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# 1. INTRODUCTION AND FEATURES

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## 1.1 Product Introduction

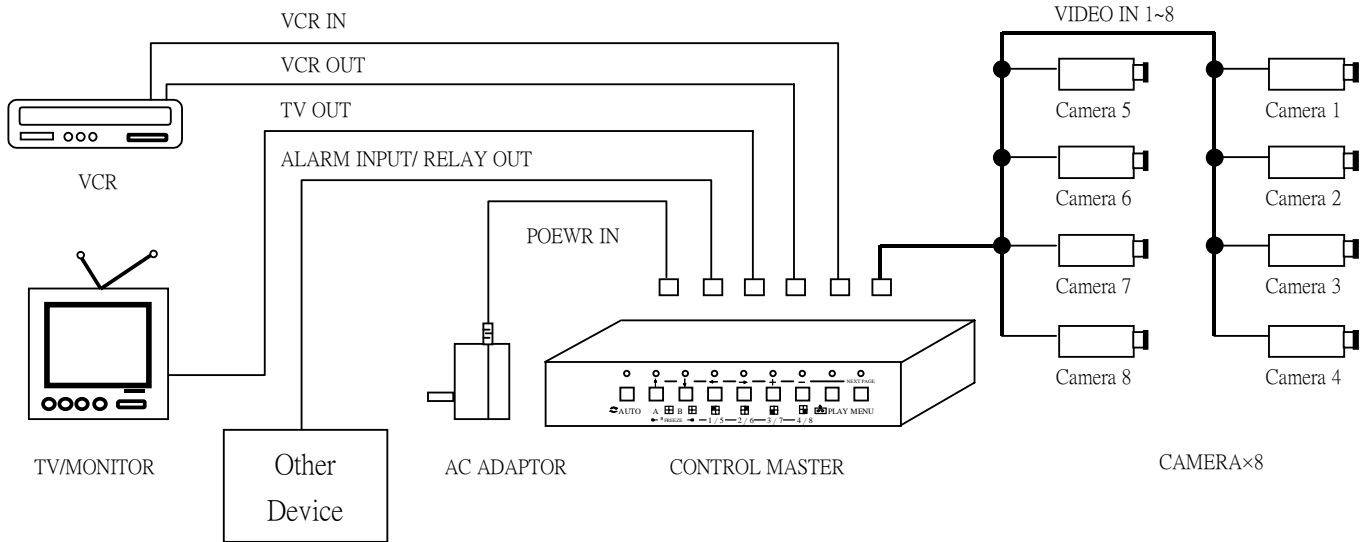
This surveillance kit can be installed in many different places (such as homes, shops, offices, ... etc.). It is designed with 4 objectives : Economical, Complete Functions, Installs Easily, and User Friendly.

## 1.2 Product Features

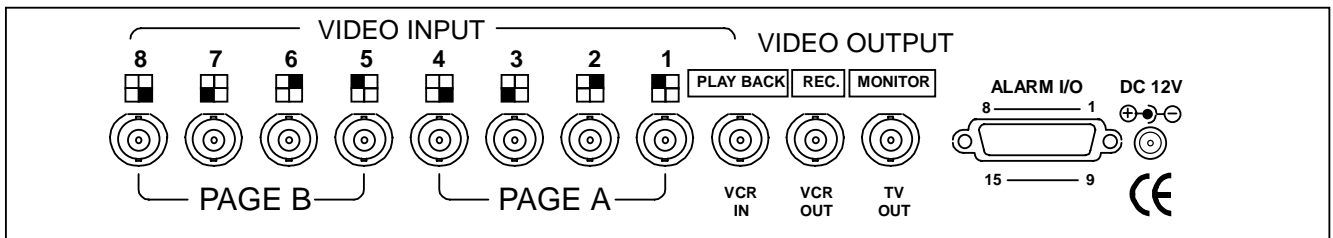
- An economic solution for home, shop or building surveillance system.
- Plug & Play. Installs easily and is suitable as DIY (Do It by Yourself).
- Equipped with Microprocessor, compact dimension, and smart functions. Simple operation mode and user-friendly design.
- Full quad display at real time refreshes rate. ( NTSC : 60 Fields / sec ; PAL : 50 Fields / sec )
- Both NTSC and PAL systems are supported by automatic detection, in Power On Reset cycle.
- Built-in Buzzer for video loss, alarm input and alarm reset events alarm.
- Built-in a Real-Time-Clock ( RTC ) with OSD IC that can show date and time.
- User-friendly On-Screen-Display ( OSD ) set-up menu and front panel design.
- No Border Line for full Quad display.
- Independent title setting, up to 8 characters, for each channel.
- Provides VCR-IN to support 2×2 Zoom-in and Freeze function for playback.
- Automatic video loss detection, which keeps the last image when video input loss occurs.
- Built-in eight independent digital bright, contrast, adjustment setting for each channel.
- Built-in Color-Bar generator enables you to calibrate the monitor easily.
- Freeze individual quadrant function.
- Supports three color characters.
- Supports Quad screen / Full screen / Auto-Sequential / Play-Back display modes.
- Supporting smart automatic switcher, allows random sequence and programmable dwelling time.
- Automatically detects unconnected channel and skips that channel in auto-switch mode.
- Supports an alarm-triggered relay output ( RELAY OUT ) that can control other security systems, related electric devices or to start VCR recording.
- 54 alarm record and list occurrences.
- Low power consumption, saves up to 50% in power costs.

# 2. INSTALLATION

## 2.1 System Installation Diagram


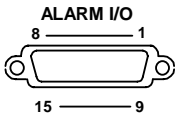




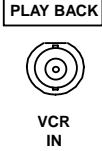


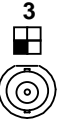





## 2.2 Installation Procedures



Back Panel

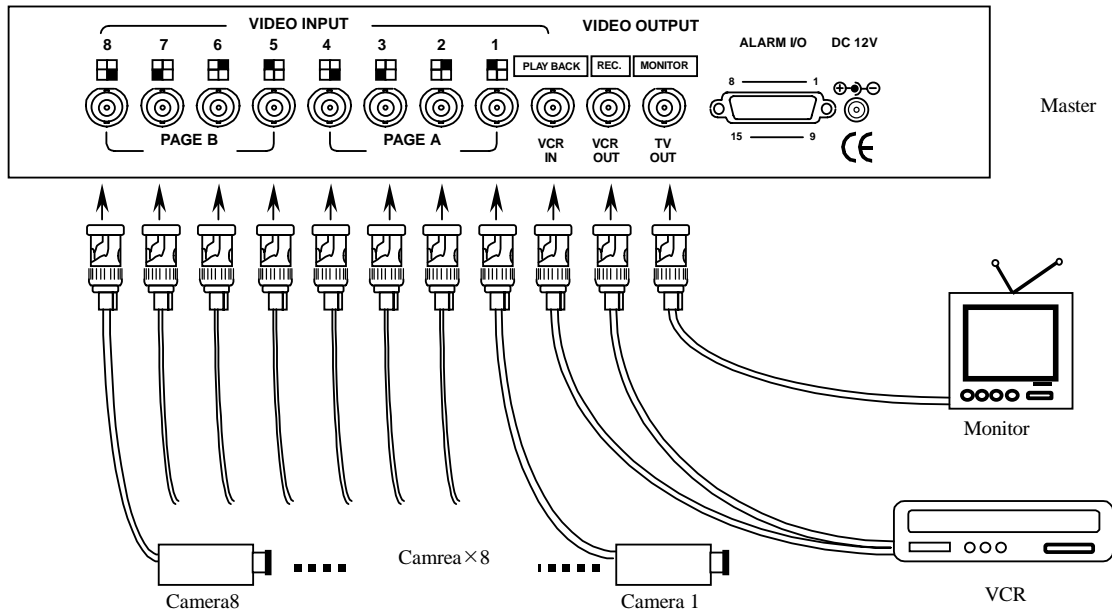
### §Terminal Function Description.

Terminal	Function Description
 <p>DC 12V DC Power Input Jack</p>	The DC POWER INPUT terminal : 12Vdc/600mA.
 <p>ALARM I/O Alarm Triggered Relay Out &amp; Alarm Trigger Input Terminal</p>	This terminal is an auto-switch output (N.O., Normal Open type or N.C., Normal Close type), and external alarm trigger input. Whenever alarm is triggered. It can be used to control other equipments.
 <p>MONITOR TV OUT Video signal output BNC type Terminal</p>	This terminal represents the video signals output for connecting to external Monitor.

	<p>Video signal output BNC type Terminal</p>	<p>This terminal represents the video signals output for connecting to external VCR.</p>
	<p>External video signal input BNC type Terminal from the VCR</p>	<p>This terminal represents the video signals input for connecting to external VCR.</p>
	<p>CH1 video signal input BNC type Terminal</p>	<p>This terminal represents the video signals input for connecting from external camera.</p>
	<p>CH2 video signal input BNC type Terminal</p>	<p>This terminal represents the video signals input for connecting from external camera.</p>
	<p>CH3 video signal input BNC type Terminal</p>	<p>This terminal represents the video signals input for connecting from external camera.</p>
	<p>CH4 video signal input BNC type Terminal</p>	<p>This terminal represents the video signals input for connecting from external camera.</p>
	<p>CH5 video signal input BNC type Terminal</p>	<p>This terminal represents the video signals input for connecting from external camera.</p>
	<p>CH6 video signal input BNC type Terminal</p>	<p>This terminal represents the video signals input for connecting from external camera.</p>
	<p>CH7 video signal input BNC type Terminal</p>	<p>This terminal represents the video signals input for connecting from external camera.</p>
	<p>CH8 video signal input BNC type Terminal</p>	<p>This terminal represents the video signals input for connecting from external camera.</p>

## 2.3 Illustrate of installation procedures :

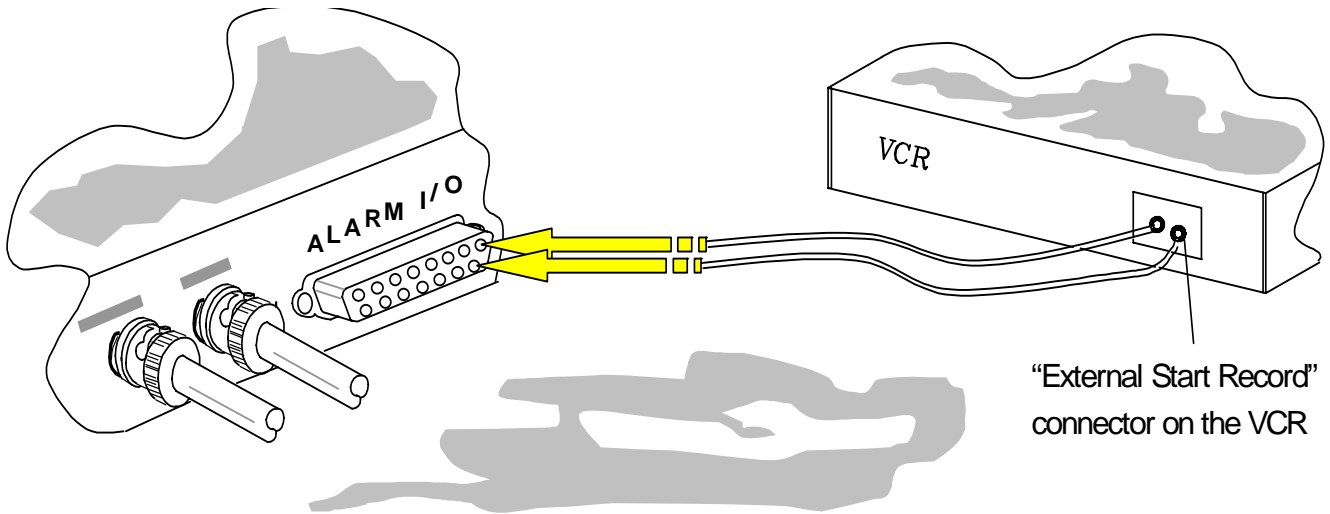
Step 1: Figure below shows Illustrations of the external video Cameras, Monitor and VCR:



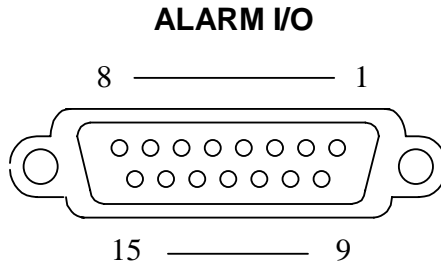
Step 2: You can skip this step if it is not necessary to control other equipment by the MASTER CONTROL.

Item	Diagram	Setup Description
2.3.3-a	<p><math>\phi 1.05\text{ mm Max.}</math> SOLID WIRE 7.50 mm or STRANDED</p>	<p>Specifications of the Connector Wires :</p> <ul style="list-style-type: none"> <li>◆ Insulator stripped off length : <math>7.0 + 0.5 / - 1.5\text{mm}</math> °</li> <li>◆ Maximum gauge : <math>\phi = 1.0\text{mm}</math> (18AWG) °</li> </ul>
2.3.3-b	<p>From : VCR...ect. ALARM I/O</p>	<p>Time-Lapse VCR “External Start Record” &amp; alarms input to master control “ALARM I/O” connection.</p> <p>(※ Please check your Time-Lapse VCR user’s manual for configurations of “RELAY OUT” terminal connections. Please take note COM-N.O. and or COM-N.C. ! )</p>

Illustration of a CCTV/VCR setup. Moreover, this "RELAY OUT" port also can be used to control devices such as security main controller, auto-dialling machine, etc.



§ Alarm Connectors (DB-15)

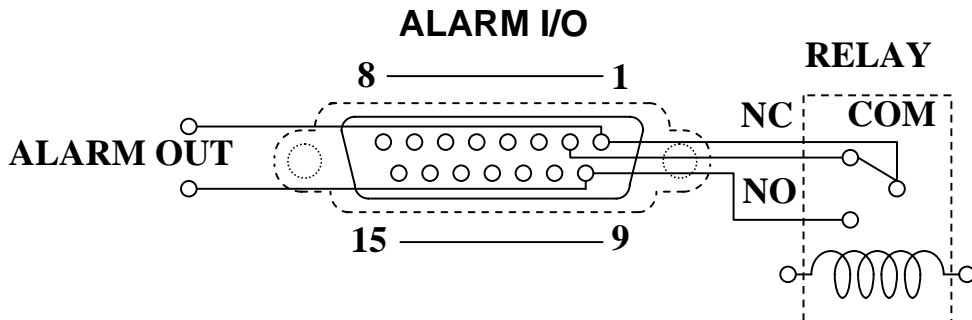


§ Pin assignment :

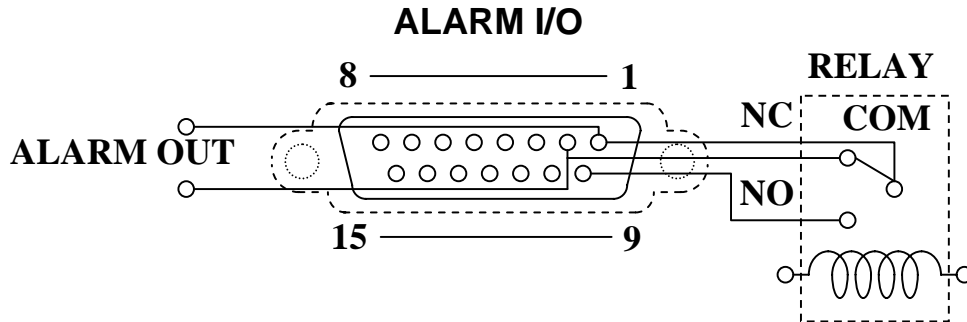
Pin NO	Pin Name	Pin NO	Pin Name
1	Alarm Out (Relay Out) COMmon.	9	Alarm Out (Relay Out) Normally Open.
2	Alarm Out (Relay Out) Normally Closed.	10	
3	Alarm Reset	11	
4	GROUND	12	ALARM IN 8
5	ALARM IN 4	13	ALARM IN 7
6	ALARM IN 3	14	ALARM IN 6
7	ALARM IN 2	15	ALARM IN 5
8	ALARM IN 1		

§ There are two ways to do the alarm out connection :

- ◆ Normal Open Connection (use pin1 & 9)



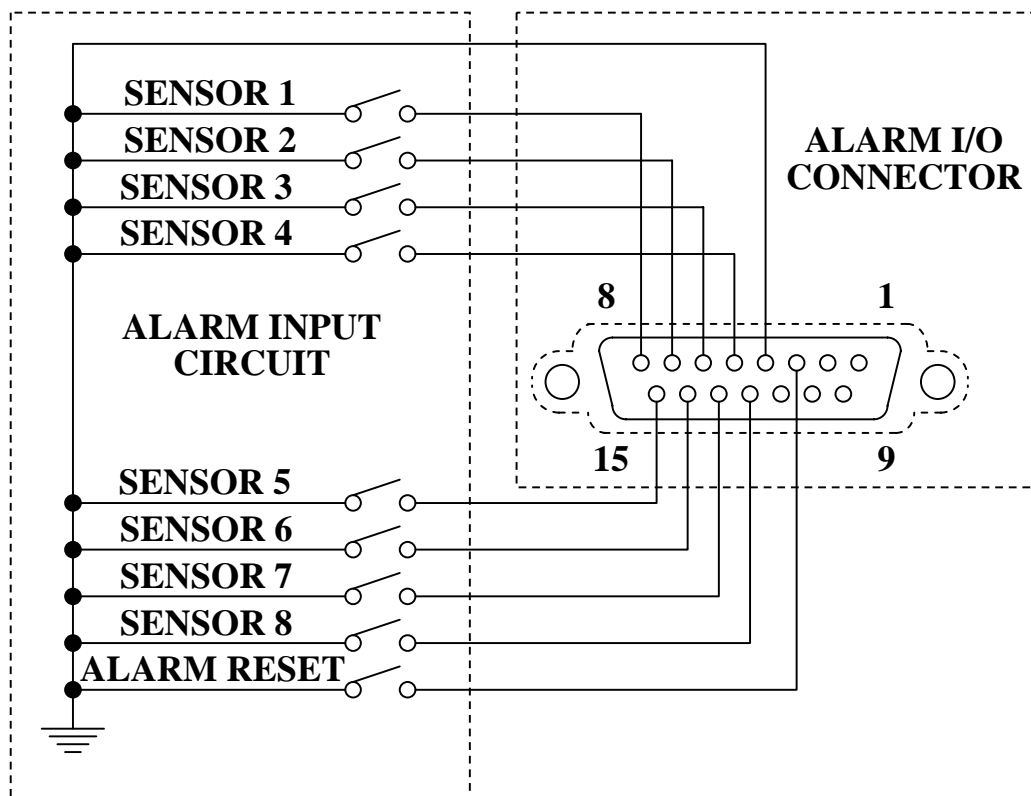
◆ Normal Close Connection (use pin1 & 2)



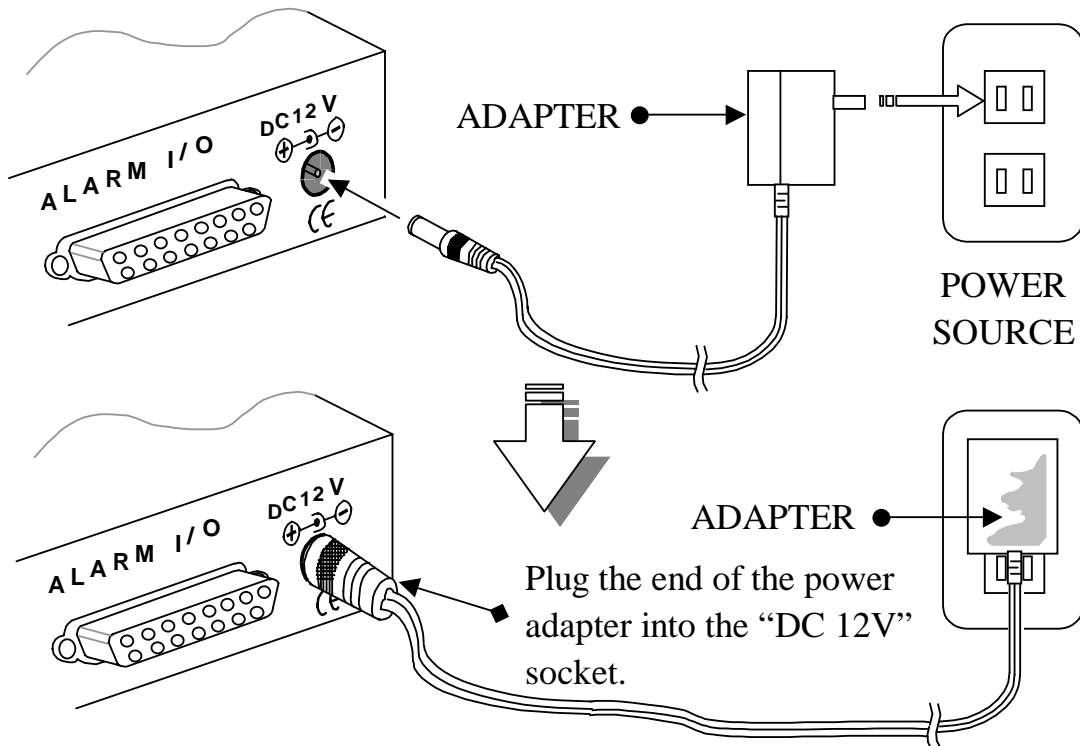
① Attention !

1. The max current and voltage type are DC24V-2Amp or AC120V-1Amp for ALARM OUT.
2. The DC5V-2mA max voltage and current for ALARM INPUT 1~8 & ALARM RESET.

§ Alarm In & Alarm Reset :

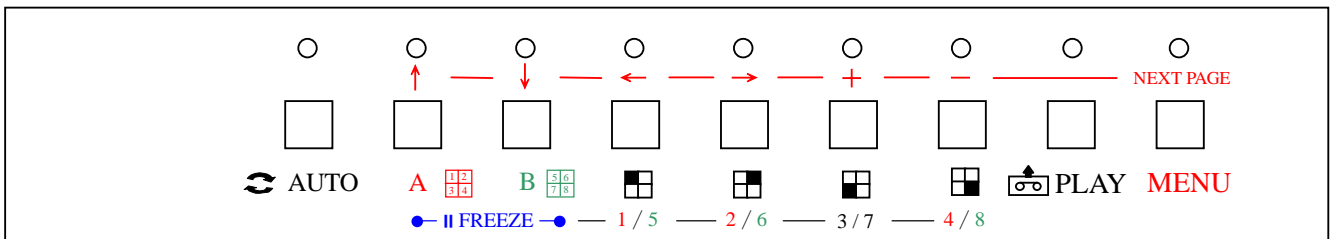


Step 3: Plug the end of the power adaptor into the "DC IN" socket and plug the other end into the AC power socket as shown below, to enable this whole surveillance system to work perfectly.



## 3. OPERATING INSTRUCTIONS




















### 3.1 Introduction of the MASTER CONTROL panel



Front Panel

#### ◆ Operation Key Functions Description.

Mode	Normal Mode	AUTO Seq. Mode	FREEZE	PLAYBACK Mode	MENU Mode
Light					
Key		AUTO LED light	QUAD LED flash	PLAY LED light	MENU LED light
○	AUTO LED light				
□	Enter to AUTO Sequential mode.				Change the color of OSD character.
⌚ AUTO					

Mode	Normal Mode	AUTO Seq. Mode	FREEZE	PLAYBACK Mode	MENU Mode
Light					
Key		AUTO LED light	QUAD LED flash	PLAY LED light	MENU LED light
  A   ●-   FR	QUAD A LED light	QUAD A LED light	QUAD A or B LED light	QUAD A LED light	
	QUAD A Display / Enter QUAD A image freeze mode.	(AUTO LED dark) Back to normal QUAD A display.	Disengage from image freeze mode. Back to normal QUAD A display.	Full playback image.	Move cursor or field up. ▲
  B   FREEZE ●-	QUAD B LED light	QUAD B LED light	QUAD A or B LED light	QUAD A LED light	
	QUAD B Display / Enter QUAD B image freeze mode.	(AUTO LED dark) Back to normal QUAD B display.	Disengage from image freeze mode. Back to normal QUAD A display.	Full playback image.	Move cursor or field down. ▼
  1 / 5	1/5 LED light	1/5 LED light	1/5 LED light or dark	1/5 LED light	
	CH1 or CH5 Full display.	(AUTO LED dark) Back to normal CH1 or CH5 Full display.	Freeze / Release CH1 image.	Freeze / Release 2×2 CH1 image.	Change to left field. ◀
  2 / 6	2/6 LED light	2/6 LED light	2/6 LED light or dark	2/6 LED light	
	CH2 or CH6 Full display.	(AUTO LED dark) Back to normal CH2 or CH6 Full display.	Freeze / Release CH2 image.	Freeze / Release 2×2 CH2 image.	Change to right field. ▶
  3 / 7	3/7 LED light	3/7 LED light	3/7 LED light or dark	3/7 LED light	
	CH3 or CH7 Full display.	(AUTO LED dark) Back to normal CH3 or CH7 Full display.	Freeze / Release CH3 image.	Freeze / Release 2×2 CH3 image.	Increase value. +
  4 / 8	4/8 LED light	4/8 LED light	4/8 LED light or dark	4/8 LED light	
	CH4 or CH8 Full display.	(AUTO LED dark) Back to normal CH4 or CH8 Full display.	Freeze / Release CH4 image.	Freeze / Release 2×2 CH4 image.	Decrease value. -
 PLAY	PLAY LED light	PLAY LED light		PLAY LED dark	
	Enter to VCR PLAYBACK mode.	Enter to VCR PLAYBACK mode.		Disengage from VCR PLAYBACK mode.	
 NEXT PAGE  MENU	MENU LED light	MENU LED light			MENU LED light
	Enter to Menu set-up mode.	Enter to Menu set-up mode.			To Next Page or Disengage from Menu mode. (MENU LED dark)

## 3.2 OPERATING INSTRUCTIONS

### 3.2.0 Power On Reset and System Self-Test.

Each time during Power On (Plug In), the master controller will into warm-up and running self-testing procedure. Detect CH1's input video system for it's video system setting and scanning on indicate light etc. Until finished of self test.

### 3.2.1 NORMAL DISPLAY MODE.

#### ● FULL SCREEN DISPLAY :

1. To display Channel 1~4 on the monitor, please press key [A] for step1. And step2, press key [ 1 ~ 4 ], monitor will display images from Channel 1~4.
2. To display Channel 5~8 on the monitor, please press key [B] for step1. And step2, press key [ 5 ~ 8 ], monitor will display images from Channel 5~8.

#### ● QUAD SCREEN DISPLAY : Press [ A ] or [ B ], monitor will show images by quad from Channel 1~4 or Channel 5~8.

#### ● FREEZE mode : press [ A ] or [ B ] key again when A or B QUAD LED is turned on in Normal mode. Then the A or B QUAD LED will flash until the processor returns to Normal mode.

#### ● FREEZE the Channel : Press key [ 1 ~ 4 ], the 1~4 LED will turn on and freeze the image. To unfreeze-press [ A ] or [ B ] key again or wait after the FREEZE HOLD TIME period you set elapse.

#### ◆ Record output selection:

The quad display represented by record out (VCR Out), follows by Monitor Out (VCR Out) setting indications. The relation between the outputs of record out (VCR Out) and monitor out (TV Out) are shown below:

Monitor Out ( TV OUT )	Record Out ( VCR OUT )
Channel 1 Full Screen	Page A Quad Screen
Channel 2 Full Screen	Page A Quad Screen
Channel 3 Full Screen	Page A Quad Screen
Channel 4 Full Screen	Page A Quad Screen
Page A Quad Screen	Page A Quad Screen
Channel 5 Full Screen	Page B Quad Screen
Channel 6 Full Screen	Page B Quad Screen
Channel 7 Full Screen	Page B Quad Screen
Channel 8 Full Screen	Page B Quad Screen
Page B Quad Screen	Page B Quad Screen

**NOTE:** To record all eight cameras in to VCR thru record out (VCR Out), turn on Quad A and Quad B simultaneously in sequential switching mode.

## 3.2.2 SEQUENCE MODE.

- Press the [ AUTO ] key to enter AUTO SEQUENCE mode, which also turns on the AUTO LED. The processor automatically changes to the image, interval time and channels previously setup.
- ◆ Under AUTO SEQUENCE MODE, when no sequence are set, the "NO SEQUENCE SETTING" message will be shown on the monitor.
- By pressing any key in AUTO SEQUENCE MODE, processor will automatically return to NORMAL DISPLAY MODE.

## 3.2.3 PLAYBACK MODE.

- Press the [ PLAY ] key, it will then enter to the VCR PLAYBACK MODE.
  - When the VCR has been disconnected, before and after entering the PLAYBACK MODE the alarm automatically goes ON.
- Press the [ PLAY ] key again in PLAYBACK MODE, processor will return to NORMAL DISPLAY MODE.
- Press key [ 1 ~ 4 ], processor will display **1 ~ 4 quadrant 2 × 2 zoom image** and "ZOOM 2 × 2" on the monitor. To release zoom display-press the [ A ] or [ B ] key.
- Press key [ 1 ~ 4 ] again in 2 × 2 zoom image display, processor will then **freeze** 1 ~ 4 quadrant 2 × 2 zoom image and "FREEZE" message will be shown on the monitor. To unfreeze-press [ A ] or [ B ] key.

## 3.2.4 SYSTEM SETUP.

### 3.2.4.1 SYSTEM SETUP DESCRIPTION.

- ◆ Press the [ MENU ] key to go into the follower MENU setting page1.
- ◆ Press the «←» and «→» buttons to change the field left and right. By pressing it more then 1 sec., allows the field to change quickly left and right.
- ◆ Buttons «+» or «-» is used for increasing or decreasing a value. By pressing it more then 1 sec., allows the value to increase or decrease by more then one value.
- ◆ After the value is set finalize, press the «←» and «→» buttons to change the field left and right or press the «NEXT PAGE» key to disengage and to leave this setting page.

### 3.2.4.2 DATE / TIME SETUP

```

--DATE/TIME SETTING---
DATE FORMAT:  YY/MM/DD
DATE:  ON      02/05/08
TIME:  ON      12:35/50
LOCATINO: BOTTOM
--SEQUENTIAL SETTING--
SEQUENCE:
  A 1 2 3 4 B 5 6 7 8
DWELL TIME:
  3 3 3 3 3 3 3 3 3 3 S
-----TEST PATTEN-----
NTSC COLOR BAR:  OFF
  
```

Figure 1.

- **DATE FORMAT** : There are three kinds of DATE format for display:

- ◆ YY / MM / DD
- ◆ MM / DD / YY
- ◆ DD / MM / YY

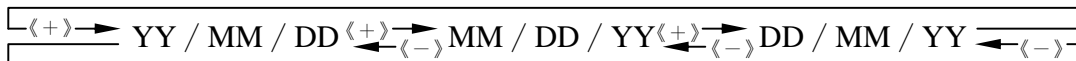


Figure 2. The DATE formats with selecting rolling mapping.

- **DATE** range : Year data form 2000 to 2099, Month data from 01 to 12, Day data from 01 to 30.
- **TIME** format : HH : MM : SS for display, Hour data from 00 to 23, Minute data from 00 to 59, Second data from 00 to 59.
- If **DATE** is set “ON”, the DATE will be shown on the quadrant display.
- If **TIME** is set “ON”, the TIME will be shown on the quadrant display.
- **LOCATION** : There are six position for DATE / TIME display. On the LEFT TOP, TOP, RIGHT TOP, TOP, RIGHT BOTTOM, BOTTOM and LEFT BOTTOM.

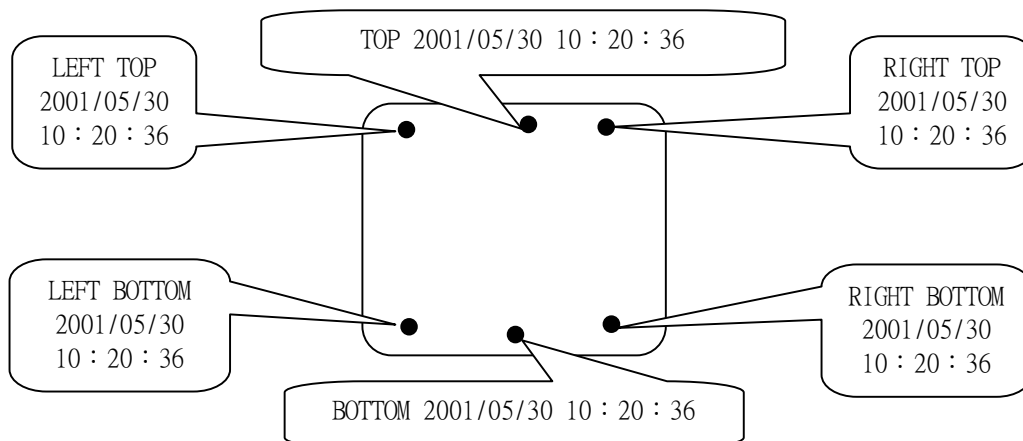


Figure 3. DATE / TIME display location

- **SEQUENCE** : There are eight positions to select and to setup the random switching sequence.

Where : A→QUAD A display; B→QUAD B display; 1→CH1 Full display; 2→CH2 Full display; 3→CH3 Full display; 4→CH4 Full display; 5→CH5 Full display; 6→CH6 Full display; 7→CH7 Full display; 8→CH8 Full display; — →Skip.

① **NOTICE** :

1. It automatically skips the channel in auto-switch mode, when the channels are disconnected, and when video loss occurs.
2. When no sequence are set on the AUTO SEQUENCE MODE, It will display “NO SEQUENCE SETTING” on the monitor, thus alerts the buzzer alarm.

- **DWELL TIME** : Set the interval time corresponding to each sequence position. (Time range : 0~30 seconds.)

- **COLOR BAR** : For to calibrate the monitor.

### 3.2.4.3 TITLE SETUP.

-----TITLE-----				
CH1:	ON	<	1	>
CH2:	ON	<	2	>
CH3:	ON	<	3	>
CH4:	ON	<	4	>
CH5:	ON	<	5	>
CH6:	ON	<	6	>
CH7:	ON	<	7	>
CH8:	ON	<	8	>
BUZZER:	ON		01	MIN
FREEZE HOLD TIME:			30	SEC
DUPLEX MODE:			HALF	

Figure 4. Title set-up menu.

- If **MONITOR OUT TITLE** is set “ON”, the channel name will be shown on the quadrant display.
- **VIDEO 1 TITLE** : Can be set to any name within less then 8 characters.
- **VIDEO 2 TITLE** : Can be set to any name within less then 8 characters.
- **VIDEO 3 TITLE** : Can be set to any name within less then 8 characters.
- **VIDEO 4 TITLE** : Can be set to any name within less then 8 characters.
- **VIDEO 5 TITLE** : Can be set to any name within less then 8 characters.
- **VIDEO 6 TITLE** : Can be set to any name within less then 8 characters.
- **VIDEO 7 TITLE** : Can be set to any name within less then 8 characters.
- **VIDEO 8 TITLE** : Can be set to any name within less then 8 characters.

※、The 126 characters used in title setting are as follows:

↵A↵B↵C↵D↵E↵F↵G↵H↵I↵J↵K↵L↵M↵N↵O↵P↵Q↵R↵S↵T↵U↵V↵W↵X↵Y↵Z  
 ↵録↵画↵再↵生↵早↵送↵巻↵戻↵年↵月↵日↵音↵才↵主↵副↵声↵→↵←↵↑↵↓↵■↵ビ↵デ  
 ↵オ↵ス↵テ↵レ↵メ↵イ↵ン↵サ↵ブ↵カ↵ラ↵ー↵ィ↵ト↵?↵  
 a↵b↵c↵d↵e↵f↵g↵h↵i↵j↵k↵l↵m↵n↵o↵p↵q↵r↵s↵t↵u↵v↵w↵x↵y↵z↵;↵×↵/↵.↵☎  
 ↵!↵!↵☀↵☁↵☂↵▲↵♪↵コ↵ピ↵ク↵チ↵ヤ↵ ↵ ↵0↵1↵2↵3↵4↵5↵6↵7↵8  
 ↵9↵:↵<↵>↵-↵.↵,↵ ↵ ↵

●BUZZER ALARM TIME :

1. ON/OFF: To switch the buzzer ON/OFF.
2. The buzzer time depends on the time period that has previously been set. (Time range : 0~99 minute.)

※、If the BUZZER ALARM TIME is set to 0, this function is **disable**.

●FREEZE HOLD TIME : The processor will automatically release freeze image after the time period that was set elapses. (Time range : 0~99 seconds.)

※、If the FREEZE HOLD TIME is set to 0, this function is **non-available**.

●DUPLEX MODE :

1. HALF DUPLEX → Users **can't** record quad images and display VCR tapes simultaneously, but by 2×2 Zoom-in function it is **supported**.
2. FULL DUPLEX → Users may record quad images and display VCR tapes simultaneously, but by 2×2 Zoom-in function it is not **supported**.

### 3.2.4.4 DISPLAY SETUP.

CH1:	CH2:	CH5:	CH6:
BRIGHT 16	BRIGHT 16	BRIGHT 16	BRIGHT 16
CONTRAST 42	CONTRAST 42	CONTRAST 42	CONTRAST 42
CHROMA 18	CHROMA 18	CHROMA 18	CHROMA 18
SHARP 04	SHARP 04	SHARP 04	SHARP 04
CH3:	CH4:	CH7:	CH8:
BRIGHT 16	BRIGHT 16	BRIGHT 16	BRIGHT 16
CONTRAST 42	CONTRAST 42	CONTRAST 42	CONTRAST 42
CHROMA 18	CHROMA 18	CHROMA 18	CHROMA 18
SHARP 04	SHARP 04	SHARP 04	SHARP 04

Figure 5 Contrast setup menu.

- **BRIGHT:** The camera 1~8 ( channel 1~8 ) image brightness adjustable by user.
- **CONTRAST:** The camera 1~8 ( channel 1~8 ) image contrast adjustable by user.

- **CHROMA:** The camera 1~8 ( channel 1~8 ) image chroma (color saturation) adjustable by user.
- **SHARP:** The camera 1~8 ( channel 1~8 ) image sharpness adjustable by user.

※ The brightness, contrasts, chroma and range : 0~63. The sharpness range : 0~15.

### 3.2.4.5 LOAD DEFAULT & ALARM SETTING.

```

→WATCH ALARM LIST
LOAD FACTORY DEFAULT
ONLY
LOAD FACTORY DEFAULT
AND CLEAR ALARM LIST
ALARM INPUT: OFF
ALARM ACTIVE LEVEL:
 1 2 3 4 5 6 7 8 RST
  H H H H H H H H H
VIDEO SYSTEM CHANGE
NOW VIDEO SYSTEM:NTSC

```

Figure 6.

- ◆ Press the 《 ↑ 》 and 《 ↓ 》 buttons to move the cursor ( → ) up and down. By pressing it more than 1 sec., allows the cursor to move quickly up and down.
- ◆ Buttons 《 + 》 or 《 - 》 is used for increasing or decreasing a value. By pressing it more than 1 sec., allows the value to increase or decrease by more than one value.
- ◆ After the value is set, press the 《 ↑ 》 and 《 ↓ 》 buttons one last time to finalize the set-up or to disengage. To leave this set-up menu, just press the 《NEXT PAGE》 key one last time.

● **WATCH ALARM LIST:** The list of alarm events record.

1. Press the 《 ↑ 》 and 《 ↓ 》 buttons to move the cursor ( → ) to WATCH ALARM LIST item front.
2. Press the 《 + 》 or 《 - 》 buttons into watch alarm list. This menu is read only !

AT	CH	DATE	TIME	P03
VL	5	02/05/09	12:35:07	
AI	3	02/05/09	15:05:32	
AR		02/05/10	09:52:46	
VL	2	02/05/10	18:22:21	

Figure 7: Have alarm event record.

AT	CH	DATE	TIME
NO ALARM RECORD...			
LAST ALARM LIST ERASER			
AT:2002/05/09 12:35:07			

Figure 8: After of the Load Default & Clear Alarm List operation.

3. Press the 《 ↑ 》 and 《 ↓ 》 buttons to change to the front or next page.

4. Press the 《NEXT PAGE》 buttons to leave this watch alarm list page.

※The alarm list format:

P01~P06 : Alarm list page number.

CH : Active channel.

AT : Active Type.

★ AI : Alarm Input.

★ AR : Alarm Reset.

★ VL : Video Loss.

DATE : Alarm active date.

TIME : Alarm active time.

●**LOAD FACTORY DEFAULT ONLY** : All system settings will return to factory initial. (When this operation has been completed, the ‘▲’ will be displayed )

●**LOAD FACTORY DEFAULT AND CLEAR ALARM LIST** : All system settings will return to the factory initial and clear all alarm list records. (When this operation has been completed, the ‘▲’ will be displayed on **LOAD FACTORY DEFAULT ONLY** )

●**ALARM INPUT**: Set to enable (ON) or disable (OFF) external alarm input trigger.

●**ALARM ACTIVE LEVEL**: To set the external alarm inputs and alarm reset trigger input active level.

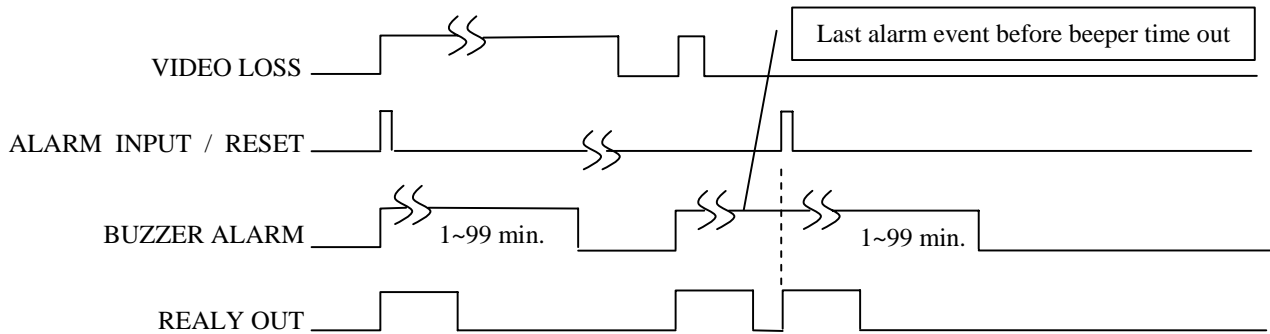
●**VIDEO SYSTEM CHANGE**: Switch NTSC/PAL system.

---

## 4. WARNING

1. Keep away from moisture, fire, and vibration. Do not remove the covers on the camera and master control to avoid the risk of electric shock.
2. Keep the temperature between 3°C~45°C, relative humidity lower than 85%.
3. Keep the unit under ventilation. Don't put anything on the top of this processor. Do not expose it to extreme moisture please turn off the power and send this processor to a repair center.
4. Please do not use any accessories that not supported by us. It is strictly prohibited to insert any other plug into DC IN socket, please use the specified DC12V±5% / 600mA power adapter. Otherwise, it may cause system damage, and result in injury.
5. The 200ms of Video Loss and Alarm Inputs detection sensitivity. The longer time it is, the less sensitivity it has.

6. RELAY OUT, Alarm Inputs, Video Loss and Buzzer alarm timing diagram.



7. For the first of switching to different quad images, abnormal rolling images may appear, which means that the system image still hasn't been synchronism with the external camera inputs. When images are unable to perform normally, please switch back to the original quad image, and then switch again to function normally (example: Switching from A page to B page, but B page reflects abnormal images, therefore switching back to A page, then to B page again, it will enable normal image view).

## 5. SPECIFICATIONS

**(Note: Design and specifications are subject to change without prior notice.)**

Video Input Ports	8 Cameras.
Picture Refresh Rate	NTSC : 60 Fields / sec ; PAL : 50 Fields / sec
Video Format	NTSC or PAL Monochrome video signal.
Video Input	8 BNC connectors. 75Ω Loaded.
Video Output	2 BNC connectors.
VCR IN	1 BNC connectors. 75Ω Loaded.
Quad Out	QUAD Only video output 1 Vp.p / 75Ω Load.
Monitor Out	Full screen or Quad output 1 Vp.p / 75Ω Load.
Resolution (H×V)	NTSC : 860×525 / PAL : 860×625 pixels. (CCIR-601 Standard)
Synchronous System	Internal, Negative Synchronous.
Zoom Function	2×2 Zoom.
Timer Generator	Built-in Real Time Clock.
Title Generator	Up to 8 characters for each channel
Auto Sequential Dwell Time	Adjustable : 1~9 sec. ( 3 sec. for first system initialization )
Freeze Duration	Adjustable : 0~99 sec. ( 5 sec. for first system initialization )
Alarm Buzzer Timing	Adjustable : 1~99 min. ( 1 min. for first system initialization )
Alarm Relay Out	Normal Open / Normal Close ×8 sec.
Power Supply	DC 12V±5% / 600mA
Power Consumption	7.5 Watt. ( Max. )
Dimension : W × H × D	312.5mm (W) ×44mm (H) ×232mm (D)
Operating Temp.	-10 ~ +50°C ( 14 ~ 122°F )