



# **ESP WITNESS 3K 4CH 12" B/W OBSERVATION SYSTEM**

**OWNER'S MANUAL**  
INSTALLATION AND OPERATION

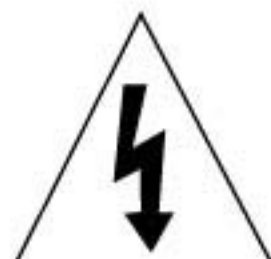


*Before installing or operating system, please read this manual carefully*

**WARNING  
CAUTION**

**WARNING**

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK HAZARD,  
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.  
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLES.



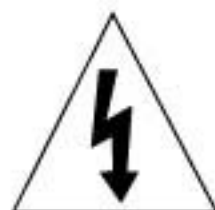
**CAUTION**

**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.

**Explanation of  
Graphical Symbols**



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to people.



This symbol is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the appliance.

# IMPORTANT SAFEGUARDS

1. **READ INSTRUCTIONS**-All the safety and operating instruction should be read before the appliance is operated.
2. **RETAIN INSTRUCTIONS**-The safety and operating instructions should be retained for future reference.
3. **CLEANING**-Unplug this system from wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. **ATTACHMENTS**-Do not use attachments not recommended by this equipment manufacturer as they may result in the risk of fire, electric shock or injury.
5. **WATER AND MOISTURE**-Do not use this equipment near water(eg. bathtub, washbowl, kitchen sink, laundrytub, etc.)
6. **ACCESSORIES**-Do not place this equipment on an unstable cart, stand or table. The equipment may fall causing serious injury to a child or adult, and serious damage to the equipment. Wall or shell mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
- 6A. This observation unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.
7. **VENTILATION**-Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to ensure reliable operation of the equipment and to protect it from overheating. These opening must not be blocked or covered. The opening should never be blocked by placing the equipment on a bed, sofa, rug or other similar surface. This equipment should never be placed near or over a radiator or heat register. This equipment receiver should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
8. **POWER SOURCES**-This equipment should be operated only from the type of power source indicated on the marking label.
9. **GROUNDING OR POLARIZATION**-This equipment is provided with a polarized alternating-current line plug(a plug having one blade wider than the other). The plug will fit into the power outlet only one way. **ALTERNATE WARNING**- This products is equipped with a three wire grounding-type plug. This will only fit into a grounding-type power outlet.
10. **POWER CORDS**-Do not allow anything to rest on the power cord.
11. **HEED WARNINGS**-Follow all instructions marked on the television equipment.
12. **LIGHTNING**-For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the video product due to lightning and power-line surges.
13. **OVERLOADING**-Do not overload wall outlet and extension cords as this can result in a risk of fire or electric shock.
14. **OBJECT AND LIQUID ENTRY**-Never push any kind of objects into the equipment through openings as they 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 products.
15. **SERVICING**-Do not attempt to service this equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. **DAMAGE REQUIRING SERVICE**-Unplug this equipment from the wall outlet and refer servicing to qualified service personnel under the following voltage or other hazards. Refer all servicing to qualified service personnel.
  - A. - When the power supply cord or plug has been damaged.
  - B. - If liquid has been spilled, or objects have fallen into the video product.
  - C. - If the system has been exposed to rain or water.
  - D. - If the system does not operate normally by following the oprating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the system to its normal operation.
  - E.- If the system has been dropped, or the cabinet damaged.
  - F.- When the system exhibits a distinct change in performance this indicates a need for service.
17. **REPLACEMENT PARTS**- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitution may result in fire, electric shock or other hazards.
18. **SAFETY CHECK**-Upon completion of any service or repairs to this system, ask the service technician to perform safety checks to determine that the system is in proper operating condition.



# FCC CLASS B NOTICE

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ▶ Reorient or relocate the receiving antenna.
- ▶ Increase the separation between the equipment and receiver.
- ▶ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ▶ Consult the dealer or an experienced radio or television technician for help.

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

## **CERTIFICATION:**

This unit complies with DHHS rules 2 cfr subchapter J an FCC rules 47 cfr part is applicable at date of manufacturer.



## **CAUTION**

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN.**



**WARNING:** TO PREVENT DAMAGE WHICH MAY RESULT IN FIRE OR SHOCK HAZARD DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

## INTRODUCTION

Thank you for purchasing the advanced 12" B/W 4CH Observation System. This instruction manual describes the powerful features of this system for basic and advanced operation.

It also covers the installation steps that will allow quick and easy integration into your security system.

The following section provides an overview of the operational features of this system.

If You are familiar with this equipment, you should proceed to the "Operating the system" section on the page 7.

## CHECKING THE PACKAGE

Before unpacking the full kit, please check that all of the following components are present and in a good condition.

- 12" B/W 4CH MONITOR(1)
- 1/3" CCD B/W CAMERA (1)
- SYSTEM DIN CABLE(1)
- REMOTE CONTROL HANDSET(1)
- STAND BRACKET(1)
- TAPPING SCREWS(3)
- USER'S MANUAL(1)

## INSTALLING THE SYSTEM

Read the following precaution before installing or using system.

1. Choose an ideal location for the camera so that the lens won't be exceed to any direct light sources. The camera unit must also be protected against moisture and vibration.
2. The monitor should only be operated with the correct power source indicated on the specification.
3. Check the system for operation prior to installing the unit.
4. Be extra careful not to scratch the camera lens and leave the protective film over the lens until the camera is completely installed.
5. Do not install the camera facing into direct sunlight or an artificial light source.

Before installing the system, please test all the components to ensure they are working properly. To test the system set aside all packaging and then following steps

## TESTING THE SYSTEM

1. Loosen both ends of the wrapped system din cable.
2. Insert one end of the cable into the camera. Hold the cable end firmly, align the connector so that the arrow is visible on top. Push firmly until the connection is secured.
3. Insert the other end of the cable into the monitor in the same manner. There are connections at the rear of the monitor for four cameras. The cable must be inserted into the first available connector.
4. Plug the monitor cord into an electrical outlet.
5. Turn the main power switch on pusing the small,round black button locked on the front of the monitor.
6. Turn the monitor screen on by pushing the stand-by button at the front of monitor.
7. The monitor screen should display the installed camera view. The camera position can now be adjusted for the view.

## MONITOR

The monitor requires no particular installation procedure, but consider the following:

- Changing settings and adding peripherals may require accessing the back of the monitor.
- The monitor requires adequate airflow and ventilation. Installing it in an enclosed area is not recommended.

## CAMERA

To install the camera on its fixed mounting bracket, follow these steps:

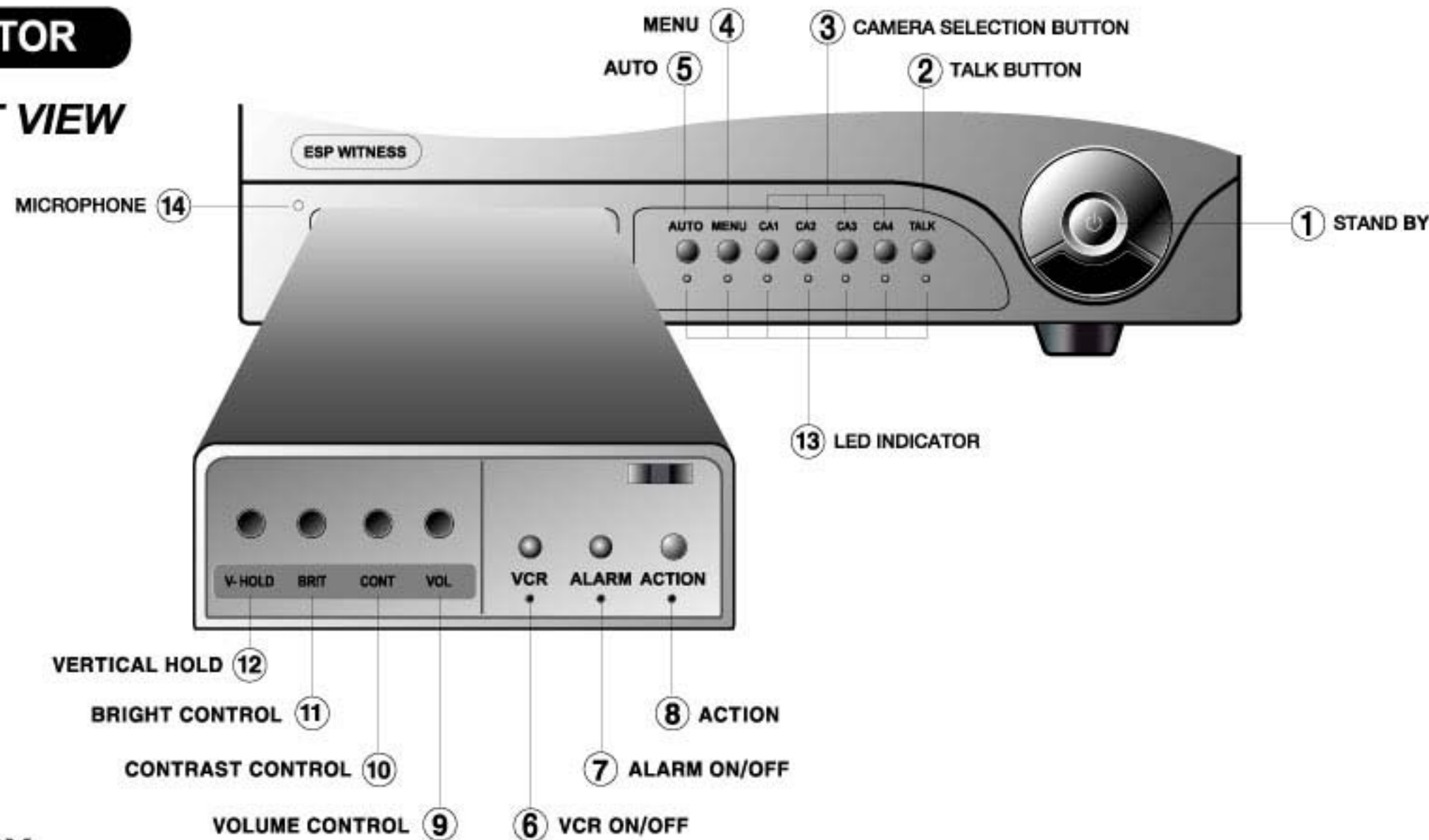
1. Identify the location on a wall or ceiling where the mounting bracket is to be installed.
2. Evaluate the location and use an electric drill with 1/6" bit to pre-drill holes for the screws using the holes in the base of the mounting bracket as a guide.
3. Insert the first screw through the mounting bracket and using a small head screwdriver, fasten the mounting bracket. Secure the bracket by fastening the two remaining screws.
4. Once the bracket is secured, affix the camera to the bracket by aligning the camera socket with the bracket socket.
5. The locking thumb screw is then tightened when proper location of camera is attained.
6. Rotate the camera over the bracket screw until the camera is snugly fitted to the bracket.
7. Rotate the camera so that you see the back of it. Attach the cable to the camera.
8. Position the camera so that it points towards the area to be monitored.

**Note: The mounting bracket pivots and turns for camera angle adjustment.**

This 12" B/W 4CH Observation System will initially be in the live camera display mode whenever power is applied to the unit. Live cameras can be displayed in AUTO or full screen format.

**1. MONITOR**

**A. FRONT VIEW**



**1. STAND-BY**

The small, round black button located on the front of the monitor is used to save screen power and can protect the monitor screen from the damage caused by a static picture over long periods of time. However the stand-by power button is active, the system is still active and can perform unattended functions like VCR recording or alarm monitoring.

**2. TALK BUTTON**

This system is equipped with two way audio communication features. The monitor and camera has the built-in microphone and speaker respectively. Use the volume knob on the front of the monitor to adjust the speaker volume. To talk each other with someone at the camera, please follow the next step;

1. Press the talk button(No.2) or same button of remote and speak toward the microphone(No.14)
2. If you want to hear the sound from the camera release this button.

### **3. CAMERA SELECTION BUTTON(1,2,3,4)**

Press button 1,2,3 or 4 once to display the desired full screen.

### **4. MENU**

Please refer to page 12~15 for on-screen display function.

### **5. AUTO**

Press this button to display four cameras at the auto switching mode.

The Auto Function is used to sequentially rotate from one camera to another. In AUTO mode if push Talk key, the screen will stop at the selected channel and if you push AUTO key again it will be returned to AUTO mode again.

### **6. VCR ON/OFF**

Push this button when you want to see the the recorded using the VCR recorder through the audio/video input jack at the rear of the monitor.

### **7. ALARM ON/OFF**

Switch alarm button on/off. Alarm function is set to on position upon activation of the monitor via power switch

**NOTE:** The alarm function is designed to automatically control picture selection upon receipt of signal from alarm devices such as PIRs, contacts or panic buttons, alert the operator and trigger additional equipment such as Time Lapse VCR or Event VCR. Each camera channel has an associated alarm trigger input. Irrespective of the camera switching mode (i.e. Manual or Auto) the system will instantly switch to the channel on which an alarm trigger has been received and emit a warning sound for 15sec. After this period allowing that no further alarm triggers are received the system will automatically revert to the mode in which it was originally set. Specially, Alarm sound can be put off any button on front panel except "AUTO" button. Of course, it is able to put off through Alarm On/Off switch. Should additional triggers be received during the 14 second period, the system will automatically switch to the relevant cameras and continue the warning sound.

### **8. ACTION**

Press this button to active for DOOR LOCK, SIREN & LIGHTING at the same time when alarm sensing is on or urgent situation.

### **9. VOLUME CONTROL**

To increase the speaker volume, turn the volume dial clockwise.



**10. CONTRAST CONTROL**

To increase the screen image contrast, turn the contrast dial clockwise.

**11. BRIGHT CONTROL**

To brighten the screen image, turn the brightness dial clockwise.

**12. VERTICAL CONTROL**

If the screen image continuously rolls upward or downward, turn V-hold knob gently in either direction until the image stabilizes.

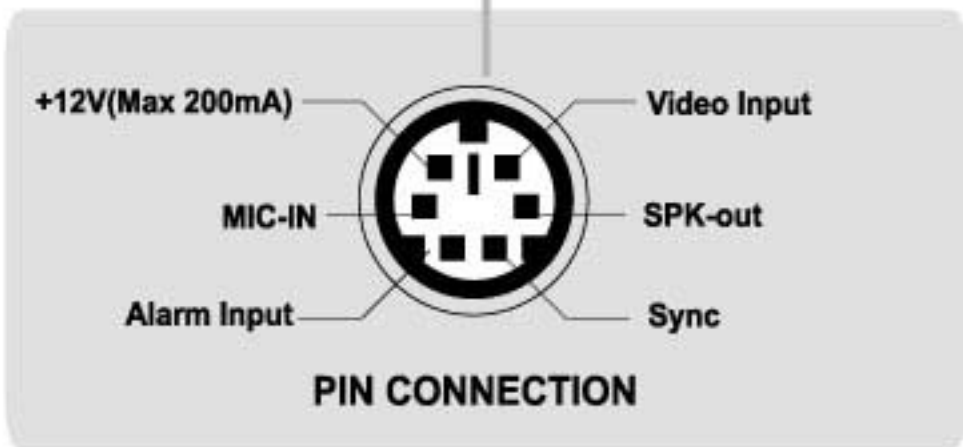
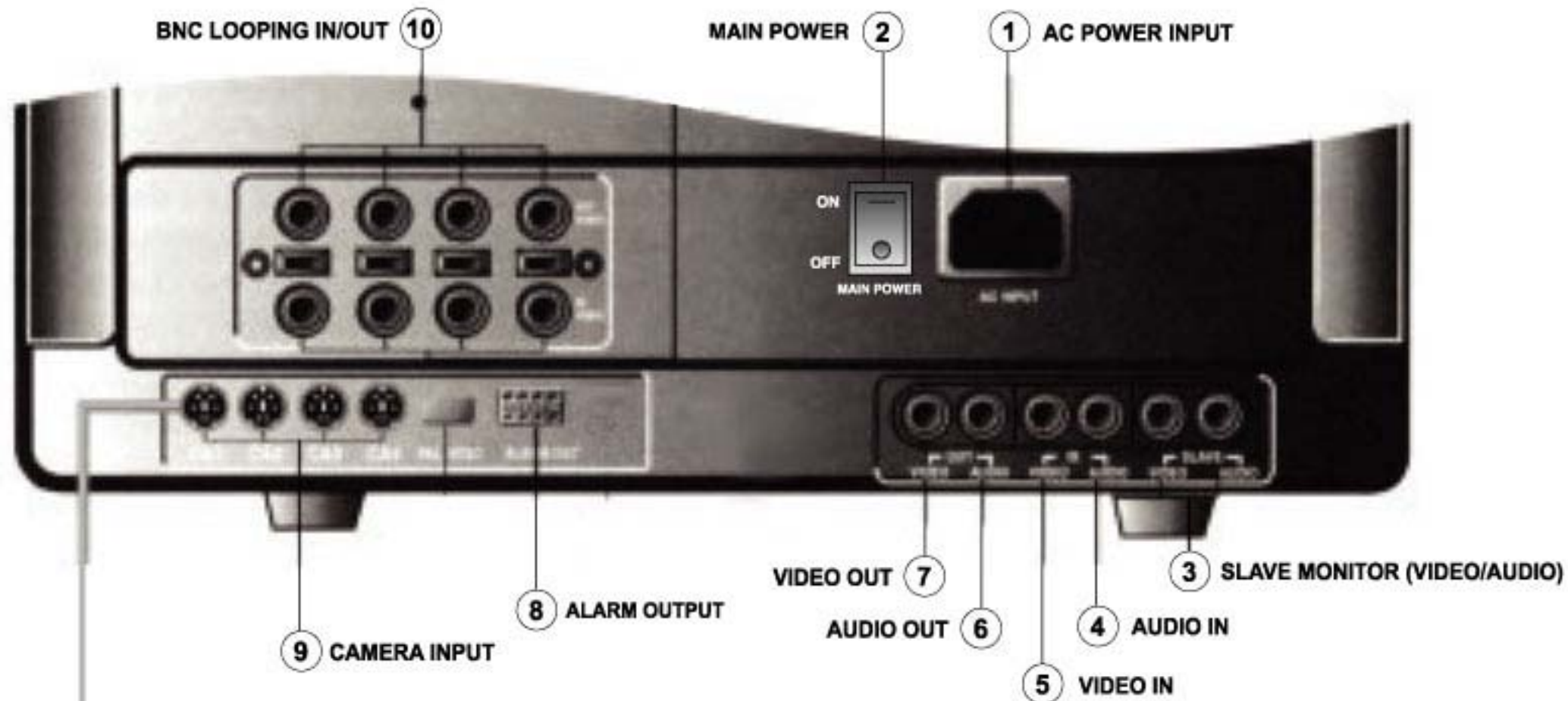
**13. LED INDICATOR**

When each function is working properly, the LED indicator will flash to show the status.

**14. MICROPHONE**

For two way communication, push the talk button and speak toward this hole.

**B. REAR VIEW**



**1. AC POWER CORD**

Plug the supplied AC Power cord.

**2. MAIN POWER SWITCH**

Press the mainpower switch to use any function of the system.

**3. SLAVE MONITOR OUTPUT (VIDEO.AUDIO OUTPUT)**

Connect slave monitor with double male RCA leads to audio/video.

#### **4. AUDIO INPUT**

To receive the audio signal from VCR or any audio amplifier, connect the VCR lead.

#### **5. VIDEO INPUT**

To receive the video signal from VCR or another equipment, connect the VCR lead.

#### **6. AUDIO OUTPUT**

To transmit the video signal to audio amplifier or VCR for recording, connect the VCR lead.

#### **7. VIDEO OUTPUT**

To transmit the video signal to VCR for recording or other equipments, connect the VCR lead.

#### **8. ALARM OUTPUT**

Switch alarm function on/off. NB alarm function is set to on position upon activation of the monitor via power switch.

#### **9. CAMERA INPUT**

Connect the camera with the supplied system din cable. From the left to right, the numbered camera shows 1 to 4.

#### **10 BNC LOOPING IN/OUT (OPTION)**

The four camera input BNC connectors each have a looping in/out and the factory default configuration of each 75 ohm termination is ON.

Four DIP switches inside the unit determine whether the termination is ON or OFF for each camera input.

This system has 75ohm BNC video outputs for the main and call monitors. Connect a 75ohm coaxial cable between the "Main" monitor output and Your primary monitor input. Connection of a separate monitor to the "Call" monitor output is optional.

Connect a 75ohm coaxable from the "VCR IN" BNC to the video output of the VCR and a 75ohm coaxable from the "VCR OUT" BNC to the video input of the VCR.

The 3K has been designed so that most of its features can be accessed from the convenience of a Remote Control Handset. The maximum operating distance for the remote control is 25 feet or 7.5 meters. If you do not intend to use the remote control for extended periods of time, remove the batteries, and store in a cool, dry place and out of reach of children. Do not use batteries of differing age or type. Always discard used batteries safely.

## 1. Remote Control

Note: If you install several 3K monitors in a close proximity to each other, the remote control of one system may unintentionally affect the performance of the other monitors. To prevent this from happening, you may assign an ID number to each monitor, ranging from ID-1 to ID-10. (For set-up instructions for ID number, turn to the next page)

In a multiple monitor setting, push the registered ID number before operating the system with a Remote control.

The top right of the monitor will show "R" or "ID-x" for 3 seconds after receiving signal from remote control.

An "R" means that the ID number is right, but an "ID-x" means that the wrong ID number has been received.

If the latter is the case, enter the right ID number on the screen,(x in ID-X), and retry the remote.

If you are only using one 3K system, ensure that the system is in the ID OFF mode.



## Battery Installation

Your Remote Control Handset is powered by two AA type of batteries.



To insert them, open the cover of the handset in the direction of arrow.



Put the two batteries into the compartment making sure the + and - are correct positioned.



Close the cover.

## 2. Set Up Menus

This 12" B/W 4CH Observation System is accomplished its on-screen menus. To enter the menu, push the menu button on the front panel of monitor or remote. The display will then show the top level menu. Note that operating modes are affected by menu setting, this system will not operate as desired until the system is exited, returning it to its normal operating mode.

Move Key : CA3(↑)  
CA1(←) CA2(→)  
CA4(↓)

Enter key : MENU Key  
CA3, CA4 Key : Value UP, Down Key

1. In any mode. pushing the EXIT button will bring the previous mode.
2. On the menu if you push AUTO key, it will be turned to the AUTO mode directly after memorizing the current status.

### MAIN MENU

1. Enter "SET ID NUMBER" menu to program the internal ID of the monitor and remote control handset.
2. Enter "SET DATE/TIME" menu to program the internal Date/Time and select time and date display options.
3. Enter "SET SEQUENCE" menu to set the sequence cameras will be displayed in.
4. Enter "SET ALARM TITLE" menu to enable/disable alarms and program alarm action.
5. Enter "SET CAMERA TITLE" menu to program camera labels.
6. Enter "SET DISPLAY" menu to decide whether the screen titler will be displayed or not.
7. Enter "EXIT" menu to exit from the main menu.

#### 1. SET ID NUMBER

If you want to use IR remote control handset, you have to register the ID number of your monitor using. "1. SET ID NUMBER" of the main menus. You can diversify 10 monitors with different remote control ID number. Push menu button on the front panel and select "1.SET ID number" and push "MENU/ENTER" button again. Select the ID number from 1 to 10 or OFF.

#### 2. SET DATE/TIME

Push the key of the remote control or front panel and select DATE/MONTH /YEAR and then set up the current time. For you, "DATE FORMAT" has three types of versions (MM/DD/YY, YY/MM/DD, DD/MM/YY). Use your key button to choose the format.

#### [MENU]

1. SET ID NUMBER
2. SET DATE/TIME
3. SET SEQUENCE
4. SET ALARM
5. SET CAMERA TITLE
6. SET DISPLAY
7. EXIT

MENU KEY : ENTER  
AUTO KEY : AUTO MODE

#### [ID NUMBER]

1. ID NUMBER : OFF
2. EXIT

#### [DATE/TIME]

1. DATE : 01/04/2000
2. TIME : 18:43:18
3. DATE FORMAT : MM/DD/YY
4. EXIT

### 3. SET SEQUENCE

The scan feature will cause the system to move one installed camera to the next, and hold there for the duration set in "DWEELL TIME" from 01 sec to 60sec. To skip a sequential camera channel, for example to scan through cameras one, three and four, set the corresponding each camera's ON/OFF using or button. However the system will skip the video loss channel basically, While auto sequencing, if you push "TALK" button the current channel will remain continuously and then will be back to Auto mode pressing AUTO. And in case all channels are on the video loss position, there will be a beep sound three times, not processing auto sequence function.

### 4. SET ALARM

Using this feature you may control picture selection upon receipt of signals from alarm devices such as PIR contact or magnetic switchers and trigger additional equipment such as a Time Lapse VCR or EVENT VCR.

1. Each camera has an associated alarm trigger input and you can select ON/OFF using value UP/DOWN key.
2. From 01 to 60, adjust the alarm dwell time upon receipt of the external signal. For the dwell time, the picture will remain as the first alarm status.
3. Adjust the alarm buzzer from 01 to 60 seconds and OFF. Alarm buzzer will sound right after alarm happens for the duration period up to 60secs. If you really don't want to use alarm function for the time being, push the alarm button of the alarm button of the remote control or front panel of the monitor. Additional push of alarm button will disable the alarm status. Screen will show the alarm on/off

### 5. SET CAMERA TITLE

Camera title for the on-screen display can be set from this menu.

1. Edit the titler using, CA1~CA4 and menu key.
2. FONT: a-z. SPACE, (),-/+/:., .X
3. Move using CA1, CA2 key and edit the title using CA3 and CA4 key when blinking.
4. Enter the "EXIT" menu to position the display on the screen.

#### [SEQUENCE]

1. CA1:ON
2. CA2:ON
3. CA3:ON
4. CA4:ON
5. DWEELL TIME : 03 SEC
6. EXIT

#### [ALARM]

1. CA1:ON
2. CA2:ON
3. CA3:ON
4. CA4:ON
5. ALARM DWEELL : 05 SEC
6. ALARM BUZZER : ON
7. EXIT

#### [CAMERA TITLE]

1. CA1:CAMERA-1
2. CA2:CAMERA-2
3. CA3:CAMERA-3
4. CA4:CAMERA-4
5. EXIT

## **6. SET DISPLAY**

This menu determines the display behavior of the date and time, camera title information for both the VCR and monitor camera displays.

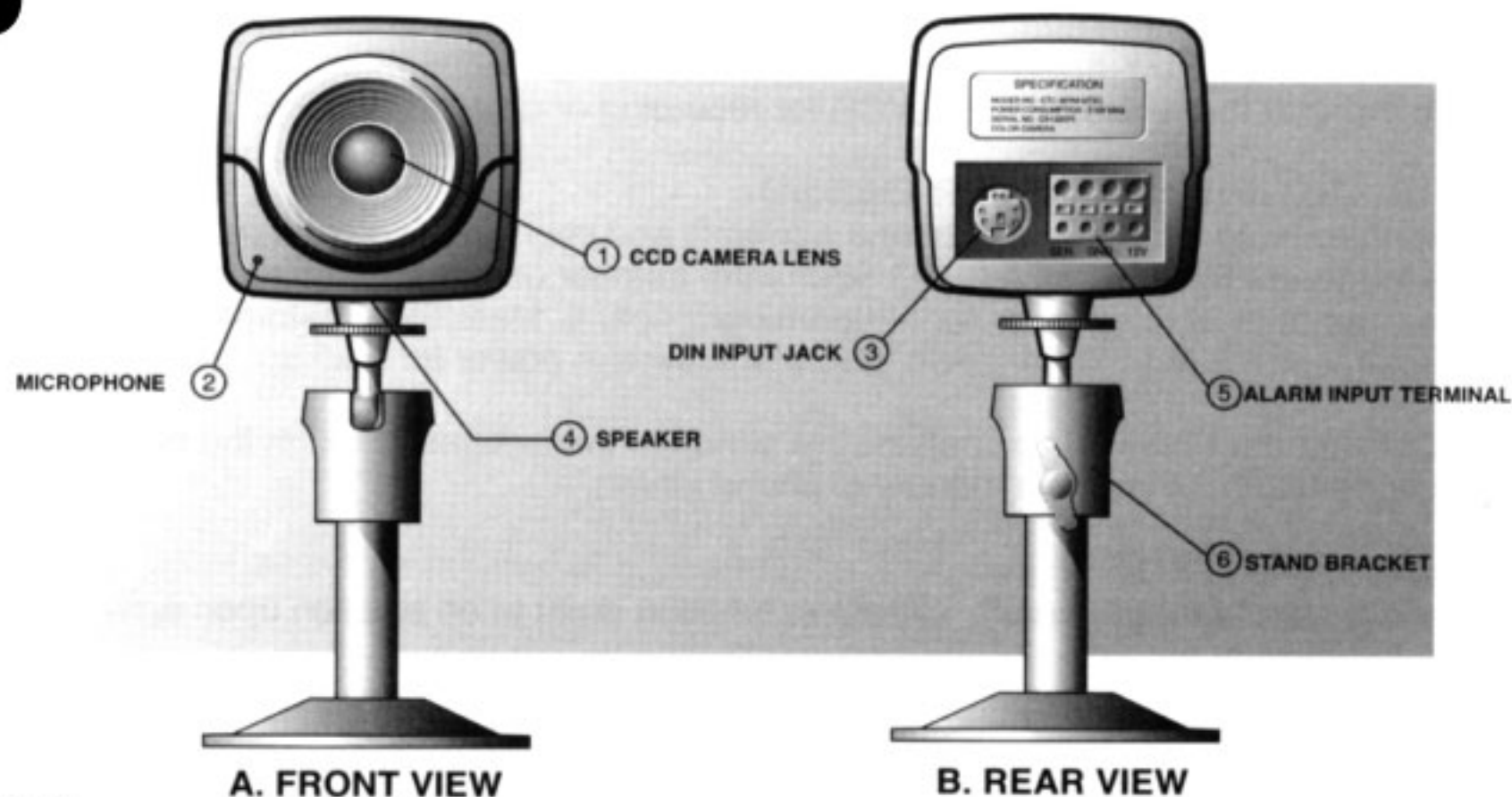
1. Toggles the "DATE/TIME" for the monitor display ON/OFF.
2. Toggles the "CAMERA TITLE" for the monitor display ON/OFF.

## **7. EXIT**

Exit the system menus by pressing "EXIT" to exit each menu and finally the menu system.



## CAMERA



### 1. C-Mount Lens

The ring around the lens can be manually turned to achieve the best focus.

### 2. Microphone

Allows for audio communication between camera and monitor.

### 3. DIN input jack

Connects the DIN cable between camera and monitor.

### 4. Speaker

Allows for audio communication between camera and monitor.

### 5. Alarm Input Terminal

Allows you to connect alarm sensing devices such as PIR motion sensors, door/window contacts, or panic buttons to the camera (Hardwired alarm system only).

If sensor is triggered, the alarm signal would switch monitor image to affected camera.

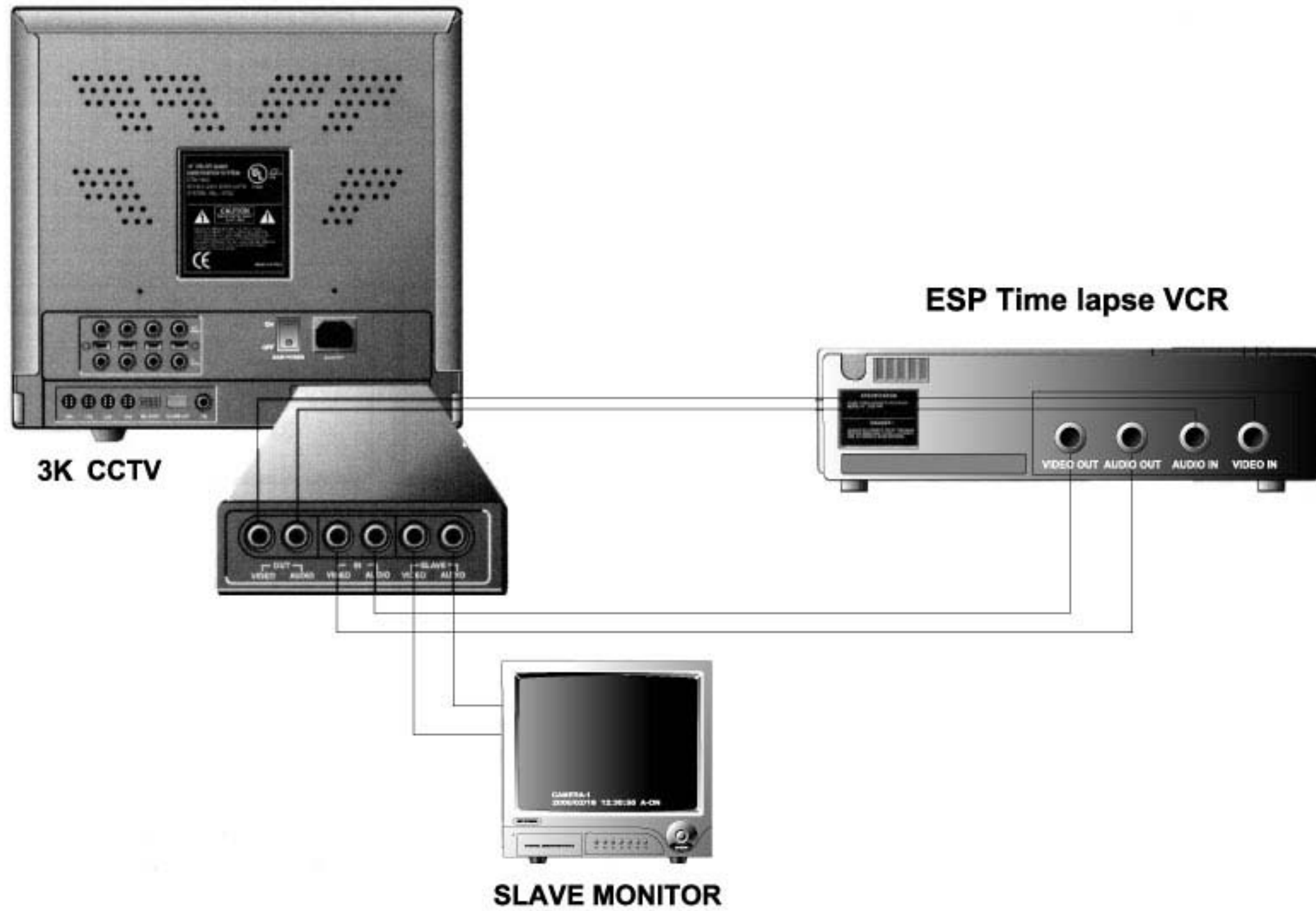
Note: This input will accept "Normally Open" (N.O) or "Normally Closed" (N.C) output sensor. Mode is user selected through the menu.

### 6. Mounting Bracket

Allows for installation of camera on wall or ceiling.



**WIRING DIAGRAMS**



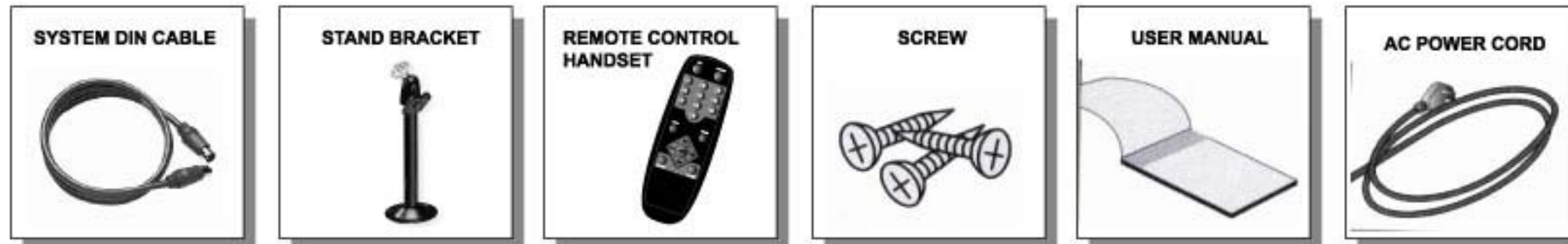
**1. Monitor**

Picture Tube	B/W 12" picture 90 degree deflection angle
Video input level	1.0Vp-p,
Video input impedance	75ohm
Video output level	1.0Vp-p,
Scanning Rate	30 Frames/ Second
Horizontal	15.625/15.75KHz
Vertical	50Hz/60Hz
Picture resolution	800 Lines(at center)
Power consumption	~100-240V, 50/60Hz, 48W
Input terminal	4Pin Din Jack or BNC Looping in/out
Operating temperature	-15C to +35C
Storage temperature	-20C to +85C
Dimensions	302X294X295(WDH,mm)
Weight	7Kg
Fuse	AC 250V T2AL

**2. Camera**

Image Sensor	1/3" B/W CCD
Picture Element	EIA:512(H)X492(V), CCIR:512(H)X582(V)
TV System	EIA/CCIR Standard
Sync. System	Internal
Scanning System	2:1 interlace
Resolution	More than 380 Lines
Mini illumination	0.05 Lux
Gain Control	AGC(Automatic Gain Control) Built-in
Shutter Speed Control	1/60 sec. - 1/100,000 auto Electric Shutter Speed Control
S/N Ratio	More than 50dB
Lens Type	C/CS mount Lens
V-out	Mini DIN to monitor 1Vp-p at 75 ohm
A-in	Mini DIN to from monitor
A-out	Mini DIN to monitor
Power Source	DC 12V from monitor
Power Consumption	Approx 2W
Operating Temperature	-10°C - 50°C(14°F-122°F)
Operating Humidity	Under 90% RH
Material	Plastic
Dimensions(WxHxDmm)	48x52x81
Weight	0.3Kg

**STANDARD**



**Maintenance:** To obtain the best possible picture quality, follow these tips:

- Clean the camera lens from time to time by wiping gently with a soft cloth and a mild detergent. Always wipe with a clean and moist soft cloth. Do not use a harsh abrasive detergent, as it may scratch the lens.
- Clean the monitor by spraying with a static-resistant spray and a soft cloth. Do not use a harsh abrasive on the screen, as it will scratch. The monitor is equipped with vents for cooling. Therefore, avoid spraying any liquids directly onto the monitor, or wiping with a dripping wet cloth. Liquid seeping into the monitor will cause damage and potential short circuits to internal components.

Problem	Cause
No picture	<p>Check that the monitor is plugged in.                      Review the Power Switch section and ensure that both switches are turned on.                      Check that the cable connection at the monitor is firmly in place.                      Check that the monitor is set to receive a channel that has a camera installed.</p>
Picture, no sound	<p>Check volume control on the monitor.                      Check that nothing is impeding the microphone at the camera location.</p>
Buzzer sound repeatedly	<p>Check that there is an alarm sensor device connected to the camera.                      If no alarm sensor devices are connected, check the alarm input setting.                      "NC/NO/OFF" is set to OFF.</p>

# **TECHNICAL HELP**

FOR TECHNICAL ASSISTANCE PLEASE PHONE 0121 786 1881  
or SEND A FAX TO 0121 693 1270  
or EMAIL TO VIA OUR WEBSITE [www.esbuk.com/technical.htm](http://www.esbuk.com/technical.htm)