

PRO-630DN

SUPER LOW LUX DNR DAY & NIGHT OSD CAMERA

1/3" SONY SUPER HAD CCD SENSOR
630 TV Lines
Dual Voltage 12V DC / 24V AC

OPERATIONAL MANUAL



Please read the Operational Manual
before attempting to use this product.

FC CE

DNR dramatically reduces both random and fixed noise.
It also reduces DVR disk space usage by up to 70%.

* Lens Not Included
Aspherical IR Day & Night Lens is Recommended
for Best Performance (Made in Japan)

FEATURES

- 1/3" Sony Super HAD CCD
- 630 TV Lines
- 0.001 Lux
- OSD with Day & Night
- **Digital Noise Reduction (DNR)**
- Star Lighting, Color at Night
- Sense-up Control x2, x4, x6, x8, x10, x12, x14, x16, x24, x32, x64, x128
- 160mA
- Dual Voltage 12V DC / 24V AC

The Digital Noise Reduction (DNR) technology is built into the camera to eliminate any noise associated with low light environment. Ghost and blooming effects are reduced dramatically, leaving the image clean and vivid. An added benefit is that the hard drive required capacity for DVR recording is substantially reduced by up to 70%, due to the DNR technology.

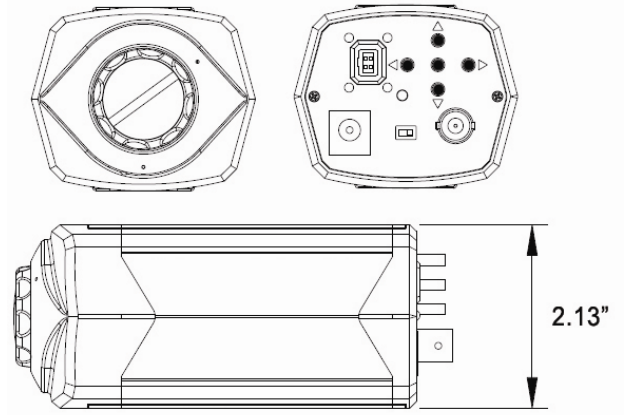
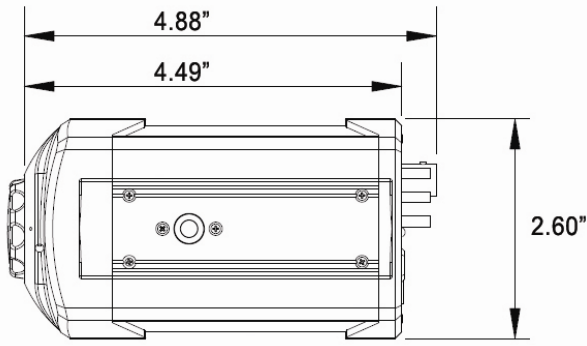
The Day & Night digital control function is embedded within the camera to enhance picture quality. Day & Night digital control technology automatically detects day or night time to keep full color in day time and turn to B/W at night. It also detects the environmental brightness automatically. Star Lighting mode will be working while the brightness is low. This ensures the picture brightness which can reach to 0.001 lux.

The camera can easily set up any function through the on-screen display menu. The privacy masking function enables you to select and record only chosen coverage among 4 areas. Up to 4 motion detection areas are available for setting. It is adjustable on location or size and an alarm will be alerted on screen.

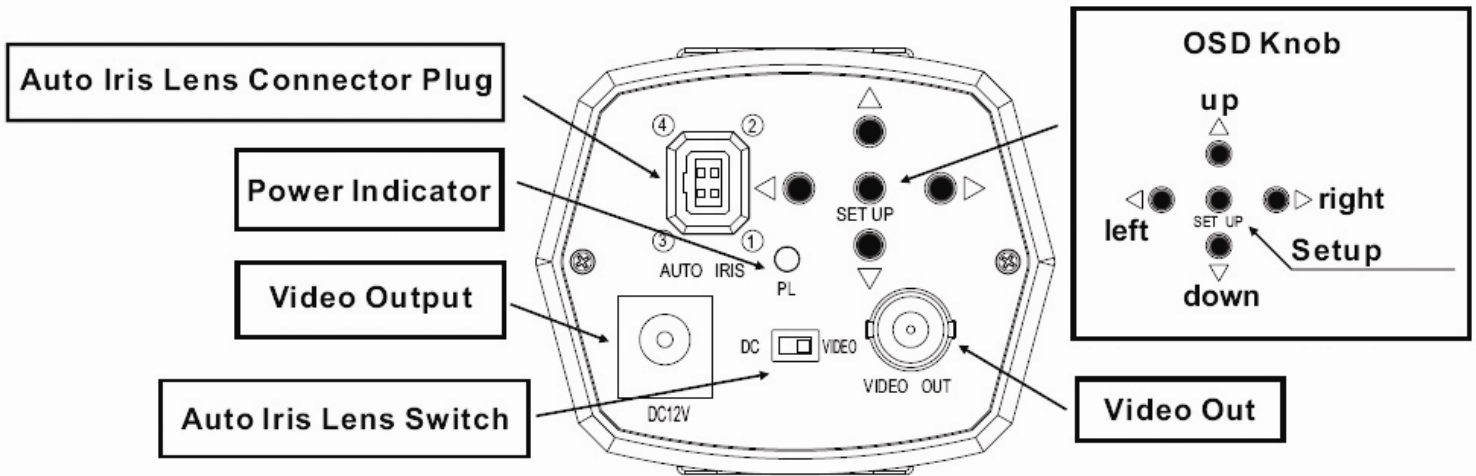
LIST OF COMPONENTS

- One (1) PRO-630DN Camera
- One (1) Power Cord
- One (1) Allen Wrench
- One (1) Auto Iris Lens Connection Plug
- One (1) Lens Adjustor
- One (1) Operational Manual

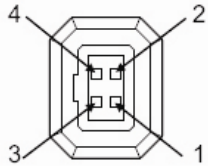
* For any returns, please include all components listed above with original packaging in **Resalable Condition**. **Absolutely No Returns** will be accepted if any component is missing/damaged.



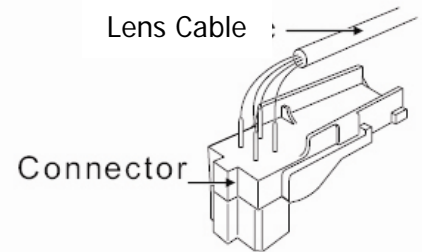
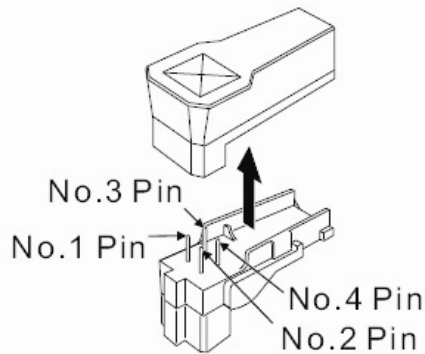
PARTS AND FUNCTIONS



Auto Iris Lens Connector Plug & Definition on Connection:



| | VIDEO | DC |
|----|-------|--------|
| 1. | DC12V | CON(-) |
| 2. | NC | CON(+) |
| 3. | VIDEO | DRV(+) |
| 4. | GND | DRV(-) |



NOTE: Installer is to select the option of "lens --- auto iris" prior to auto iris lens hook up.

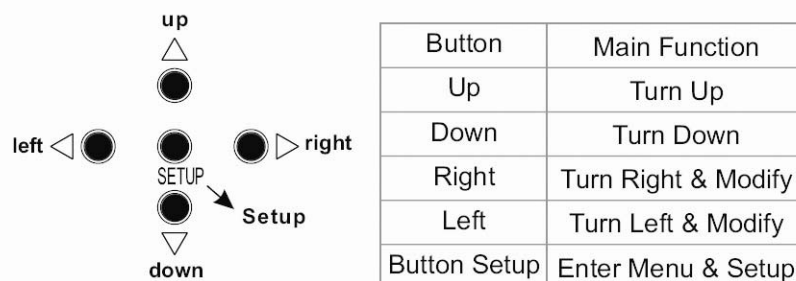
1. On-Screen Display

| Setup Menu | Function | Summary |
|---|--|--|
| Lens (Selection) | Manual: Manual Iris DC/Video: Auto Iris | Lens Type |
| Shutter (Condition and Speed Control) | ESC: Electronic Shutter Manual: Manual FLK: Flickerless | Manual: 1/60(50)~1/120,000sec x2~x128 |
| WHITE BAL (White Balance) | ATW: Auto White Balance AWC: Auto White Balance Control Manual: Manual | ATW: 1,800~10,500K AWC: Auto Detection on White Balance (One Push) Manual: Red/Blue Switch |
| BLC (Back Light Compensation) | Off, Low, Middle, High | Back Light Compensation |
| AGC (Auto Gain Control) | Off, Low, Middle, High | Brightness Adjustable (1~70) |
| DNR (Digital Noise Reduction) | Off, Low, Middle, High | DNR Off When AGC Off |
| SENS-UP (Low Illumination) | Off, Low, Middle, High | Sense-up Off When AGC Off |
| SPECIAL | Off, Auto | Other Function |
| EXIT | Special Functions Setup | Save & Exit |

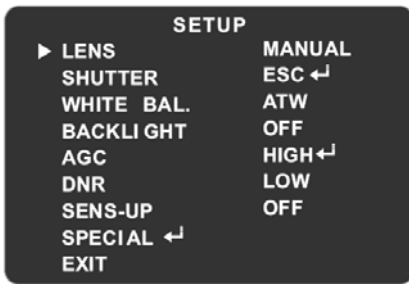
| Special | Function | Summary |
|-------------------------------|---|--|
| CAMERA ID | English Letter / Number 0~9 / -, Empty | Up to 15 letter or numbers can be used |
| COLOR | AUTO: AUTO ON: ON | Auto: Digital Control on D/N Mode Switch |
| SYNC (Synchronization) | INT: Internal | Sync is default to Internal |
| MOTION DETECTION | OFF / ON | ON: The motion detection function enables you to select and display motion notification |
| PRIVACY | OFF / ON | ON: The privacy function enables you to select and record only chosen coverage among 4 areas |
| MIRROR | OFF / ON | Mirror Mode Switch |
| SHARPNESS | OFF / ON | Adjustable 0~31 |
| RESET | All Setting | Return to Default Value |
| RETURN | | Save & Return to Setup Menu |

2. Setup

Below are 5 setup buttons on the rear of the camera.

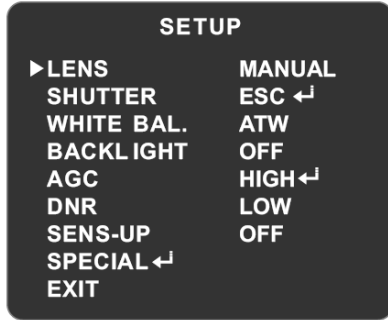


Setup: Menu



Press SETUP to have On-Screen Display
 Press UP/DOWN to select Setup
 Press LEFT/RIGHT to select Setup

Setup: Lens Selection

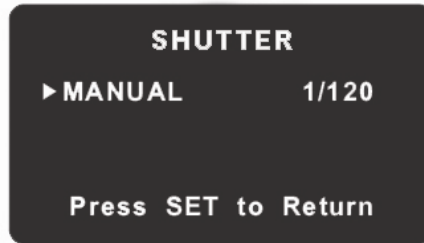
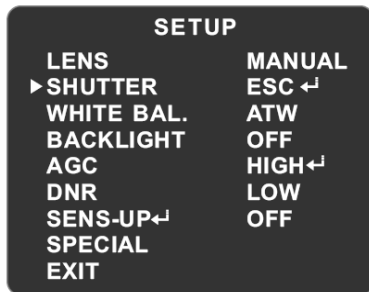


1. Position the arrow to LENS in setup menu by UP/DOWN button.
2. Press LEFT/RIGHT to select lens type
 Manual: Setup when using manual iris lens
 Manual Mode: Internal electronic shutter (IES) is on and brightness is controlled by IES
 DC: Setup when using auto iris lens which controls the iris automatically

When selecting DC mode, the brightness of the lens is adjustable after pressing SETUP. Select LEFT/RIGHT to adjust auto iris and to modify brightness. Return to last menu by pressing SETUP while finishing modification.

Setup: Shutter

1. Position the arrow to SHUTTER in setup menu by pressing UP/DOWN button
2. Press LEFT/RIGHT to select shutter mode



ESC: Electronic Shutter Control
 When selecting ESC, system will automatically adjust the shutter speed to control brightness. When selecting ESC mode, the brightness of the screen is adjustable after pressing SETUP. Select LEFT/RIGHT to adjust the brightness. Return to the last menu by pressing SETUP while finishing modification.

FLK: Flickerless

Flicker is usually caused by non-synchronizing frequency. When selecting FLK mode, the speed of electronic shutter for NTSC is 1/100s and for PAL, it is 1/120s.

Manual Control

When in MANUAL mode, press SETUP to enter into shutter menu. Set up the shutter speed by LEFT/RIGHT button. NTSC: x128~x2, 1/60~1/120,000s; PAL: x128~x2, 1/50~1/120,000s. Return to last menu by pressing SETUP while finishing modification.

NOTE: When selecting DC DRIVE, the shutter speed will be fixed at 1/60 (NTSC), 1/50 (PAL) which the shutter mode is not selectable. When the shutter is set as FLK or MANUAL, SENS-UP will not work.

Setup: White Balance

1. Position the arrow to WHITE BAL in setup menu by UP/DOWN button.



Turn on AGC when the light source is low to amplify the image signal and to enhance the brightness in low illumination.

1. Position the arrow to AGC in setup menu by pressing UP/DOWN button.
2. Select the mode you wish to operate by pressing LEFT/RIGHT button.

HIGH: The gain increases from 6dB up to 42dB

MIDDLE: The gain increases from 6dB up to 30dB

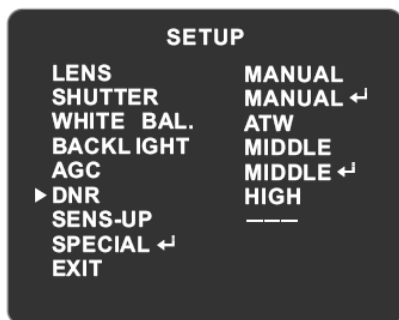
LOW: The gain increases from 6dB up to 18dB

OFF: The gain is fixed at 6dB

NOTE: When selecting HIGH/MIDDLE/LOW, press LEFT/RIGHT to adjust brightness in setup menu. Return to last menu by pressing SETUP while finishing modification. When the AGC is on, the noise will be caused by magnification on the signal of image brightness. The noise depends on the level of AGC, so there will be more noise when AGC is higher.



Setup: Digital Noise Reduction (DNR)



The DNR technology increases S/N ratio for enhancing the image in low illumination, raising DVR recording efficiency and storage capacity.

1. Position the arrow to DNR in setup menu by pressing UP/DOWN button.
2. Select the mode you wish to operate by pressing LEFT/Right button.

OFF: DNR function is disabled

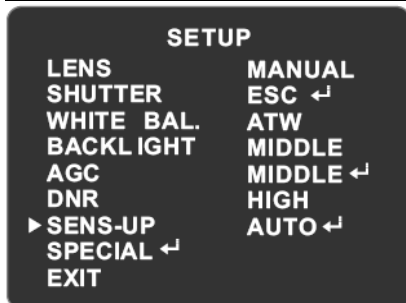
LOW: Suggested Level – The level has a basic control on noise reduction with almost no ghost image.

MIDDLE: The level is applied when the noise is obvious. A ghost image would appear in low illumination.

HIGH: Noise is greatly reduced while ghost images are increasing.

NOTE: DNR works with AGC. When AGC is off, DNR will be disabled.

Setup: Sens-up (Low Illumination)



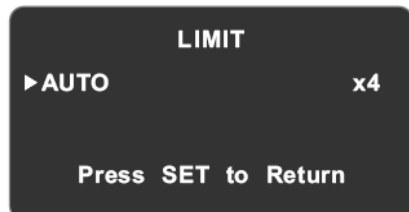
Sense-up helps maintain a bright, clear screen image by automatically detecting changes of the level of light in low illumination.

1. Position the arrow to SENS-UP in setup menu by pressing UP/DOWN button.
2. Select the mode you wish to operate by pressing LEFT/RIGHT button.

OFF: SENS-UP is disabled

AUTO: SENS-UP will be on by auto light detection

NOTE: When selecting AUTO, press SETUP to enter into menu. Adjust the mode from x2~x128. Return to last menu by pressing SETUP while finishing modification. When AGC is off, SENS-UP will be disabled. When SHUTTER is in MANUAL, FLK mode, SENS-UP will be



Setup: Special



1. Position the arrow to SPECIAL in setup menu by pressing UP/DOWN button.
2. Select the mode you wish to operate by pressing LEFT/RIGHT button.

A) Camera ID



1. Position the arrow to CAMERA ID in setup menu by pressing UP/DOWN button.
2. Select the mode you wish to operate by pressing LEFT/RIGHT button.

OFF: ID does not appear on monitor

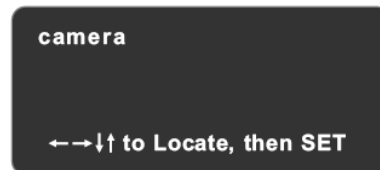
ON: ID appears on monitor

Enter into CAMERA ID by pressing SETUP when in ON mode



1. Move the cursor to the letter to choose by positioning UP/DOWN/LEFT/RIGHT button.
2. Enter the letter by selecting SETUP button
3. While modifying the letters in the CAMERA ID, select [→] or [←] and press SETUP button to move the cursor to the letters that need to be corrected.
4. CLR is to clear letters.
5. Position the cursor to POS and press SETUP when the ID is completed.
6. The modified ID will be shown on the top left corner. Position the ID to the place where you would like it to be displayed by moving UP/DOWN/LEFT/RIGHT. Return to last menu by pressing SETUP while finishing modification.
7. Select END and press SETUP to complete ID.

NOTE: Up to 15 letters or numbers can be used for CAMERA ID.



B) Color



1. Position the arrow to COLOR in setup menu by pressing UP/DOWN button.
2. Select the mode you wish to operate by pressing LEFT/RIGHT button.

AUTO: The camera has a function which automatically switches to the appropriate mode for daytime or night time. The camera displays a color image in day and it converts to B/W mode at night.

ON: Default value. It is fixed to color mode and the image does not switch to B/W at night.

NOTE: When AGC is off, COLOR function will be fixed to ON which cannot be modified.

C) Sync



D) Motion Detection



When there is a moving object, the camera will detect it and an on-screen alert will pop up. The user can set up the detected coverage area by selecting the 4 areas individually on the monitor.

1. Position the arrow to MOTION DET in setup menu by pressing UP/DOWN button.
2. Select the mode you wish to operate by pressing LEFT/RIGHT button

OFF: Motion Detection is off

ON: Motion Detection is on

When selecting ON, enter into MOTION DETECTION by pressing Setup

1. Position the arrow to AREA SEL by pressing UP/DOWN button. The chosen area including AREA1~AREA4 can be set up by LEFT/RIGHT button.

2. Position the arrow to AREA STATE by pressing UP/DOWN button. The detection of the chosen area can be turned on/off by LEFT/RIGHT button.
3. Position the arrow to TOP/DOWN/LEFT/RIGHT by UP/DOWN button. The detected place and coverage of the chosen area can be set up by pressing LEFT/RIGHT button.
4. Return to last menu by pressing SETUP while finishing modification.

NOTE: Motion detection only shows alert on the monitor without additional alarm output.

E) Privacy



This mode conceals the areas you do not wish to show on the screen.

1. Position the arrow to PRIVACY in setup menu by pressing UP/DOWN button.
2. Select the mode you wish to operate by pressing LEFT/RIGHT button.

OFF: This will cancel the Privacy

ON: This will activate the Privacy

When selecting ON, enter into PRIVACY by pressing Setup.

1. Position the arrow to AREA SEL by pressing UP/DOWN button. The chosen area including AREA1~AREA4 can be set up by LEFT/RIGHT button.
2. Position the arrow to AREA STATE by pressing UP/DOWN button. The privacy area can be canceled/activated by pressing LEFT/RIGHT button.

3. Position the arrow to TOP/DOWN/LEFT/RIGHT by pressing UP/DOWN button. The privacy place and coverage can be set up by LEFT/RIGHT button.
4. Return to last menu by pressing SETUP while finishing modification.

F) Mirror

The MIRROR function inverts the image.

1. Position the arrow to MIRROR in setup menu by pressing



G) Sharpness



This is to enhance the quality of the image.

1. Position the arrow to SHARPNESS in setup menu by pressing UP/DOWN button.
2. Select the mode you wish to operate by pressing LEFT/RIGHT button.
 OFF: To turn off SHARPNESS
 ON: To turn on SHARPNESS

When selecting ON, enter into SHARPNESS by pressing setup. Adjust sharpness level by pressing LEFT/RIGHT button. Return to last menu by pressing SETUP while finishing modification.

H) Reset



Return to Default Value.

1. Position the arrow to RESET by pressing UP/DOWN button.
2. Press setup and all settings will return to default value.

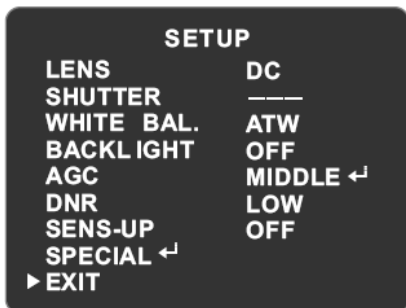
I) Return



Return to Main Menu.

1. Position the arrow to RETURN by pressing UP/DOWN button.
2. Press setup to return to main menu.

Setup: Exit



Exit from OSD menu.

1. Position the arrow to EXIT by pressing UP/DOWN button.
2. Press setup to exit from OSD menu.

| | |
|---------------------------------|--|
| Model | PRO-630DN |
| Signal Format | NTSC |
| Image Sensor | 1/3" Sony CCD |
| Effective Pixels | 768(H) x 494(V) |
| Picture Elements | Approximately 380K |
| Resolution | 630 TV Lines |
| Synchronization | Internal |
| Scanning System | 2:1 Interlace |
| Minimum Illumination | 0.001 Lux |
| S/N Ratio | Max. 66dB |
| OSD | Built-In |
| Electronic Shutter Speed | Auto: 1/60~1/120,000sec |
| Auto White Balance | ATW / AWC / Manual (1800°K~10500°K) |
| Back Light Compensation | OFF / LOW / MIDDLE / HIGH |
| Auto Gain Control | OFF / LOW / MIDDLE / HIGH |
| Digital Noise Reduction | OFF / LOW / MIDDLE / HIGH |
| Sense-up | ON / OFF (x2, x4, x6, x8, x10, x12, x14, x16, x24, x32, x64, x128) |
| Mirror | ON / OFF |
| Sharpness | ON / OFF (0~31) |
| Auto Iris | DC Drive / Video Drive |
| Output | 1 Vp-p Composite Video Output, 75 Ohms |
| Lens Mount | C / CS |
| Power | 12V DC / 24V AC |
| Power Consumption | 160mA |
| Operating Temperature | 23°F ~ 104°F / -5°C ~ 40°C |
| Humidity | Less than 70% |
| Dimensions | 4.88"(L) x 2.60"(W) x 2.13"(H) 124mm(L) x 66mm(W) x 54mm(H) |
| Weight | 295g |

* Specifications are subject to change without notice



IMPORTANT NOTE

1. Never point the camera toward the sun

Do not expose the lens directly to the sun or to strong light as this may damage the pick-up device.

2. Handle this camera with care

Avoid any shock or bumping of the camera. Improper handling could damage the camera.

3. Requires a proper operating environment

This camera is designed for outdoor or indoor use. The allowable temperature range for operation of this camera is between 23°F ~ 104°F / -5°C ~ 40°C.

4. Clean the front face to the pick-up device

It is recommended that the pick-up device surface be cleaned before lens installation or whenever the lens is changed. Cleaning should be done by using a chamois, a very fine soft cloth, lens tissue, or cotton tipped applicator and ethanol to carefully remove any fingerprint or dust.

5. Check the power source voltage

The power source voltage should be within the specified range. (Camera must meet the specifications). Camera must be connected to a surge protector at all times.

6. Objects and liquid entry

Never push objects of any kind into this camera as this may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill any kind of liquid on the video product.

7. Servicing

Do not attempt to service this video product by yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all service to qualified servicing personnel.

8. Damage requiring service

Unplug this video product from the wall outlet and refer service to qualified servicing personnel under the following conditions:

- a. When the power supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the video product.
- c. If the video product has been dropped or the cabinet has been damaged.
- d. When the video product exhibits a distinct change in performance.



WARRANTY

CCTV Camera Pro products are covered under warranty for one year from the date of purchase. The warranty will automatically be voided if any of the following occurs:

1. Camera sticker is removed

If the camera sticker is removed, we will not be able to confirm any information regarding when and where the product was purchased. We have no other way to verify the purchase record without the serial number on the camera sticker; therefore, it should not be removed.

2. Camera is modified in any way

If the camera is scratched, damaged, or modified in a manner not described in this manual, the warranty will be voided immediately. It is the customer's responsibility to keep the camera in good condition.