Xvision™

User Manual

Before you begin

- Please unpack the box carefully and identify that all the parts are present.
- Please bear in mind the following points when choosing a mounting position.
    - > The camera must be positioned so that it will not point directly into the sun (sunrise and sunset) or any bright light, as this may cause damage to the camera
    - > Avoid viewing areas where half the area is in bright sunlight and the other half is dark, such as in the shadow of a building. All types of cameras have difficulty in 'seeing' with such a large lux level variation.
- Do not cut the camera cables, this will void the warranty.
- 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: **XPD700W-2**

Professional 700 TVL Dome
with DNR and WDR

Contents

Thank you for purchasing this Xvision camera. Before operating this product, please read this instruction manual carefully.

1. Safety Precautions

CAUTION
RISK OF ELECTRIC SHOCK.
DO NOT OPEN!

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT OPEN COVERS UNLESS MAKING LENS ADJUSTMENTS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

- Do not disassemble or modify the camera. Please refer repairs or service to a qualified service technician.
- Take care when installing the camera. Avoid scratching the front glass window.
- Avoid shock and vibration. Do not install the camera on an unstable surface. It can be damaged by improper use or storage.
- Do not attempt to point the camera at the sun or other extremely bright objects. It can cause image smearing whether the camera is powered on or not and can lead to the damage of the CCD (Charge Coupled Device).
- When camera is installed next to equipment, such as wireless communication device, that emits a strong electromagnetic field, some irregularity such as noise on the monitor screen may occur.
- Operating temperature: -10° ~ +45°C
- Provide ample slack in the video and power cables once the camera is installed in its final position.
- Request the service of a qualified technician if the camera malfunctions or generates excessive amounts of heat.

2. Product Description

The XPD700W-2 is a professional CCTV dome camera that has excellent colour balance and a high resolution 700 TVL image, resulting in natural colours and super sharp images.

It features a powerful ARM based DSP, which processes the image in real time and improves it by using Digital Noise Reduction and Wide Dynamic Range to produce an even image, that does not suffer from bright or dark spots. Further enhancing the picture is a megapixel lens, which is fully adjustable, allowing you to select the perfect viewing angle for your application. The camera also features an On Screen Display (OSD) that allows the user to fully customise the advanced features to its environment.

The XPD700W-2 is designed for internal use only and can be wall or ceiling mounted.

3. Features

- 700 TVL high resolution colour image
- Sony 1/3" Ultra High Resolution CCD Sensor with an Xvision X7 DSP.
- 2.8 to 12mm Varifocal Auto Iris Lens for 23 to 92° viewing angle for super sharp images and easy selection of the optimum viewing angle during installation.
- Smart DNR (Digital Noise Reduction) reduces the noise on the image when viewing in low lux environments (like at night). This reduces the size of the image when being recorded by a DVR, resulting in a saving of disk space.
- WDR (Wide Dynamic Range) feature allows the camera to display balanced pictures even when the scene being watched has bright spots or various light levels and back light conditions.
- On Screen Display menu for complete customisation of advanced features.
- Designed for wall/ceiling mounting and is suitable for internal use only.

4. Contents

- XPD700WIR-2 Camera
- User Manual
- Screws & Wall Plugs

5. Installation

1. Select a suitable position on the wall or ceiling to install the camera.

2. Press the button on the camera shell (fig 1) to unlock the dome cover and removing it to expose the camera's internal structure. (fig 2).

3. Remove the black dome base from the main camera shell (fig 3) by unlocking it with the lever (fig 4), and then turning it anti-clockwise.

4. Secure the black dome base in the desired position with fixing screws using the 3 designated screw holes (fig 5).

5. Re-attach the main camera shell back onto the dome base and turning it clockwise to lock it in place.

6. The camera's viewing angle can then be adjusted by moving the lens to the desired viewing position.

7. The lens can then be adjusted by using the 2 screws for the focus and zoom (fig 6).

8. Reattach the dome cover back onto the main camera shell (by lining it up with the arrow on the dome cover) and push it in to secure it.

fig 1

Push Button

fig 2

fig 3

fig 4

Lever

fig 5

Screw Holes

fig 6
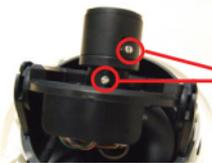
Focus/Zoom Adjustment Screws

CONNECT THE POWER & VIDEO CABLES

1. Connect the video output to the monitor or other video device through a 75 Ohms type coaxial cable.
2. Connect the power source, insert the AC plug into the AC socket and the DC plug into the DC Jack (+12V DC in jack centre).

$$\ominus - \textcircled{\bullet} - \oplus$$

← 12V DC Power Cable

← Video Cable
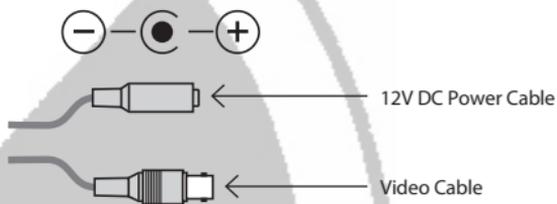
6. Camera OSD Control

Various camera settings can be adjusted using the OSD button located on the camera's cable.

Press the SET button to enter the OSD Menu.

UP

LEFT ◀ SET ▶ RIGHT
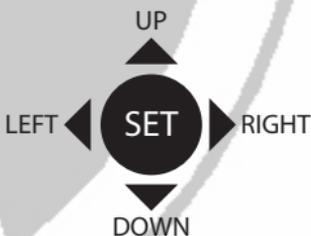
DOWN

OSD Button Control Actions

Press these controls	For this Action
UP, DOWN	Select between items in a list
LEFT, RIGHT	Select a menu item to change its settings
SET (MENU)	Call up the OSD Menu/ Access a Sub Menu

7. OSD Menu Structure

LENS
> AUTO ↵ > MANUAL

SHUTTER/AGC
> AUTO ↵ > MANUAL ↵

WHITE BALANCE
> ATW ↵ > PUSH > USER1 WB ↵ > USER2 WB ↵ > ANTI CR
> MANUAL WB ↵ > PUSH LOCK

BACKLIGHT
> OFF > BLC > HLC

PICTURE ADJUST ↵

ATR
> ON ↵ > OFF

MOTION DETECTION ↵

PRIVACY ↵

DAY/NIGHT ↵

NOISE REDUCTION ↵

CAMERA ID
> ON ↵ > OFF

SYNC

LANGUAGE ↵

CAMERA RESET

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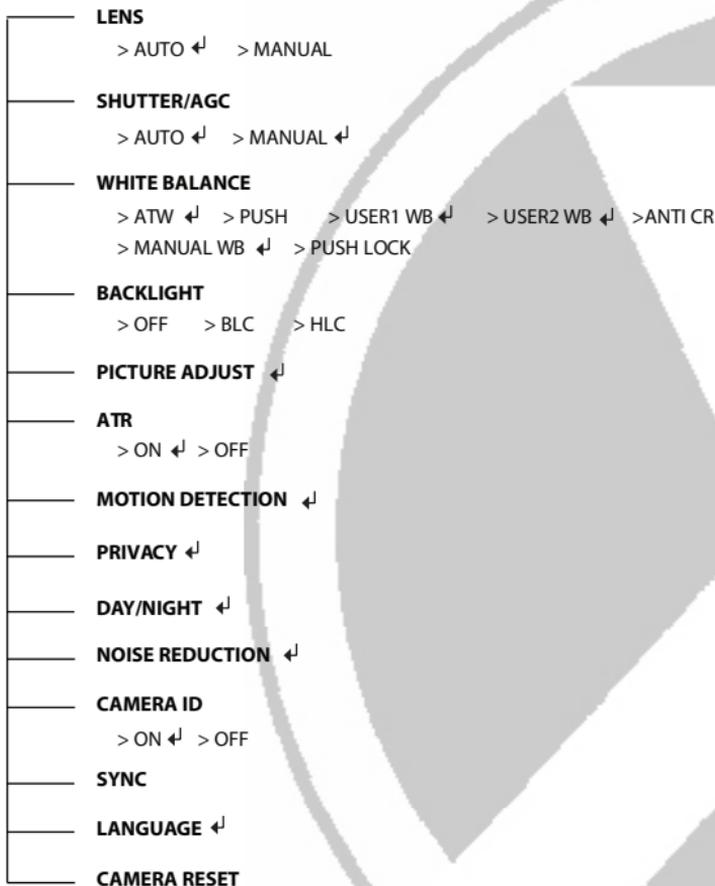
Please Note:
- The arrow symbol on the OSD menu ↵ indicates that there is a sub-menu available. You can enter the sub-menu by pressing the SET (Menu) button.
- **RETURN**: allows the user to return back to the previous menu.
- **NEXT**: allows the user to move to page 2 of the main menu.
- **BACK**: allows the user to return to page 1 of the main menu.
- **EXIT**: allows the user to exit out of the main menu completely.
- **SAVE ALL**: allows the user to save all the current settings.

8. SETUP Menu Functions

8.1. LENS   <Option : AUTO / MANUAL>

Select the iris aperture control method between 'AUTO' and 'MANUAL' by pressing LEFT or RIGHT button. When 'AUTO' is selected, you can press the setting button to enter its submenu.

```
SETUP MENU

TYPE          DC
MODE          AUTO
SPEED         |I||||||||||||||||||| 033


RETURN ↵
```
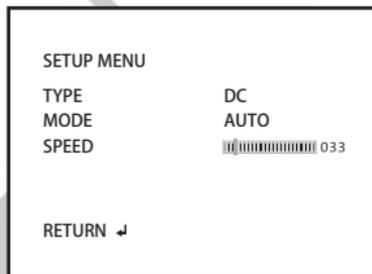
- 'TYPE' lets you select between DC iris and video iris. However, video iris mode is not supported on this camera. For the item 'MODE', you can select 'AUTO' to let the camera automatically adjust the diameter of aperture. You can also set the camera to open the aperture to the maximum degree, or use the minimum aperture. The 'SPEED' item allows you to set aperture adjustment speed.

8.2. SHUTTER/AGC   <Option : AUTO / MANUAL>

Allows you to configure the shutter speed and the AGC.

```
AUTO SETUP

HIGH LUMINANCE
MODE          AUTO IRIS
BRIGHTNESS    |I||||||||||||||||||| 033

LOW LUMINANCE
MODE          AGC
BRIGHTNESS    x0.75
RETURN ↵
```
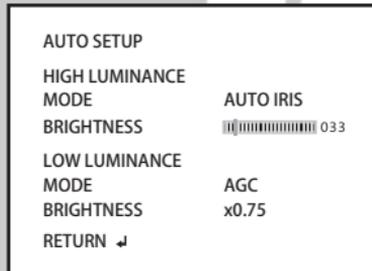
- Selecting 'AUTO', which is recommended when using a DC-iris lens, will allow the camera to adjust shutter speed automatically based on the lighting conditions. Configure the function under different lighting conditions in the submenu of 'AUTO'.
- Under 'HIGH LUMINANCE', you can choose 'AUTO IRIS' mode (default setting) to use a fixed shutter while making the camera adjust iris level according to the brightness of the scene. Choose 'SHUT+AUTO IRIS' mode to have the camera adjust iris level according to the brightness, and control the exposure with DC iris.

8.2. SHUTTER/AGC   Continued

- If you have previously selected 'MANUAL' for the 'LENS' item, the mode will be forced as 'SHUT'. The 'BRIGHTNESS' item let you adjust the aperture to tailor the brightness to your preference.
- Under 'LOW LUMINANCE', you can choose 'AGC' mode (default setting) to have the camera automatically increase the gain when in low light conditions to produce a brighter image. The 'BRIGHTNESS' item allows you to tailor brightness level to your needs.
- The MANUAL shutter option provides a submenu that contains Mode, Shutter and AGC setting. 'SHUTTER' item lets you specify the shutter time (between 1/50 sec and 1/10000 sec). Adjust 'AGC' level according to your lighting conditions.

8.3. WHITE BALANCE (WHITE BALANCE MENU)

<Option : ATW / PUSH / USER1 WB / USER2 WB / ANTI CR / MANUAL WB / PUSH LOCK>

White Balance (WB) adjusts the colour temperature of the camera image to match the type of light available, so that colours appear as natural as possible.

```
            ATW

   SPEED          |░[||||||||||||||| 033
   DELAY CNT      |░[||||||||||||||| 033
   ATW FRAME      x0.75
   ENVIRONMENT    INDOOR


   RETURN ↵
```
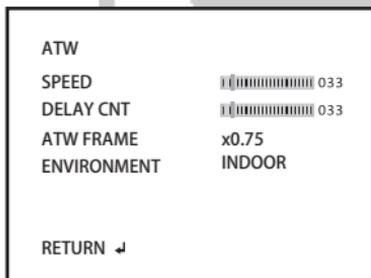
- ATW: Adjusts the cameras automatically to the colour temperature range. 'SPEED' controls the speed of ATW. Changing the 'ATW FRAME' and 'ENVIRONMENT' setting will affect the color temperature range. Smaller value for 'ATW FRAME' leads to a smaller range of color temperature. The color temperature ranges from 2500K to 9500K for indoor environment, and 1800K to 10500K for outdoor environment.
- Selecting 'USER1/2' mode will allow you to adjust the blue gain and red gain individually. 'MANUAL' mode will let you adjust the blue gain and red gain simultaneously. The 'ANTI CR' (anti color rolling suppression) mode uses a smaller range of color temperature than ATW mode does.

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8.4. BACKLIGHT   <Option : OFF / BLC / HLC>

This function allows the user to adjust advanced backlight settings, giving the following options:

```
SETUP MENU

LENS              MANUAL
SHUTTER/AGC       AUTO ↵
WHITE BAL         ATW ↵
BACKLIGHT         OFF
PICT ADJUST       ↵
ATR               OFF
MOTION DET        ON

NEXT ↵
EXIT ↵            SAVE ALL ↵
```
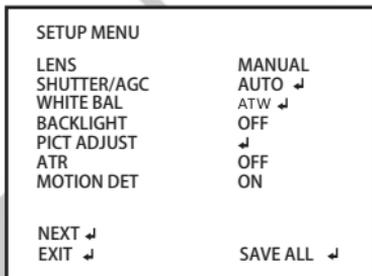
- OFF: Turns the BLC function off
- BLC: The BLC function makes objects in front of a bright scene (such as a window on a bright sunny day) clearer to see by increasing their brightness and making the background darker.
- HLC: Select this feature to select masking of bright areas in the image, such as when viewing number plates when car headlights are on.

8.5. PICTURE ADJUST

Adjust various settings to sharpen the camera image.

```
PICT ADJUST

MIRROR          OFF
BRIGHTNESS      |||||||||||||||||| 000
CONTRAST        |||||||||||||||||| 128
SHARPNESS       |||||||||||||||||| 128
HUE             |||||||||||||||||| 128
GAIN            |||||||||||||||||| 128

RETURN ↵
```

- MIRROR: Provides a mirror reflection (horizontal) of the image.
- BRIGHTNESS: Adjust the brightness of the image (0-255)
- CONTRAST: Adjust the contrast of the image (0-255)
- SHARPNESS: Adjust the shaprness of the image (0-255)
- HUE: Adjust the hue of the image (0-255)
- GAIN: Adjust the gain of the image (0-255)

8.6. ATR   <Option : ON / OFF>

Similar to Wide Dynamic Range, ATR can compensate for gradation of the subjects to the optimal level and thereby improve contrast in both bright and dark areas in the picture. Switch on ATR and then press the setting button to enter its submenu. Use the operation buttons to select 'LUMINANCE' or 'CONTRAST' and then adjust the level to your preference.

```
ATR

LUMINANCE          MID
CONTRAST           MID




RETURN ↵
```

8.7. MOTION DETECTION   <Option : OFF / ON>

This function alerts the user if motion has been detected within a user defined area:

```
MOTION DET

DETECT SENSE      ||||||||||||||||| 111
BLOCK DISP        OFF
MONITOR AREA      ON
AREA SEL          1 / 4
TOP               ||||||||||||||||| 000
BOTTOM            ||||||||||||||||| 000
LEFT              ||||||||||||||||| 000
RIGHT             ||||||||||||||||| 000

RETURN ↵
```

- Switch to 'ON' and then press the setting button to enter its submenu. You can create up to 4 motion detection areas by enabling 'MONITOR AREA' and adjusting the 'TOP/BOTTOM/LEFT/RIGHT' slider separately. You can also adjust the detection sensitivity. 'BLOCK DISP', when switched on, will highlight moving objects in the scene with color blocks; when switched to 'ENABLE ↵', it allows you to enter a grid screen in which you will use the operation buttons to move the translucent square and, by pressing the setting button, specify areas in the scene that will not be detected (which then will become transparent). To exit the grid screen, press and hold the setting button for 2 seconds before releasing it.

8.8. PRIVACY ZONE   <Option : OFF / ON>

Privacy function can create up to 4 masks to protect sensitive areas in the scene.
Switch to 'ON' to enter its submenu as shown below. Select an area and adjust the
'TOP/BOTTOM/LEFT/RIGHT' slider separately to create a mask on screen. You can
also specify the color, transparency (1 being opaque) and mosaic setting (not effec-
tive on opaque masks).

```
PRIVACY

AREA SEL      1/4
TOP           ||||||||||||||||||| 000
BOTTOM        ||||||||||||||||||| 000
LEFT          ||||||||||||||||||| 000
RIGHT         ||||||||||||||||||| 000
COLOR         1
TRANSP        1.00
MOSAIC        OFF


RETURN ↵
```

8.9. Day/Night   <Option : AUTO / COLOR / BLACK/WHITE >

Configure the day/night function by selecting between 'AUTO', 'COLOR' and 'B/W'.
When 'AUTO' is selected, press the setting button to enter its submenu as shown
below. The 'DELAY CNT' specifies the delay before a switchover. 'DAYNIGHT' and
'NIGHTDAY' determines the lux level at the switching point.

```
DAY/NIGHT

BURST         OFF
DELAY CNT     ||||||||||||||||||| 010
DAY ➜ NIGHT   ||||||||||||||||||| 003
NIGHT ➜ DAY   ||||||||||||||||||| 005


RETURN ↵
```

When 'COLOR' is selected, color image is always displayed. When 'B/W' is selected,
the picture is always displayed in black/white (the burst setting in its submenu is
synchronized with the burst setting in the submenu of 'AUTO').

8.10. Noise Reduction

Here you can configure the 2D digital noise reduction function (default: off). Its submenu includes 3 noise reduction mode: 'Y', 'C', and 'Y/C'. Select any of the three NR modes, highlight the Y or C level, and then press the LEFT/RIGHT button to adjust the slider for Y level (brightness signal) or C level (color signal return).

```
        NR

        NR MODE      Y/C
        Y LEVEL      |||||||||||||||||| 004
        C LEVEL      |||||||||||||||||| 004



        RETURN ↵
```
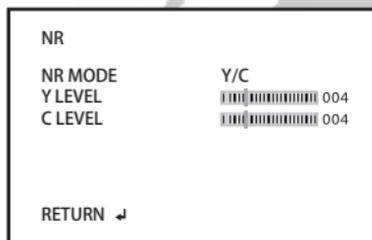
8.11. CAMERA ID

You can create a camera title to be displayed on the screen. Switch to 'ON' and press the setting button to input a custom title. The camera title can be named with up to 52 characters in two lines. Highlight and select 'POS' to move the title to the preferred position on screen.

8.11. SYNCHRONOUS MODE

This function is not used.

8.12 LANGUAGE

Press the LEFT/RIGHT button to change the language of the OSD menu. Available languages include English, Japanese, German, French, Russian, Portuguese, Spanish, and Chinese.

8.13. CAMERA RESET

Resets all settings to the factory default.

Xvision™

Specifications

Model:	XPD700W-2
Picture Type:	Day/Night (B/W & Colour)
Image Sensor:	Sony 1/3" Ultra High Resolution CCD
DSP:	Xvision X7 DSP
Resolution:	700 TVL
Lens Viewing Angle:	23 to 92°
Infra Red Night Vision:	No
Minimum Illumination:	0.0003 Lux
Audio:	No
Operating Voltage:	12V DC 120mA
Suggested Power Supply:	12V DC 300mA
Mounting:	Wall/Ceiling
Weatherproofing:	No
Dimensions (WxH):	127 x 95 mm
Weight:	0.24 Kg

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TECHNICAL SUPPORT:
For Technical Support for any Xvision product please contact your local distributor.

LIMITED WARRANTY:
This product is supplied with a 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 Xvision - www.xvision.com