

**TRUE REAL TIME
WITH HIGH FEATURED
COLOR & B/W QUAD PROCESSOR**

**INSTALLATION &
INSTRUCTION MANUAL**

* BEFORE OPERATING THE UNIT, PLEASE READ THIS MANUAL CAREFULLY

NOTE:

1. This unit must be located in a position away from water, moisture or other liquids. Avoid placing this unit where it will be subject to vibration or excessive temperatures. This unit does not contain user serviceable parts.
2. To ensure sound operation of this unit, it should be located in an environment where the temperature is between $+5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ ($+41^{\circ}\text{F}$ to $+104^{\circ}\text{F}$). Humidity should be less than 90%.
3. The ventilation holes must remain free from obstruction. Failure to comply may result in damage to the appliance.



CAUTION — REFER TO ACCOMPANYING DOCUMENTS

Note : This equipment has been certified to comply with the limits for a class B digital device, pursuant to subpart J of Part 15 of FCC Rules. Only peripherals certified to comply with the class B limits that may be attached to this equipment. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

FCC & C E APPROVED

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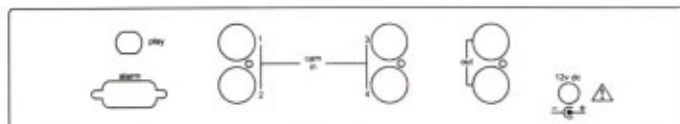
PRODUCT FEATURES

1. Seven main setup items listed on screen available for Camera Title · Time/Date · Contrast & Brightness Adjustment · Display Modes · Auto Dwell Time Adjustment · Loss/Alarm History Checkout.
2. Provides 2 x 2 zoom function, that allow enlarging the desired area either in the quadrant pictures or in the single full screen.
3. Due to digital design, the viewing picture has no jitter problem during sequencing the cameras.
4. Provides frozen screen function. The pictures can be frozen either while live viewing or tape playing.
5. It has different PIP modes that allow to be selected for monitoring.
6. Provides automatic video loss and alarm detection, and automatic reset.
7. Built-in time/date generator, plus 8 character camera titles.
8. When an alarm is triggered, buzzer will sound and relay output.
9. 90 alarm records in B/W Quad and 80 alarm records in Color Quad available to automatically record the sensor alarm and video loss channel with time/date stamp.
10. When playback, any location on the screen allows to be enlarged.
11. The motion detection function available only for the Color Quad.

FRONT PANEL



REAR PANEL



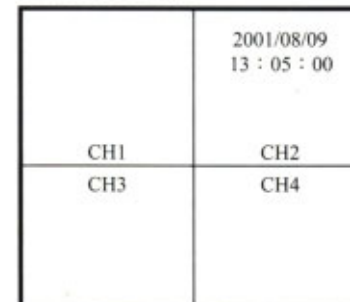
HOW TO OPERATE AND PROGRAM

A. DISPLAY MODES :

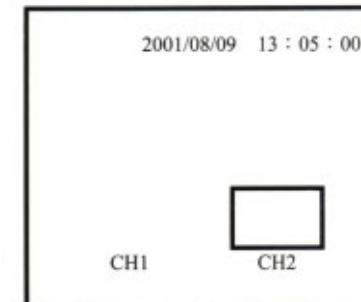
The change of display modes on the screen are being controlled by the buttons of MODE, CH1...CH4, PLAY, and AUTO, etc.

Note: When power up next time, the unit will recall and display the picture while powered off last time.

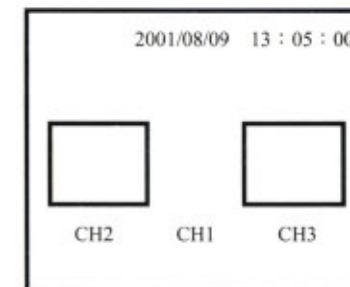
All display modes are as illustrated below except 「AUTO MODE」 and 「PLAY MODE」.



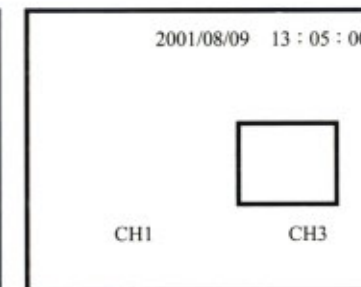
Quad Screen



Picture in Picture 1 (PIP1)

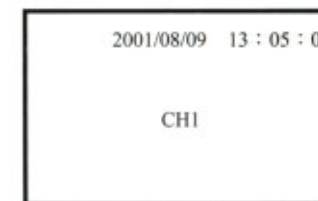


Picture in Picture 2 (PIP2)



The insert picture displays in sequence

(*Color Quad hasn't this function)



Full Screen

1. While in 「Quad Mode」 or 「Automatic Sequential Switching Mode」, press any one of the CH1...CH4 buttons, the corresponding channel you choose will be full screen displayed on the monitor.

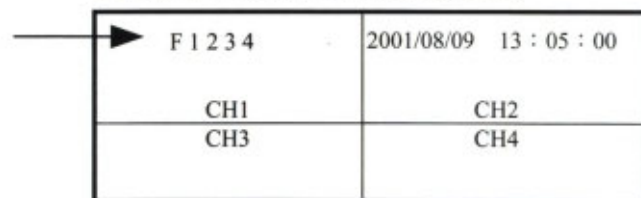
2. While in Full Screen Mode or Automatic Sequential Switching Mode, press the MODE button, a quad screen will be displayed on the monitor.
3. While in Quad Picture Mode, press the MODE button, the unit will display the PIP 1 picture.
4. While in PIP Mode, press the MODE button to go back to the quad screen.
5. While in Quad Mode or Full Screen Mode or Automatic Sequential Switching Mode or PIP Mode.
 - ①. Press the PLAY button down for more than one second, the unit will display the picture of playing video tape.
 - ②. Press the PLAY button again that the picture will be frozen.
 - ③. To exit the playback mode, just press the ENTER button.
(For Color Quad, please press the PLAY button to exit the playback mode.)
 - ④. *When the color quad in playback mode, press the CH 1 ... CH 4 button to select the picture of playing back.*
6. While in Full Screen Mode or Quad Mode or PIP Mode, press the AUTO button, the unit will switch the cameras in sequence automatically as illustrated below.
QUAD → CH1 → CH2 → CH3 → CH4 → QUAD

NOTE: If one of the channels has not been connected to a camera output, then the unit will automatically skip to the next connected channel.

7. While in PIP Mode, how to select the cameras for the background picture and the insert picture.
 - ①. Press the MODE button down for more than one second, the unit will enter into the setup status.
 - ②. Press the LEFT or RIGHT button to select the background or the insert picture setting.
 - ③. Press the UP or DOWN button to select the desired camera image for the background and the insert.
 - ④. Press the MODE button again, the setup is completed and exit the setup status.

B. FREEZE FUNCTION

While the picture is frozen, there is an indication displayed on the screen as illustrated below. 'F' means freeze and the numbers after 'F' means the channel which is being frozen.



QUAD SCREEN

NOTE: The freeze function will not work while in Auto Sequential Switching Mode and in The Insert Switching Mode in PIP view.

The freeze function are listed as below :

Display Mode	FREEZE button is pressed	Channel button is pressed
In Quad screen mode	Can be frozen	The selected channel
In auto sequential mode	Can not be frozen	---
In PIP1 mode (<i>Color Quad hasn't</i>)	Can be frozen	The selected channel
In PIP2 mode (<i>Color Quad hasn't</i>)	Can be frozen	The selected channel
In the insert picture sequencing mode	Can not be frozen	---
In playback mode	Full screen is frozen	---
In full screen mode	Full screen is frozen	---

1. In Quad mode or PIP mode :

- ①. Press the FREEZE button, then press any one of the CHANNEL buttons. The selected channel will be frozen.
- ②. To release the frozen picture just press the button of the selected channel again.
- ③. Press the FREEZE button again to exit the freeze function.

2. In Full Screen mode :

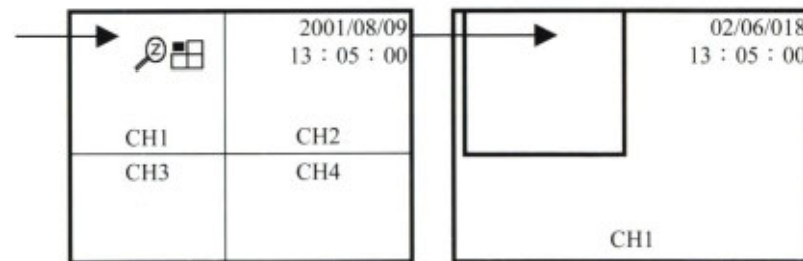
- ①. Press the FREEZE button, the picture is frozen.
- ②. Press this button again to release the frozen picture.

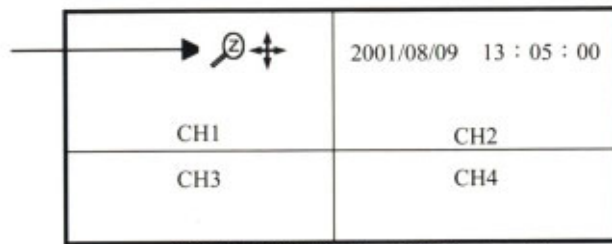
C. ZOOM FUNCTION :

For B/W Quad, when the picture is zoomed, there is an indication displayed on the screen as illustrated below. 'Z' means zoom in and 'Z' shows the zoomed channel in quadrant pictures, and 'Z' after 'Z' means the location is selected to zoom in.

For Color Quad, when the picture is zoomed, there is an indication displayed on the screen as illustrated below. 'Z' means zoom in.

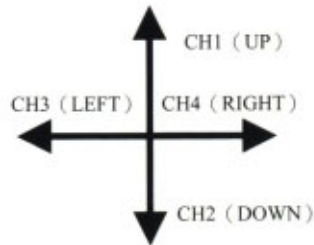
Note: While in freeze function the picture is unable to zoom in. And the zoom function for Color Quad is only applicable in full screen mode.





QUAD SCREEN (For B/W Quad only)

There are two operation methods in Zoom Function. One is 'Free Area Zooming', and another one is 'Fixed Area Zooming'. For 'Free Area Zooming' function. To move the location where desire to enlarge, please operate as illustrated below.



1. Operation of Free Area Zooming:

- ①. Press the ZOOM button to enter into the selection status of the window movement.
- ②. Press the channel buttons to move the window to the location where desire to enlarge.
- ③. Then press the ENTER button to execute Zoom Function.
- ④. Press the UP · DOWN · LEFT and RIGHT buttons again to search the target where desire to enlarge.
- ⑤. Press the ENTER button again that will go back to the selection status of the window movement.
- ⑥. Finally press the ZOOM button to end the Zoom Function.

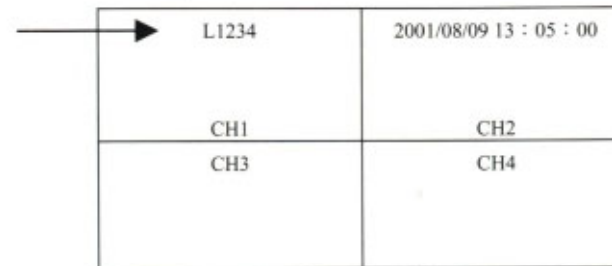
2. Operation of Fixed Area Zooming:

(Color Quad hasn't this function)

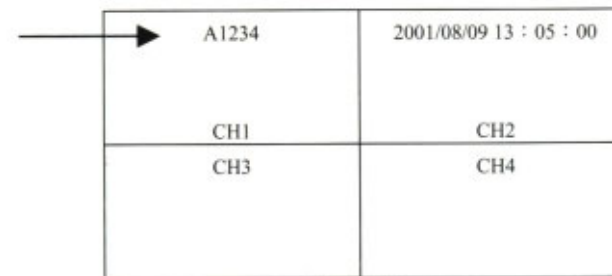
- ①. Press the ZOOM button to enter into the selection status of the window movement.
- ②. Press the ENTER button to execute Zoom Function.
- ③. Press any one of the channel buttons for more than one second, then that channel will be enlarged.
- ④. Press the ENTER button again that will go back to the selection status of the window movement.
- ⑤. Finally press the ZOOM button to end the Zoom Function.

D. VIDEO LOSS/SENSOR ALARM HISTORY FUNCTION :

When an alarm comes in, there is a warning indication displayed on the screen as illustrated below. 'L' means the loss of camera images, and '1234' means the channel of video loss. 'A' means sensor alarm, and '1234' means the alarmed channel.



Video Loss Alarm



Sensor Alarm

1. When a video loss occurs, the corresponding number of L '1234' will flash and buzzer will sound.
 - ①. The alarm sound will be released automatically if the video signal is recovered normally.
 - ②. Press any button on the front control panel to release the alarm sound immediately.
 - ③. Approx. 4 minutes later the alarm sound of video loss can also be released automatically, even if no button is pressed.
2. When an alarm sensor is triggered, the corresponding number of A '1234' will flash and buzzer will sound. To release the sensor alarm just make a short-circuit between pin 5 (Recovery) and pin 9 (Ground) of the alarm connector.
3. B/W Quad totally has 90 alarm records separate in 9 pages and automatically record the sensor alarm and video loss channel with time/date stamp. The last alarm events are recorded, with the oldest one being deleted when triggered again. Please refer to the following illustration.
 - ①. Press UP · DOWN buttons to select the page to view.
 - ②. Press the ENTER button that will clear off all records. (B/W Quad)

NOTE: Press the ENTER button twice that will clear off the video loss/alarm records. (Color Quad)

VIDEO LOSS / ALARM RECORDS :

LOSS/ALARM HISTORY 0 PAGE			
L	CH1	2001/08/14	11:49:44
L	CH2	2001/08/14	12:50:44
A	CH3	2001/08/14	12:51:00

SELECT $\uparrow \downarrow$ · PUSH MODE · SET KEY

ALARM CONNECTOR PIN ASSIGNMENTS :

PIN No.	Pin Assignment
1	Alarm Input 1 (Camera 1)
2	Alarm Input 2 (Camera 2)
3	Alarm Input 3 (Camera 3)
4	Alarm Input 4 (Camera 4)
5	Recovery
6	Alarm Output N.C.
7	Alarm Output Common
8	Alarm Output N.O.
9	Ground

E. SYSTEM SETUP FUNCTION :

This menu is used for setting Camera Title · Time/Date · Contrast · Brightness · Display Mode · Automatic Dwell Time and Loss/Alarm History.

1. Press the SETUP button for more than 1 second, the system setup menu will appear on the screen as illustrated below.

SYSTEM SETUP		SYSTEM SETUP	
1. CAMERA TITLE		1. CAMERA TITLE	
2. TIME / DATE		2. TIME DATE	
3. CONTRAST ADJUST		3. PICTURE ADJUST	
4. BRIGHTNESS ADJUST		4. MOTION SENSITIVITY	
5. DISPLAY MODE		5. DISPLAY MODE	
6. AUTO ADJUST		6. AUTO ADJUST	
7. ALARM HISTORY	8.EXIT	7. ALARM HISTORY	

B/W Quad Color Quad

2. CAMERA TITLE PROGRAMMING :

- ①. Move the cursor to the item 1.
- ②. Press the SETUP button again to enter into the camera title setting.
- ③. Press the CH2 button to select the channel that desire to set the camera title.
- ④. Press the CH1 button to select the location of the characters and the location selected will flash. Total 8 characters are available for each camera titling.
- ⑤. Press the CH3 or CH4 button to alter characters.
- ⑥. Press the SETUP button again to end the camera title setting.

SYSTEM SETUP		SYSTEM SETUP	
1.CAMERA TITLE	\blacktriangleright CH1 <input type="checkbox"/> CH1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1.CAMERA TITLE	<input type="checkbox"/> CH1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	CH1 <input type="checkbox"/> CH2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2. TIME DATE	<input type="checkbox"/> CH2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.TIME / DATE	CH1 <input type="checkbox"/> CH3 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> CH3 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	CH1 <input type="checkbox"/> CH4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3. PICTURE ADJUST	<input type="checkbox"/> CH4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.CONTRAST ADJUST		4. MOTION SENSITIVITY	
4.BRIGHTNESS ADJUST		5.DISPLAY MODE	
5.DISPLAY MODE		6.AUTO ADJUST	
6.AUTO ADJUST		7.ALARM HISTORY	
7.ALARM HISTORY	8.EXIT		

B/W Quad

Color Quad

3. TIME / DATE PROGRAMMING :

- ①. Move the cursor to item 2.
- ②. Press the SETUP button to enter into time/date setting.
- ③. Press the CH3 or CH4 button to select the location where desire to change and the location selected will flash.
- ④. Press the CH1 or CH2 button to alter the numbers.
- ⑤. Press the SETUP button again to end time/date setting.

SYSTEM SETUP		SYSTEM SETUP	
1.CAMERA TITLE		1.CAMERA TITLE	
2.TIME / DATE	2001/08/15 15:50:10	2.TIME DATE	02/06/18 15:50:10
3.CONTRAST ADJUST		3.PICTURE ADJUST	
4.BRIGHTNESS ADJUST		4.MOTION SENSITIVITY	
5.DISPLAY MODE		5.DISPLAY MODE	
6.AUTO ADJUST		6.AUTO ADJUST	
7.ALARM HISTORY	8.EXIT	7.ALARM HISTORY	

B/W Quad

Color Quad

4. CONTRAST AND BRIGHTNESS ADJUSTMENT (B/W Quad) :

PICTURE ADJUSTMENT (Color Quad) :

- ①. Move the cursor to the item 3 or 4.
- ②. Press the SETUP button to enter into the contrast (brightness) adjustment.
- ③. Press the CH1 or CH2 button to select the camera that needs to do an adjustment of contrast or brightness.
- ④. Press the CH3 or CH4 button to raise or reduce the contrast or brightness.
- ⑤. Press the SETUP button again to end the contrast (brightness) adjustment.

CONTRAST ADJUST					PICTURE ADJUST			
-4	-3	-2	-1	0	+1	+2	+3	+4
CH1	←----- -----→				CONTRAST	24	CONTRAST	24
CH2	←----- -----→				BRIGHT	32	BRIGHT	32
CH3	←----- -----→				CHROMA	31	CHROMA	31
CH4	←----- -----→				TINT	32	TINT	32
SELECT ↑↓←→·PUSH SET KEY					SELECT ↑↓←→·PUSH SET KEY			

B/W Quad

Color Quad

5. MOTION SENSITIVITY PROGRAMMING :

(Only available for Color Quad)

- Move the cursor to the item 4.
- Press the SETUP button to enter into the motion sensitivity setting.
- Press the CH1 or CH2 button to select the camera that needs to change the sensitivity.
- Press the CH3 or CH4 button to alter the sensitivity
- The sensitivity contains OFF · 1 to 7 and 7 is the most sensitive for motion detection.
- Press the SETUP button again to end the motion sensitivity setting.

MOTION SENSITIVITY SETUP	
CH1	OFF
CH2	OFF
CH3	OFF
CH4	OFF
SELECT ↑↓←→·PUSH SET KEY	

6. DISPLAY MODE PROGRAMMING :

- Move the cursor to the item 5.
 - Press the SETUP button to enter into the display mode setting.
 - Press the CH1 or CH2 button to move the cursor to select the item that desire to set
 - Press the CH3 or CH4 button to alter the contents.
 - Press the SETUP button again to end the display mode setting.
- NOTE: INPUT SYSTEM is used for an option of NTSC (EIA) or PAL (CCIR) system.

DISPLAY ADJUST		DISPLAY ADJUST	
▶DATE / TIME	: ON	▶DATE / TIME	: ON
CHANNEL NAME	: ON	CHANNEL NAME	: ON
BOUNDARY	: ON	BUZZER SOUND	: ON
BUZZER SOUND	: ON	INPUT SYSTEM	: NTSC
INPUT SYSTEM	: EIA		
SELECT ↑↓←→·PUSH SET KEY		SELECT ↑↓←→·PUSH SET KEY	

B/W Quad

Color Quad

7. AUTO DWELL TIME PROGRAMMING :

- Move the cursor to the item 6.
- Press the SETUP button to enter into the automatic dwell time setting.
- Press the CH1 or CH2 button to move the cursor to select the item that needs a change.
- Press the CH3 or CH4 button to alter the contents.
- Press the SETUP button again to end the automatic dwell time setting.

AUTO ADJUST		AUTO ADJUST	
AUTO DWELL TIME	: 01SEC	AUTO DWELL TIME	01SEC
CH1	ON	CH1	ON
CH2	ON	CH2	ON
CH3	ON	CH3	ON
CH4	ON	CH4	ON
QUAD	ON	QUAD	ON
SELECT ↑↓←→·PUSH SET KEY		SELECT ↑↓←→·PUSH SET KEY	

B/W Quad

Color Quad

8. LOSS / ALARM HISTORY CHECKOUT :

- Move the cursor to the item 7.
 - Press the SETUP button to enter into the video loss / alarm records checkout.
 - Press the CH1 or CH2 button to check and see from page 0 ~ 8 (B/W Quad). *(Color Quad is from page 0 ~ 9)*
 - Press the SETUP button again to end this alarm records checkout.
- NOTE: Press the ENTER button that will clear off the video loss / alarm records. (B/W Quad). *Press the ENTER button twice that will clear off the video loss / alarm records. (Color Quad)*

LOSS/ALARM HISTORY	0 PAGE	LOSS ALARM HISTORY	00 PAGE
L CH1	2001/08/04 11:49:34	L CH1	2001/08/04 11:49:34
L CH2	2001/08/04 02:55:54	L CH2	2001/08/04 02:55:54
A CH4	2001/08/06 10:40:30	A CH4	2001/08/06 10:40:30
L CH1	2001/08/08 17:29:14	L CH1	2001/08/08 17:29:14
L CH2	2001/08/12 14:10:24	L CH2	2001/08/12 14:10:24
A CH3	2001/08/12 12:50:20	A CH3	2001/08/12 12:50:20
A CH1	2001/08/20 11:49:44	A CH1	2001/08/20 11:49:44
L CH2	2001/08/22 12:54:14	L CH2	2001/08/22 12:54:14
A CH3	2001/08/27 12:22:00	A CH3	2001/08/27 12:22:00
SELECT ↑↓·PUSH MODE·SET KEY		SELECT ↑↓·PUSH MODE·SET KEY	

B/W Quad

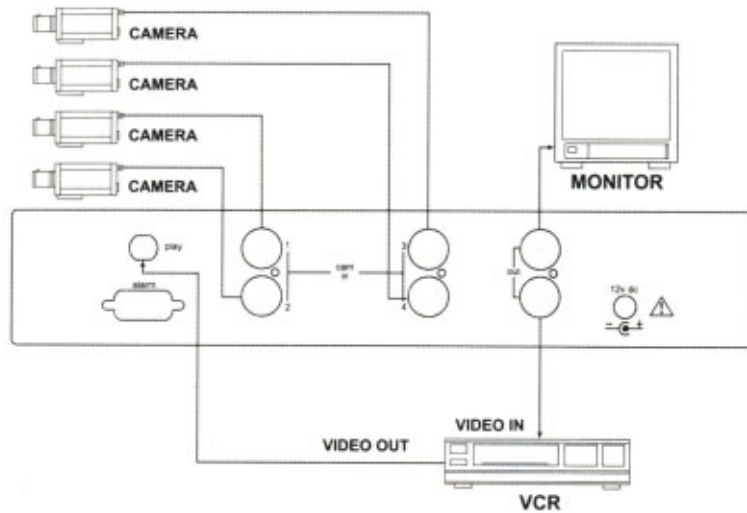
Color Quad

9. TO END THE SETUP MENU :

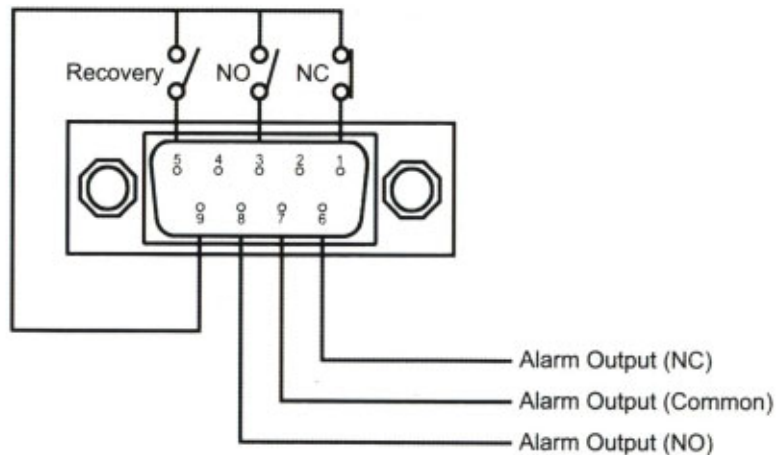
- B/W Quad, please press the item 8 to exit the setup menu.
- Color Quad, please press MODE (ENTER) button to exit.

SYSTEM CONNECTIONS

1. BASIC CONNECTION:



2. ALARM INPUT/OUTPUT · RECOVERY CONNECTION:



SPECIFICATIONS

Camera Inputs	: BNC x 4, Composite video 1.0 V p-p, 75 ohms
Monitor Output	: BNC x 1, Composite video 1.0 V p-p, 75 ohms
VCR Output	: BNC x 1, Composite video 1.0 V p-p, 75 ohms
Playback Input	: BNC x 1, Composite video 1.0 V p-p, 75 ohms
Refresh Rate	: 60/50 fields/second
Alarm Input	: 4, TTL Active Low
Recovery Input	: 1, TTL Active Low
Alarm Output	: Normally Open (N.O.) x 1 (relay output) : Normally Closed (N.C.) x 1 (relay output) NO · NC contacts with shared common DC24V, 1A
Power Source	: DC 12V, 500mA.
Power Consumption	: Max. 3 Watts
Weight	: 1 lb 11 oz (0.755 kg.) net.
Dimensions	: 8 3/5" (W) x 5 1/5" (D) x 2" (H) 220 mm x 140 mm x 50 mm

} D-SUB
9-pin
female
connector