Xvision

VIDEO CAMERA

F=4.1~73.8mm F1.6

22x ZOOM CAMERA ///

Model: PCC422E
Colour Digital CCD
22x Zoom Camera

Before you begin

- Please unpack the box carefully and identify that all the parts are present.

- Do not open the camera housing. This will void the warranty and break the warranty seal inside the camera.

- Make sure you use only the recommended power supply. Damage caused to the camera by incorrect voltage or wiring is not covered by the warranty.

Model:
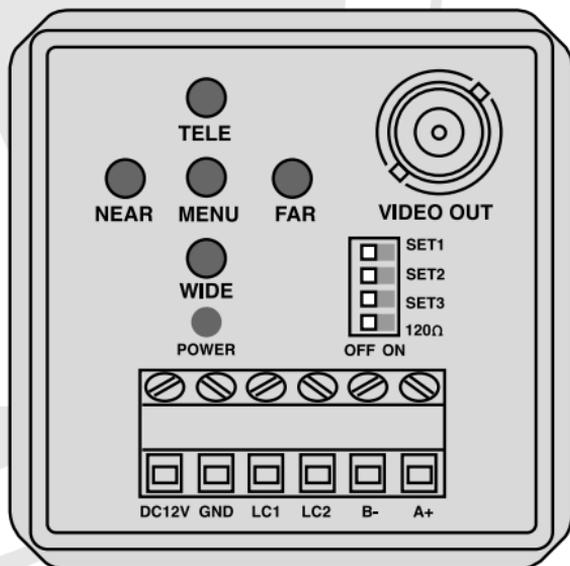**PCC422E**
Colour Digital CCD
22x Zoom Camera

Package Contents
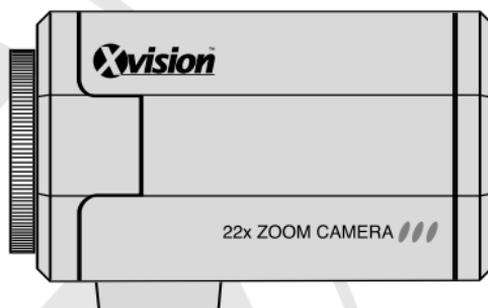
PCC422E Camera complete with 2° to 60° Lens

Connections

Back of PCC422E showing connections

WARNING

WARNING: Thank you for buying the colour video camera. Before operating, please be sure of camera model and that you have the recommended Xvision power supply.
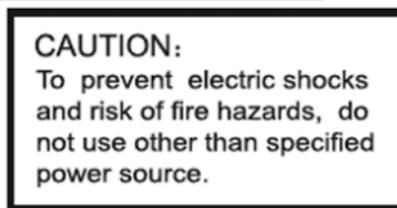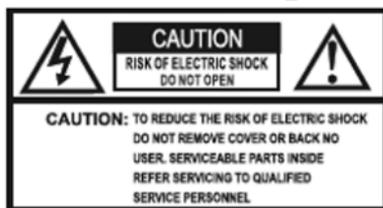
SA 1966

To prevent shock and fire hazard, do not expose the unit to rain or moisture.

SA 1965

Please take notice of the 'dangerous voltage' symbol to avoid serious accident or injury.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER OR BACK NO
USER, SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL

CAUTION:
To prevent electric shocks and risk of fire hazards, do not use other than specified power source.

Warning: This equipment has been tested and found to comply with the guidelines for a Class A digital device, pursuant to part 15 of the FCC rules. These guidelines are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates radio frequency energy and, if not installed and used in accordance with the manual, may cause harmful interference to radio communications. Take care when operating this equipment in a residential area as it may cause interference with other electrical equipment.

Caution: Any unauthorised changes or modifications in construction of this device could void the warranty.

3

Function Control

1. Button Functions

TELE

NEAR   MENU   FAR
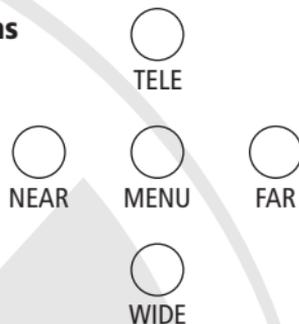
WIDE

a) **TELE**- This button allows you to 'zoom in' on the picture;
  use the ↑ arrow
b) **WIDE**- This button allows you to 'zoom out' on the picture;
  use the ↓ arrow
c) **NEAR, FAR**- These buttons are used for manual focusing;
  use the ← arrow for 'NEAR' and the → arrow for 'FAR'
d) **MENU**- This button displays the menu;
  please refer to pages 7-16 for details
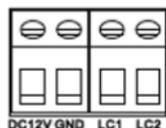
2. Video Signal Output terminal (BNC, VOUT)
The output of this port is 1.0Vp-p, 75Ohms standard video level

3. Lamp for power supply
When the power is on, the lamp will illuminate.
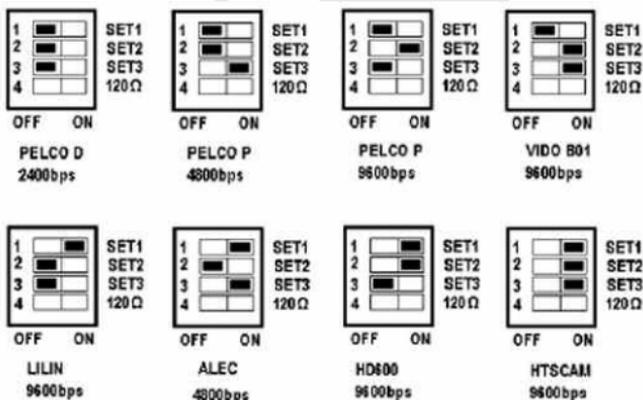
4. Function for line control (hard wired controller)

Function	Line control
WIDE	Lc1 connect GND, Lc2 connect DC12V
TELE	Lc1 connect DC12V, Lc2 connect GND

5. RS485 connection terminal

Use the RS485 port to connect the camera to a keyboard controller and control it. The camera is compatible with eight different protocols.

The protocol and baud rate can be changed by using the dip switches on the rear of the camera. See the following examples to change the protocol settings:

PELCO D
2400bps

PELCO P
4800bps

PELCO P
9600bps

VIDO B01
9600bps

LILIN
9600bps

ALEC
4800bps

HD500
9600bps

HTSCAM
9600bps

Function Control

NOTE: The only way to change the camera ID is by using the camera menu. To ensure that the new setting is correct you should power off and on after this operation.

The following camera operations can be controlled:

(WIDE) Zoom is adjusted to a wide angle view
(TELE) Zoom is adjusted to a telescopic picture
(FAR) Focus is adjusted for far distance
(NEAR) Focus is adjusted for near distance
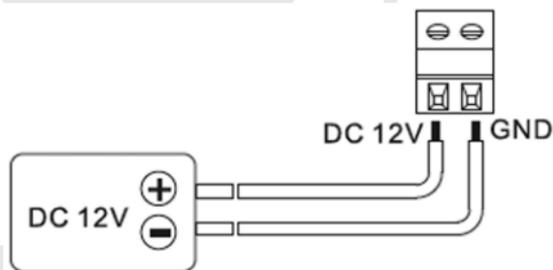(OPEN) Opens the cameras Iris
(CLOSE) Closes the cameras Iris

When using the camera with a controller, you can browse the menu. You can move the joystick to UP, DOWN, LEFT and RIGHT. The operation is similar to the buttons on the back of the camera.
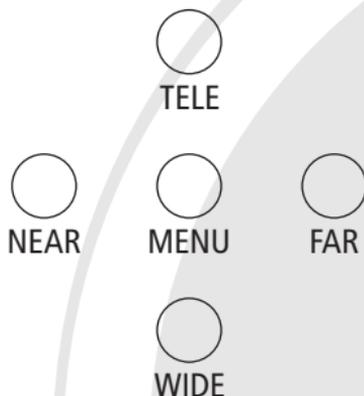
6. Input connection terminal
This terminal can be connected with a regulated DC power supply with more than 800mA rating.

Menus and Operation

How to set up functions
Functions can be set up using the 5 buttons on the camera rear panel

TELE

NEAR   MENU   FAR

WIDE

Press 'MENU' button to enter options in the menu control screen.
Press 'MENU'' button to return.

Under main menu mode, press 'TELE' '↑' 'WIDE' '↓' for each sub
menu; press 'NEAR' '←' 'FAR' '→' to enter sub menu mode.

Under sub menu mode press 'TELE' '↑' 'WIDE' '↓' to choose the
the required settings; press 'NEAR' '←' 'FAR' '→' to change the
value.

In the sub menu press the 'MENU' key to return to the main menu at
any time.

Press 'MENU' button for about 3 seconds to enter.

Menus and Operation

The menu contains the MAIN MENU and sub menus.

The MAIN MENU displays 10 camera settings which can be selected.

```
                MAIN MENU
   INITIAL SET
   LENS INITIALISE          EXEC
   LENS AUTO INIT           5K
   GENERAL                  SEL
   FOCUS MODE               ZMTR
   BACKLIGHT       OFF
   PRIVACY                  OFF
   WBC MODE                 AUTO
   AE MODE                  AI
   ANTI COLOUR ROLLING      OFF
   FLICKERLESS              OFF
```

The selected category will blink.

MAIN MENU > **INITIAL SET**
Reset the current general settings to the default settings.

MAIN MENU > **LENS INITIALISE**
Calibrates the lens.

MAIN MENU > **LENS AUTO INIT**
Calibrates the lens automatically for 5m, 10m, 15m and 20m.

Menus and Operation

MAIN MENU > **GENERAL**
The **GENERAL** menu includes the following sub options:

GENERAL	
CAMERA ID	001
MIRROR	OFF
HI RESOLUTION	OFF
SHARPNESS	OFF
COLOUR SUPPRESS	OFF
LUX LEVEL	LOW
APERTURE SUPPRESS	OFF
BACK TO MENU	<--

MAIN MENU > GENERAL > **CAMERA ID**
Displays the camera ID. The camera ID can be set from 001 to 255 by
using the 'NEAR/FAR' buttons.

MAIN MENU > GENERAL > **MIRROR**
The video out put from the camera can be reversed (mirror image)
using this function.

Menus and Operation

MAIN MENU > GENERAL > **HI-RESOLUTION**
Improve the resolution of the image

MAIN MENU > GENERAL > **SHARPNESS**
Improve the sharpness of edges

MAIN MENU > GENERAL > **COLOUR SUPPRESS**
Under some special conditions the mode can make the colour picture
change to black and white and improve the S/N level.

MAIN MENU > GENERAL > **LUX LEVEL**
Use the 'NEAR/FAR' to set the cameras level to high/middle/low

MAIN MENU > GENERAL > **APERTURE SUPPRESS**
Under some special conditions this mode can reduce the noise and
improve the S/N level.

MAIN MENU > GENERAL > **BACK TO MENU**
Returns you to the MAIN MENU

In the main menu the next option is **FOCUS MODE**

Menus and Operation

MAIN MENU > **FOCUS MENU**
The **FOCUS MENU** includes the following sub options:

```
              FOCUS MENU
    FOCUS MODE        ZMTR
    RUNTIME           005
    SENSITIVITY       NORM
    NEAR FCS LIMIT    002
    W/T               50cm/1m
    BACK TO MENU       <--
```

MAIN MENU > FOCUS MENU > **FOCUS MODE**
>NORM
This mode will enable the iris to focus continuously. If you do not
want the iris to focus continuously, then use the Interval Focusing
setting or the Zoom Focusing setting, which will prolong the life of
the iris.

>INTV
AF Interval Time- Using the 'NEAR/FAR' controls you can set interval
the time that the camera focuses between from 0 and 120 seconds.

>ZMTR
The lens will focus every time the zoom is adjusted.

>MANU- Choose the mode, after exiting the menu adjust the focus
by using the ' NEAR/FAR' controls.

MAIN MENU > FOCUS MENU > **RUNTIME**
Using the 'NEAR/FAR' controls you can set the time speed at which
the camera zooms between 0 and 120 seconds.

Menus and Operation

MAIN MENU > FOCUS MENU > **SENSITIVITY**
This enables you to adjust the sensitivity of auto focusing.

MAIN MENU > FOCUS MENU > **NEAR FOCUS LIMIT**
It is possible to set the camera to focus on objects as close to 1cm from the lens. In this mode the camera is optimised for close up viewing only. This limit (W/T) can be set at up to 10 metres. Please the table below for settings.

	001	002	003	004	005	006	007	008	009
W/T	1cm/1m	10cm/1m	50cm/1m	1m/1m	2m/2m	3m/3m	5m/5m	10m/10m	Infinite Far

MAIN MENU > FOCUS > **W/T**
The near focus limit selected will be shown here.

MAIN MENU > FOCUS > **BACK TO MENU**
Returns you to the MAIN MENU

In the main menu the next option is **BACKLIGHT**
MAIN MENU > **BACKLIGHT**

> BACKLIGHT MODE SEL
> BACKLIGHT MODE   OFF
> BACK TO MENU   <--
> AE MODE MUST BE AE

Backlight compensation ON/OFF switch. If the object you wish to view is poorly lit because of a bright background, set the 'BACKLIGHT MODE' to 'ON' to compensate. This function may not operate if the object is too small when compared to the area of the background.

Menus and Operation

MAIN MENU > BACKLIGHT > **SENS GAIN**
To set the sensitivity of the back light use the 'NEAR/FAR' controls to
set the gain between 0 and 255.

MAIN MENU > BACKLIGHT > **AREA MODE**
(The area you wish to watch clearly should be selected as shown below).
AREA1- The middle window
AREA2- The down one-third window
AREA3- The left, middle window
AREA4- The right, middle window
AREA5- The up one-third window

MAIN MENU > BACKLIGHT > **BACK TO MENU**
Takes you back to the MAIN MENU where the next item is **PRIVACY**

MAIN MENU >**PRIVACY**

```
              MASK SET
MASK NUMBER          (1-8)
001
MASK SET             OFF
  H. START POSITION
  H. END POSITION
  V. START POSITION
  V. END POSITION
MASK COLOUR          HOLD
BACK TO MENU         <--
MUST OPERATE ON MANU FCS
```

Menus and Operation

MAIN MENU > PRIVACY > **MASK NUMBER**
Eight areas can be set:
MASK SET
H. START POSITION   H. END POSITION
V. START POSITION   V. END POSITION
MASK COLOUR

Hold GREY, WHIT, BLAC, RED, ORAN, YELL, GREE, BLUE, PURP

MAIN MENU > PRIVACY > **BACK TO MENU**
Takes you back to the MAIN MENU where the next item is **WBC MODE**
MUST OPERATE ON MANU FCS

MAIN MENU > **WBC MODE**

```
                    WBC MODE
    WBC MODE              AUTO
    BACK TO MENU          <--
    ANTI-COLOR MUST BE OFF
```

MAIN MENU > WBC MODE > **PUSH**
Will auto adjust the white balance whenever the zoom or focus
buttons are pressed.

MAIN MENU > WBC MODE > **MANU**
WBCADJ- Allows you to manually adjust the white balance.

MAIN MENU > WBC MODE > **INDO**
Set colour temperature to about 3200K, recommended when using
the camera indoors.

Menus and Operation

MAIN MENU > WBC MODE > **FLUO**
Set colour temperature to about 4700K, recommended when using the camera under fluorescent lighting.

MAIN MENU > WBC MODE > **OUTD**
Set colour temperature to about 9500K, recommended when using the camera outdoors.

MAIN MENU > WBC MODE > **AUTO**

Automatically adjusts colour according to the light available

MAIN MENU > WBC MODE > **BACK TO MENU**
Takes you back to the MAIN MENU where the next item is **AE MODE**
ANTI-COLOUR MUST BE OFF

MAIN MENU >**AE MODE**

```
            AE MODE
AE MODE              AI
BACK TO MENU         <--
FLICKERLESS MUST BE OFF
```

MAIN MENU > AE MODE > **AE**

MAIN MENU > AE MODE > **AI**

MAIN MENU > AE MODE > **MANU**

MAIN MENU > AE MODE > **SHUTTER**
Shutter speed can be changed: 1/50 (1/60), 1/120(1/100), 1/250, 1/500, 1/1K, 1/2K, 1/4K, 1/10K, 1/100K IRIS
Iris can be adjusted: CLOSE: F1.6-F16

MAIN MENU > AE MODE > **AGC**
Gain can be adjusted: 5dB/13dB/22dB/30dB

Menus and Operation

MAIN MENU > AE MODE >**BACK TO MENU**
Takes you back to the MAIN MENU where the next item is **ANTI COLOUR ROLLING** - FLICKERLESS MUST BE OFF

MAIN MENU > **ANTI COLOUR ROLLING**
When using the camera in artificial light the frequency of the light can sometimes cause colour rolling on CCTV cameras. Turning this feature on and adjusting the flickerless control can help to prevent this.

MAIN MENU > **FLICKERLESS**
You can choose NORM, LLFL, FIXS and OFF

MAIN MENU > **EXIT**
Takes you out of the menu mode

Model:	PCC422E
Image Sensor:	Sony 1/4″ HQ1 Super HAD CCD
TV System:	PAL
DSP:	x-vision IXC1
Resolution:	480TVL
Minimum Illumination:	0.5 Lux
Audio	No
Operating voltage:	12V DC 800mA
Suggested Power Supply	12V DC 1250mA
Mounting	Wall/Ceiling
Lens Viewing Angle	Various (CS Mount)
IR Nightvision:	No
Weatherproofing	Optional
Dimensions	60 x 61 x 111.5mm (WxHxD)

Appendix

1. Lightning proof and surge signal proof

The product uses TVS lightning proof technology to prevent damage from a lightning strike below 1500W and impulse surge signals. It is also necessary to take note of the following precautions to ensure electrical safety for all applications.

- Keep the communication cables at least 50 metres away from high voltage equipment or cables.

- Position outdoor cabling under the eaves wherever possible.

- In an open area shield the cables in a steel conduit and attach a single point ground to it. The use of trolley wire is not recommended in such circumstances.

- Extra strong lightning proof equipment must be installed in the event of a thunderstorm or if unit is located in close proximity to a high voltage electrical substation.

- Ensure the building has the necessary lightning proof measures in place before designing the system and choosing your cable runs. Run any cables in accordance with national and industrial standards.

- The system must be grounded with equal potentials. The earth ground connection must satisfy the anti-interference and electrical safety requirements and must not short circuit with the high voltage electricity connection. When the system is grounded separately, the resistance of the down conductor should be <4 Ohms and the sectional area of the down conductor should be <25mm^2.

2. RS485 bus basic knowledge

2.1 Characteristics of the RS485 Bus-

As specified by RS485 standards, the RS485 Bus consists of half duplexed data transmission cables with characteristic impedance of 120 Ohms. The maximum load capacity is 256 unit loads (including main controller and controlled equipment).

2.2 Transmission distances of RS485 Bus-

When the user selects the 0.56 (24AWG) twisted pair wires as the data transmission cable, the maximum theoretical transmitting distances areas follows:

Baud Rate	Maximum Transmitting Distance
1200 Bps	2400 metres
2400Bps	1800 metres
4800Bps	1200 metres
9600Bps	800 metres
19200Bps	200 metres

Addendum

If the user selects thinner cables or installs the camera in an environment with strong electromagnetic interference, or connects lots of equipment to the RS485 Bus, the maximum transmitting distance will be decreased. To increase the maximum transmitting distance do the opposite.

2.3 Connection and termination resistor-

The RS485 standards require a daisy chain connection between the equipment. There must be termination resistors with 120 Ohms impedance at both ends of the connection. (refer to Figure 37). Please refer to Figure 38 for simple connection. 'D' should exceed 7 metres.
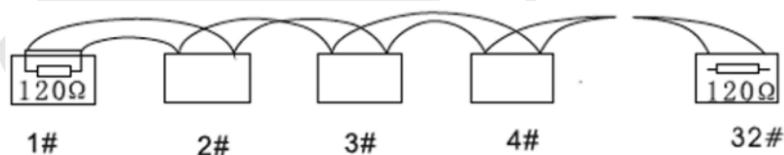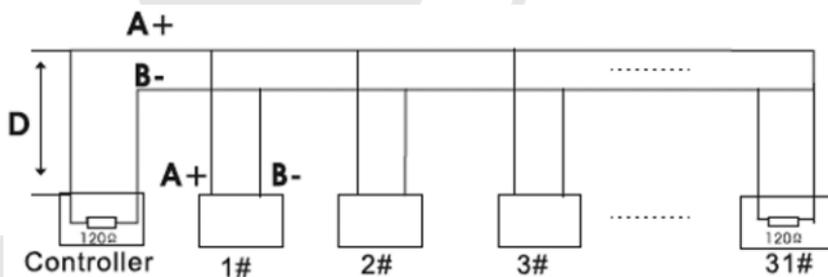

Figure37

Figure38

2.4 Problems in practical connection-

In special circumstances it may be necessary to adopt a star configuration to achieve the best connection. the termination resistors must be connected to the two items of equipment that are farthest away from each other, such as items 1 and 15 in Figure 39. As the star configuration does not conform to the RS485 standards, problems such as signal reflections and lower anti-interference performance may arise when the connecting cables are too long. The reliability of the control signals is decreased and the camera may not respond. It may respond intermittently or operate continuously without stopping (refer to Figure 40).
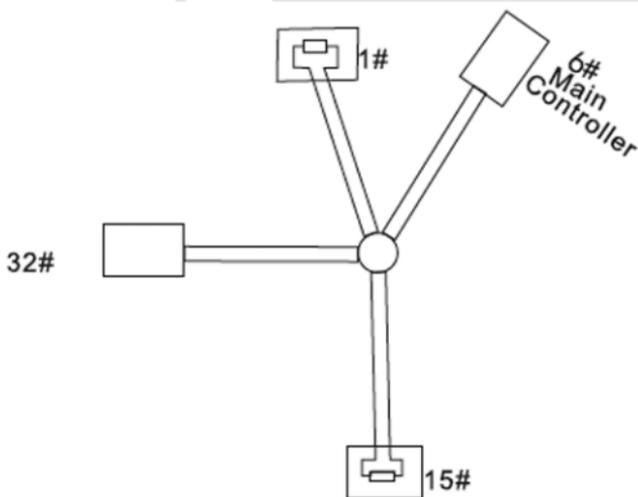

Figure39

Figure40

Xvision™
CCTV
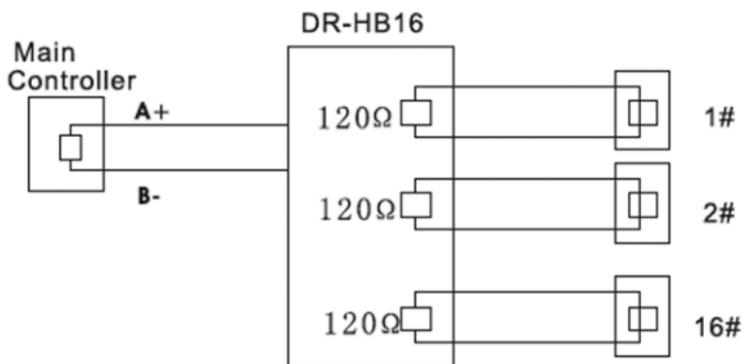
TECHNICAL SUPPORT:
For Technical Support for any x-vision product please contact your
local distributor.

LIMITED WARRANTY:
This product is supplied with a limited 1 Year warranty. The
Warranty excludes products that have been misused, (including
accidental damage) and damage caused by normal wear and tear.
In the unlikely event that you encounter a problem with this
product, it should be returned to the place of purchase.

Manufactured exclusively for:
x-vision (Europe) Group,
Head Office: London, U.K.
Email: info@x-vision.co.uk
Web: www.x-vision.co.uk