameras can be controlled by one remote control. Use the switch 1,2,3 on the back of the camera.
2. Press CAMERA SELECT 1 or 2 or 3 on the remote to control each of matching 1,2, 3 cameras, The 1 or 2 or 3 button will light up to show you which camera you are controlling.

Use back light compensation

If there is lighting on the back of focusing object, the object will be looks black. So you can press BACK LIGHT for avoiding this happening, and turn off button for closedown.

PRESET POSITION OPERATION

*You can set up Preset positions using the remote control:

1. Make sure the STANDBY light is off, and then press PAN-TILT RESET to reposition the camera.

2. Adjust camera, pan, tilt zoom, focus and back light;

3. Press PRESET, then press 1-9 simultaneously

To use a preset position

Press any switch of 1-9 position

To cancel a preset position

Press RESET, then press the appropriate number 1-9

Set ID (M-OPEN)

You can set a cameras' remote control ID code within the Menu. Set the arrow to SET ID and press "Right"

You will then be in the sub menu, You must first input the original code before adding a new revise ID Code. The check code is

displayed on the top of menu. Exit the menu after imputing your new code, the screen will inform you to: press < PRESET+1>

SYSTEM RESTART

Go to System Restart in the menu and press "Right", the system will restart, and you will see a "system restarting" prompt

FACTORY DEFAULT

Go to Factory Default in the menu and the press "Right", the system will load the factory defaults

ABOUT

Camera IRID: receive remote controller's address code

CAMERA COM: receive the Serial control signals' address code