



# **ESP WITNESS DCQ3 14" COLOUR QUAD OBSERVATION SYSTEM**

**OWNER'S MANUAL**  
INSTALLATION AND OPERATION

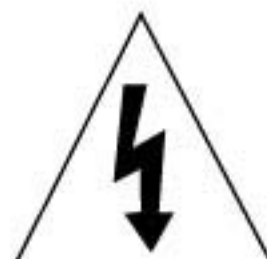


*Before installing or operating system, please read this manual carefully*

**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.

# DCQ3-Color Quad Observation System.

## Introduction:

14" Color Quad Observation system has been specifically designed to meet the high quality standards of the ESP family of products. Featuring many value-added options, the DCQ3 is ideally suited for light to medium commercial applications :

- A built-in microphone in the camera enables 2-way communication between camera and monitor.
- "Stand-By" screen option extends life of monitor.
- Alarm input/output features allow for automatic triggering of optional time-lapse recorders.
- Picture in Picture feature - multiple view modes allow for tailoring of images
- Zoom function - virtual zoom function on monitor allows operator to examine images in greater detail.
- Freeze function allows operator to stop an image and examine it greater detail.
- Quad screen feature enables 4 camera view per monitor, simultaneously.

## Contents of Package:

Before using the unit, unpack the DCQ3 system, and inspect the contents of the carton. The following components should be present and appear undamaged:

- 1- 14" Color Quad Monitor
- 1- 1/4" CCD Color camera
- 1- Cable (DIN)
- 1- Remote Control
- 1- Camera bracket
- 1- Tapping screws

## 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 exposed to any direct light sources. The camera unit must also be protected against moisture and vibration.
2. Check the system for operation prior to installing the unit.
3. Be extra careful not to scratch the camera lens and leave the protective film over the lens until the camera is completely installed.
4. Do not install the camera facing into direct sunlight or an artificial light source.

## Safety Instructions:

1. The DCQ3 system is recommended for indoor use only. The unit should not be directly exposed to sunshine, rain, or any other weather elements.
2. Do not use the DCQ3 near water, excessive moisture, or flammable liquids such as oil, gasoline, propane, and natural gas.



3. The DCQ3 monitor requires airflow for ventilation. Keep the DCQ3 away from heat sources such as a radiator, heating fan, or a stove, and avoid installing in an enclosed area.
4. Only operate system with the correct power source indicated on the specifications.
5. Do not attempt to repair any part of the system by opening the case.
6. 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 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 (camera 1).
4. Plug the monitor power cord into an electrical outlet
5. Turn the main power switch on (located inside the front panel on monitor).
6. Turn the monitor screen on by depressing the stand-by button at the front of the monitor.
7. The monitor screen should display the installed camera view. The camera position can now be adjusted for the best view. If you do not see a camera view, please refer to the troubleshooting section. (see index).

## **Understanding the Power Switches**

The DCQ3 has two different types of power switches.

- 1) **Main Power Switch:** The main power switch is located inside the flip-down cover on the front of the monitor. This switch controls the power supply to the cameras and the monitor.
- 2) **Stand-by switch:** The small round black button located on the front right of the monitor is used to save power and extend the life of the cathode ray tube (CRT). The stand-by power button leaves the system in active mode even if the screen is off, and the DCQ3 can perform unattended functions like VCR recording.

## 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:

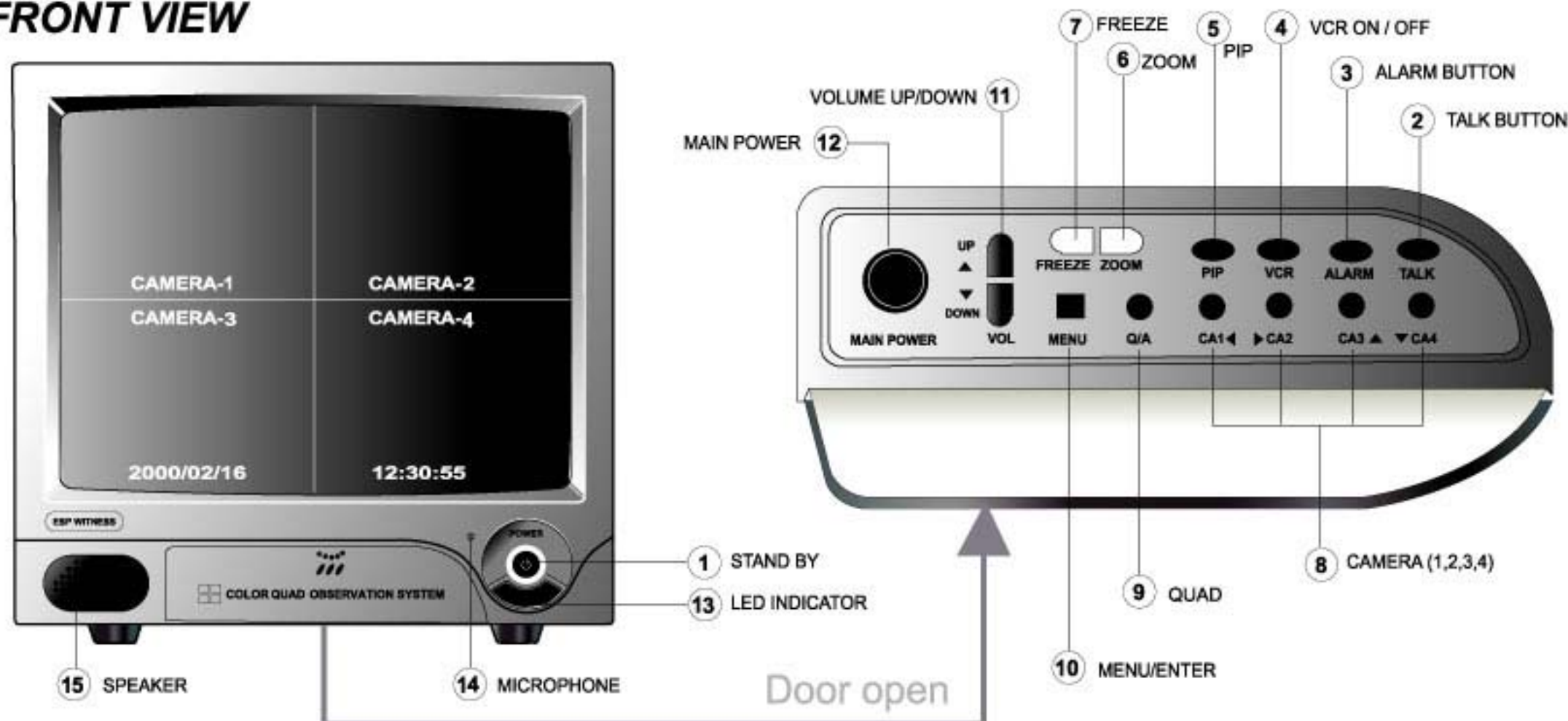
1. Identify the location on a wall or ceiling where the mounting bracket is to be installed.
2. Evaluate the location and use an electric drill with 1/6" bit to pre-drill holes for the screws using the holes in the base of the mounting bracket as a guide.
3. Insert the first screw through the mounting 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.**

## MONITOR

The DCQ3, when first powered on, will initially be in the live camera display mode. Live cameras can be displayed in either full screen or quad mode. Each button on the monitor has the same functionality as its corresponding button on the remote control.

### A. FRONT VIEW



#### 1. Stand-By button

Located on the front right of the monitor. The Stand-By button is used to save screen power and protects the monitor from damage caused by image burning over extended periods of time. A red LED light indicates when monitor is on Stand-By mode.

DCQ3 is still fully functional when in Stand-By mode.

#### 2. Talk Button

The DCQ3 is equipped with a two-way audio communication feature. The monitor and the camera both have built-in microphone/speaker. Use the volume up and down buttons to adjust the speaker volume. To initiate communications between a camera and the monitor, please follow the steps below:

- a. Press the TALK button (No.2) on monitor (or same button on Remote Control), and speak toward the microphone (No. 14)
- b. To listen to sound from the camera, release the TALK button.
- c. Quad mode: 2-way communication is still available. Push TALK button and the desired camera button (i.e. CA1) at the same time. The letter "T" will appear in the corner of the desired camera view on the monitor. Press TALK button to communicate with camera.



### 3. Alarm ON/OFF

The alarm function is designed to automatically control picture selection upon the triggering of an alarm sensor from your hardwired burglar alarm system. For example, an alarm sensor connected to CA1 would switch the monitor over to a full-screen view of Camera 1. After the pre-programmed Alarm Dwell response time has elapsed, the DCQ3 will return to previous mode (i.e.Q/A, PIP mode). To deactivate alarm, press the ALARM button on the front panel or remote control.

### 4. VCR ON/OFF

Pressing this button will switch the monitor display from the live camera view to the VCR Playback mode. Connect a VCR or ESP time-lapse recorder using RCA type cable with the designated plugs on the back of the monitor. To return to a live camera view on the monitor, press the Q/A button

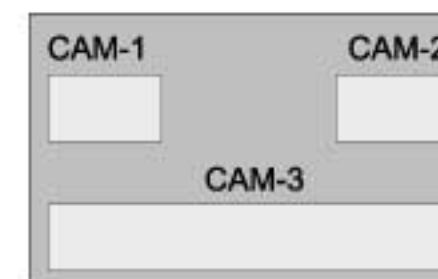
### 5. Picture in PICTURE (PIP)

When starting in any mode, full screen or quad mode in live display or VCR playback modes, pressing the PIP button will cause the unit to switch to a 3 screen mode. Views in PIP mode can be rotated by pressing the PIP button. Sequence : 3-Screen Mode ➔ PIP 1 ➔ PIP 2 ➔ 3-Screen Mode. To return to normal mode, press the Q/A button.

#### a. 3-Screen Mode

This screen mode features "a larger box over 2 small boxes." See illustration on right.

Note: CA4 is excluded in this mode.



#### b. PIP-1

This mode allows you to see a full screen image plus a miniature picture of each other camera view in the bottom right corner. To change the camera selection to a full-screen view, simply press the desired camera button. (CA1 - CA4)

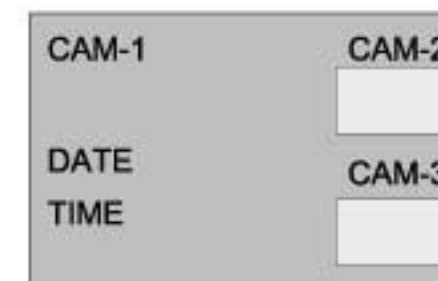
The picture in the PIP screen will rotate automatically as per the pre-programmed setup in the "Sequence" menu.



#### c. PIP - 2

Shows a full screen image and two small screens on the right side.

To change the selected full screen view, press the desired camera button. CA4 is excluded in this mode.



### 6. Zoom Feature

When selected, the Zoom feature will enlarge a user-selected area of a full screen image. Pressing the ZOOM button will cause a box to appear on the screen. Use the CA1-CA4 (up/down, left/right) buttons to move the box around the screen to select the desired area. Then press the MENU/ENTER key. While in ZOOM mode, you can move the enlarged image using the CA1-CA4 buttons.



The FREEZE function is also available during the zoom mode. During the VCR playback mode, this function will enable you to capture a specific position in the full screen mode more clearly.

## **7. Freeze Feature**

- 1) In Full Screen Mode, PIP, and VCR Playback Mode: Will freeze the entire screen image.
- 2) In Quad Screen and 3 screen mode: When the FREEZE button is pressed, the screen will display FREEZE MODE.  
Press the desired camera view that you wish to freeze (CA1-CA4), and the selected view will be frozen.  
To undo freeze mode, press the MENU/ENTER button.

## **8. CAMERA (1,2,3,4)**

In full screen mode, you can switch to a different camera view by pressing any of the CA1-CA4 buttons. The CAMERA buttons are also used as direction keys in the Menu and while in Zoom mode. CA1◀ CA2▶ CA3▲ CA4▼



## **9. QUAD/AUTO**

Press the Q/A button to obtain a split screen view of all 4 camera views simultaneously. Press the Q/A button again to return to AUTO (full screen mode). While in Auto mode, you can program your DCQ3 to sequentially rotate between the 4 camera views. (see Menu). During Auto mode, you can stop the rotation by pressing the TALK button. The screen will stop at the selected channel, and if you press the Q/A key again, the system will return to Auto mode.

## **10. Menu**

Press the Menu button to activate the on-screen programming feature. For more details, see page 15 (Menu Set-Up)

## **11. Volume Up/Down**

To control the speaker volume, push the up or down button.

## **12. Main Power**

The MAIN POWER button controls the power for monitor, cameras, and accessories.

## **13. LED Indicator**

When system is in Stand-By mode, the red LED indicator will be on.

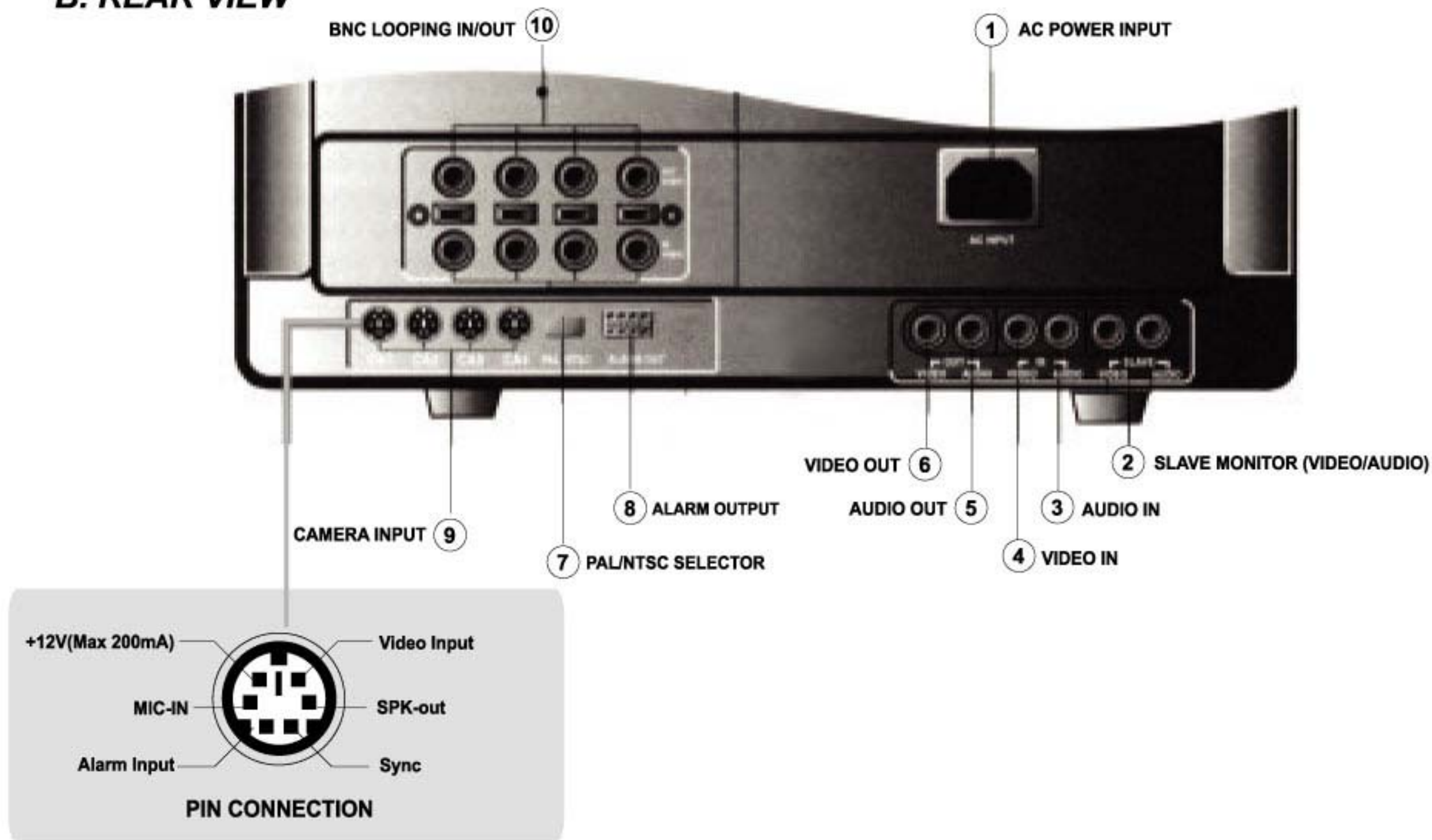
## **14. Microphone**

Use when communicating with a person through one of the cameras. Press the TALK button, and speak towards the microphone hole. When using the remote control, press the TALK button, and speak towards the microphone hole.

## **15. Speaker**

Hear the sound from any of the cameras when in full screen mode, or a selected camera in Quad Mode.

**B. REAR VIEW**



**1. AC Power Input**

Plug in the supplied AC Power cord.

**2. Slave Monitor Output (Video/Audio output)**

Connect a slave monitor (duplicate image) with double male RCA cable.

**3. Audio Input**

To receive the audio signal from a VCR or ESP Time Lapse recorder. Use an RCA cable.

**4. Video Input**

To receive the video signal from a VCR or ESP Time Lapse recorder. Use an RCA cable.



### 5. Audio Output

To transmit the audio signal to a VCR or ESP Time Lapse recorder. Use an RCA cable.

### 6. Video Output

To transmit the video signal to a VCR or ESP Time Lapse recorder. Use an RCA cable.

### 7. NTSC/PAL Selector:

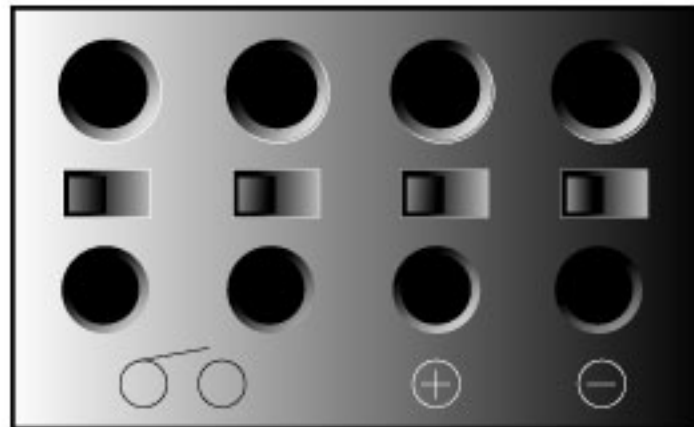
U.K standard is PAL



NOTE: To select a mode, first press the PAL/NTSC button to select correct mode, and then turn on the master power.

### 8. Alarm Output:

This output can be used to connect other devices such as a Time-Lapse VCR or VCR Recorder for alarm recording.



- a. Provides dry contact closure on alarm
- b. Provides constant 12V DC auxiliary out (Max 10mA)

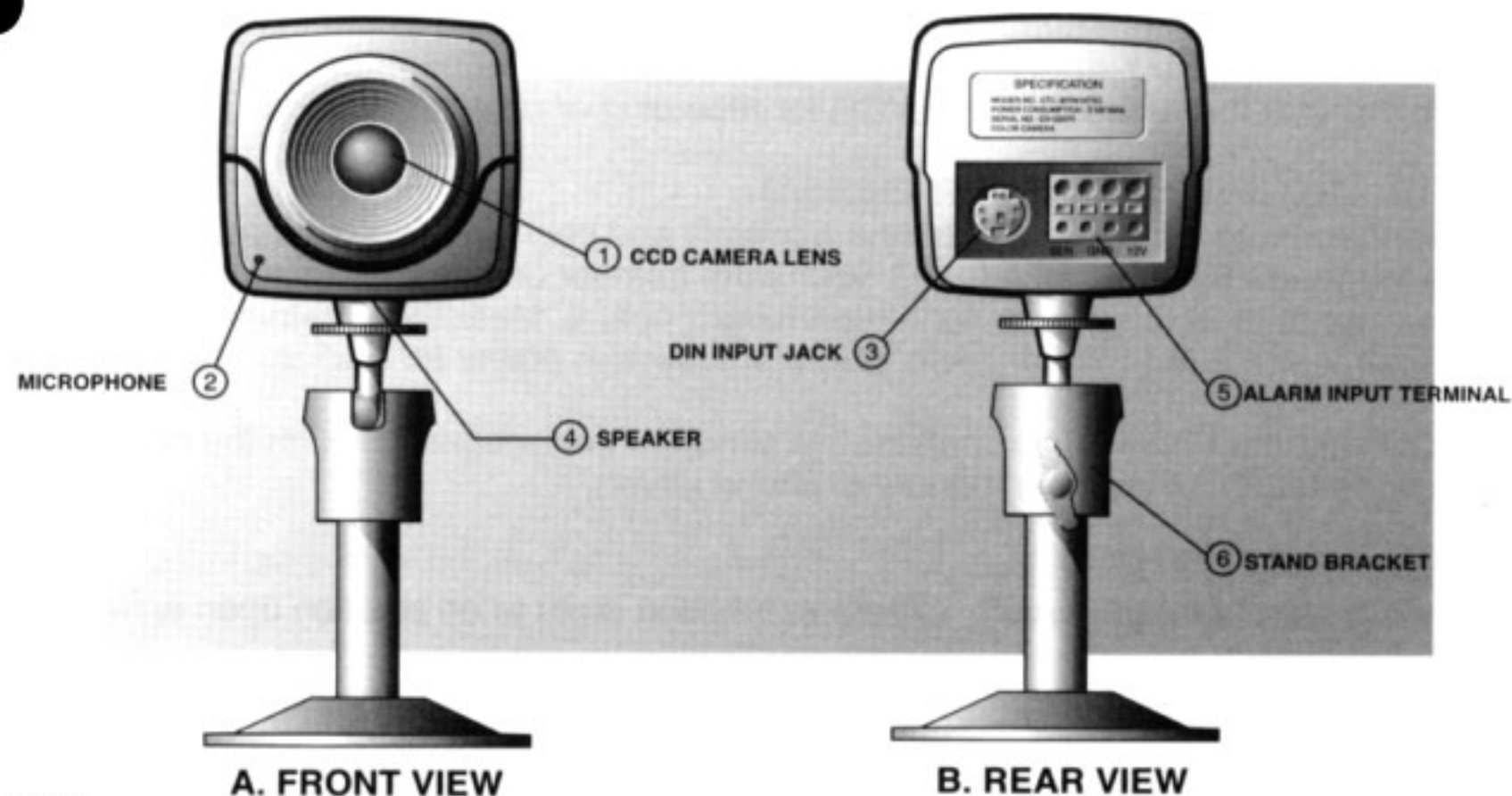
### 9. Camera Input:

Connect the cameras with the supplied system DIN cable.

### 10. BNC Looping In/Out

The four camera input BNC connectors have a looping in/output 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, Connect a 75 ohm coax from the "VCR IN" BNC to the video output of the VCR and a 75 ohm coax from the "VCR OUT" BNC to the video input of the VCR.

## 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.

The DCQ3 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 DCQ3 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 DCQ3 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

The DCQ3 features an easy to use step by step on screen menu. To enter the menu mode, press the MENU button on the front panel or the MENU button on the remote control. The top-level menu will then be displayed on the screen. Note that the system will not operate as long as the monitor is in the menu mode. To exit the menu mode, pick the exit option on the on screen menu, and press MENU button.

To move cursor in menu mode, press the following buttons: CA1 (←), CA2 (→), CA3 (↑), CA4(↓).

Enter key: MENU button.

Volume Up/Down keys: Change values UP/DOWN

- In any menu, picking the EXIT feature will return you to the previous higher level menu.

- If you push any function key(Q/A, PIP, VCR, etc.) on the monitor or remote while in the menu mode, the monitor will turn to the selected mode immediately.

### 1. Main Menu

- Enter "Option" menu to program the internal ID of the monitor and remote control handset.
- Enter "Set Date/Time" menu to program the internal Date/Time and select date and time display option.
- Enter "Set Sequence" menu to set the sequence that the cameras will follow.
- Enter "Set Alarm" menu to enable/disable alarms and program alarm action.
- Enter "Set Camera Title" menu to program camera names to be displayed on screen.
- Enter "Set Display" menu to decide whether the screen title will be displayed or not.
- Enter "Set Picture" menu to control "Brightness, Contrast, Sharpness, Color, and Tint"
- Enter "Exit" menu to exit from main menu and return to previous mode.

### 2. Option Menu:

- "ID NUMBER": To use the remote control, register the ID number of your monitor. You can specify up to 10 different monitor ID's using this menu feature.
- "Font Size": Select the font size of the Time/Date and Title on screen display features.

### 3. Set Date/Time Menu

- Select this menu feature to set the current date and time.
- Date format: 3 formats to choose from: (MM/DD/YY, YY/MM/DD, DD/MM/YY). Use the CA1-CA4 buttons to choose.

#### [MENU]

1. SET OPTION
2. SET DATE/TIME
3. SET SEQUENCE
4. SET ALARM
5. SET CAMERA TITLE
6. SET DISPLAY
7. SET PICTURE
8. EXIT

#### [ID NUMBER]

1. ID NUMBER : OFF
2. FONT SIZE : SMALL
3. EXIT

#### [DATE/TIME]

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

#### 4. Set Sequence Menu:

Depending on the number of cameras that are connected to the monitor, you will need to enable or disable specific camera views.

The Dwell time feature decides how long each camera view will be displayed when the system is in full screen mode.

Note: System must be in AUTO mode for sequence feature to work. Channels with "no signal" will be automatically excluded from the sequence switching.

#### 5. Set Alarm Menu:

This feature enables you to control the alarm response of the system if you have connected alarm sensing devices to cameras.

- a. Each camera has an associated alarm trigger input. This input can be set to N.O/N.C/Off using the volume Up/Down button.
- b. The Alarm Dwell time determines how long the camera image that has been triggered stays on that image. Adjust from 01 to 60 seconds.

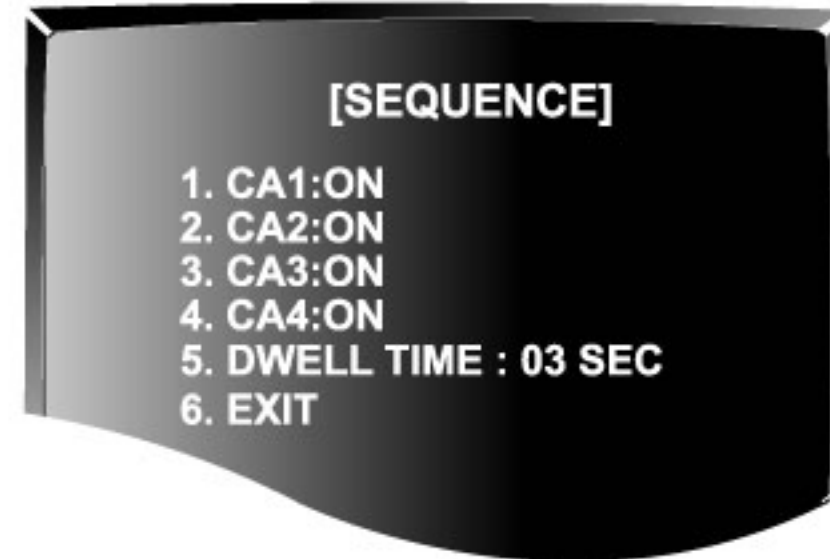
NOTE: Only applies to alarm output duration time.

- c. Alarm Buzzer: Turn on/off, or specify buzzer duration period. (Up to 60 seconds.) Note: When Alarm Buzzer is set to ON, the duration time is the same as "Alarm Dwell Time".

#### 6. Set Camera Title

Program your own camera names using this menu. (i.e. "North Entrance", "Warehouse")

The available Font characters are: 0123456789ABCDEFGHIJ  
KLMNOPQRSTUVWXYZ  
YZ ◀ ▶ ( ) - / + : , . [ ]



### 7. Set Display Menu

Allows you to specify the on-screen appearance of the Date/Time and Camera Title. Using the Up/Down volume buttons, pick either ON or OFF for Date/Time and Camera Title options.



### 8. Set Picture Menu

Set Brightness, Contrast, Sharpness, Color, and Tint to suit your preferences.



### 9. Exit

Choose "EXIT" menu to exit from the sub-menu or main menu.





# DEMONSTRATION PROGRAM

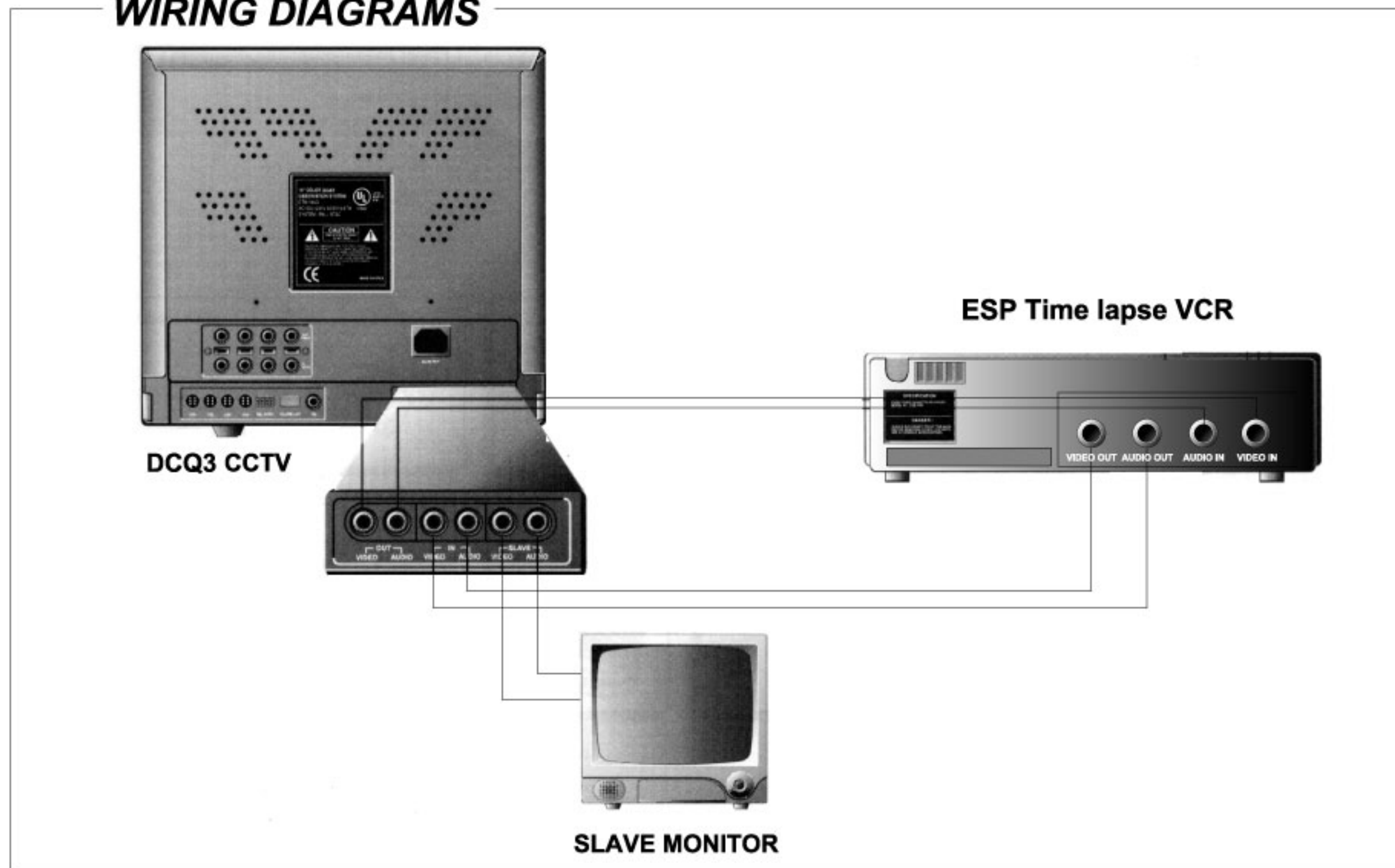
The DCQ3 has a built-in demonstration program that is designed to help you understand the features of the system. If you push the CA1 and CA2 button simultaneously, the demo program will be activated.

The screen will flash "14 INCH COLOR OBSERVATION SYSTEM, DEMO PROGRAM". It will then proceed to demonstrate the following functions:

QUAD → ZOOM CA1 → ZOOM CA2 → FULL → AUTO → THREE SCREEN → PIP-1 → PIP AUTO  
→ PIP-2 → PIP FULL CA1 → PIP FULL CA2 → PIP ZOOM → PIP FREEZE

Press Q/A or CA1 to CA4 buttons to exit DEMO mode.

## WIRING DIAGRAMS



**1. Monitor**

Picture Tube	Color 14" picture 90 degree deflection angle
Video input level	1.0Vp-p,75ohm
Video output level	1.0Vp-p,75ohm
Scanning time	30 frames/second
Picture resolution	350Lines(at center)
Power input	Free voltage (AC 100-250)
Power consumption	Maximum 68Watt
Input terminal	6pin Din Jack or BNC Looping in/out
Operating temperature	-15C to + 50C
Dimensions	347X324X364(WXDXH mm)
Weight	10kg

**2. Camera**

Image Sensor	1/4" Color CCD
Picture Element	NTSC:512(H)X492(V), PAL:512(H)X582(V)
TV System	NTSC/PAL Standard
Sync. System	Internal
Scanning System	2:1 interlace
Resolution	More than 330 Lines
Mini illumination	0.8 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. 3W
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.

<b>Problem</b>	<b>Cause</b>
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)