EverPlex 8 C Q

USER'S MANUAL

Real Time Color Quad Processor

High Resolution, Broadcast Quality

Playback Zoom Function

RS232 Remote Control

Connect Up To 8 Cameras

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Notice

This manual is presented to the users of EverPlex 8CQ by EverFocus Electronics Corp. With years of engineering researches, EverFocus has spared no effort to provide the high quality products to the worldwide users. For the policy of continual product improvement, EverFocus reserves the right to make changes to the product specifications and documentation without notice. All the components of the products, including accessories, components, and outlook, are based on the agreements if each deals to satisfy all kinds of users. Meanwhile, please be advised that every step of operation must follow the instruction of this manual to keep EverPlex 8CQ working under the best condition. Please notice that EverFocus will not be charged any claims or renewing cases resulted from inappropriate operation.

Important Messages:

1. To prevent fire or shock hazard, do not expose this equipment to the environment of high humidity and dust. So, do not use it in an unprotected outdoor installation or any area classified as a wet area.

2. Installation environment: The temperature should be kept between $-10^{o}C$ ~ $+50^{o}C$, humidity under 90%.

3. For safety sake, do not disseminate the unit or put it on an unstable base.

4. Ventilation: Openings in the enclosure are provided for ventilation and to ensure reliable operation of the unit and to protect it from overheating. These openings must not be blocked or covered. This unit should not be placed in a built-in installation unless proper ventilation is provided.

5. Cleanse: Unplug the unit from the outlet before cleansing. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth to clean it.

6. Overload: Do not overload outlets and extension cords as this may result in a fire or electric shock.

7. Power-cord Protection: Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

8. Object and Liquid Entry: Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.

9. Service: Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage of other hazards. Refer all servicing to qualified service personnel.

Introduction

Everplex 8CQ, a two page real time color Quad and 8 channel auto switcher, is the best choice for multiple monitoring and recording.

The superior video quality is achieved by adopting the advance multi-media technology. The picture of Quad display is sharp and clear because Everplex 8CQ is featured with CCIR601 full resolution and 16 million colors.

Main Features:

❑ Real-time Quad display.

❑ High Resolution 720 x 576 (PAL), 720 x 480 (NTSC).

❑ 16 million colors.

❑ Up to 8 camera inputs, two-page quad display.

❑ Video loss detection.

❑ Different border colors indicate page selection.

❑ Independent brightness, contrast, color and tint adjustments for every channel.

❑ Built-in timer and and title generator.

❑ Alarm input with built-in buzzer.

❑ Programmable Quad and 8 channel auto switcher output at the same time.

❑ Playback Zoom and Freeze function.

❑ RS232 Remote Control.

❑User-friendly front panel design.

Specification

Video input: 8 cameras + one VCR inputs

Video output: Video output x 2, 1V p-p/75 ohm

Title: Up to 6 characters

Timer: Built-in real time clock

Alarm input: 8 alarm inputs and 1 alarm reset input

Alarm output: 2 Alarm Out (1 Normally Open, 1 Normally Closed)

Dimension: 239 x 166 x 55 mm

Power source: AC 10~24V or DC 12V

Power consumption: 17W max.

Chapter I Functional Description

1. Front Panel Keypads

EverPlex 8CQ ⊞ ⊞ ⊞ ⊞ A B Seq 📷 Set
◄——►——▲——▼——+——-——NEXT.——DEFAULT
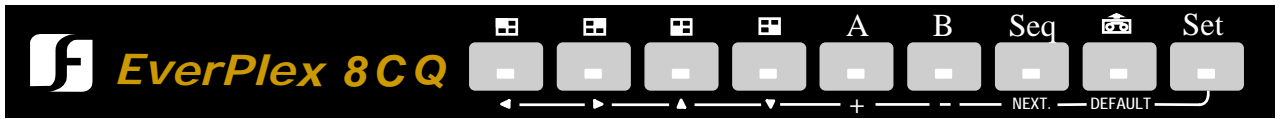
1.1 Full Screen

Press any key of FULL SCREEN, the picture of the corresponding quadrant will fill the whole screen of the monitor display. Press the same key again, the quad display will come out.

1.2 Page A/B Switch

Press A(B), the live pictures from Page A(B) will be displayed on the main monitor and VCR output for recording.

1.3 Sequential Switching

Press SEQ key will enter the auto sequential switching mode, the switching sequence is programmed in SET function, it will display live quad & full screen sequentially on the main monitor according to the programmed switching sequence. Press the SEQ key again, To exit the auto sequential mode and stay the last screen display.

1.4 VCR Play Back

Press PLAY BACK key, To play back the recorded video from VCR. There are two special functions implemented in the play back mode.

A. ZOOM function

Press any FULL SCREEN key during playback, will zoom the picture of the corresponding quadrant to the whole screen of the monitor display. Press the same key again, To stop the zoom function and back to the normal playback video.

B FREEZE function

Press the SEQ key during zoom mode, To freeze the current frame, press any key again will de-freeze the video and perform the corresponding function for that key.

1.5   Set

Press the SET key to set time/date, title on/off, picture, camera titles, switching sequence, switching time period, alarm sensor type, alarm hold time, and display the alarm/video loss records.

There are 8 pages in the setting mode :

Page 1 :   Set Time and Date.
                    Turn ON/OFF the time, date, title display for Quad or Full screen
                    display.
Page 2:   Display the alarm records.
Page 3:   Set the brightness, contrast, color, and tint for cameras in page A
Page 4:   Set the brightness, contrast, color, and tint for cameras in page B
Page 5:   Change camera titles of Page A.
Page 6:   Change camera titles of Page B.
Page 7:   Program the sequential switching sequence and switching hold
                    time. Set the screen refresh mode.
Page 8:   Set the alarm sensor type, alarm hold time, buzzer on/off and
                    Security.

The follow keys are re-defined in setting mode (Definition under the keypad)

NEXT P.   Press next page to select the page to set.

DEFAULT   Press the default to set the default setting
                                if they are available.

+ —— -   Press the +/- keys to set the value.

◄ —— ► —— ▲ —— ▼   Press the cursor key to select the item to set.

1.5.1 Date, Time setting, and OSD display on/off setting

```
DATE:  1997-01-01
TIME:   01:01:01

QUAD SCREEN DATE:    ON
QUAD SCREEN TIME:    ON
QUAD SCREEN TITLE:   ON


FULL SCREEN DATE:    ON
FULL SCREEN TIME:    ON
FULL SCREEN TITLE:   ON


       VERSION N.NN
```

DATE data format is CCYY-MM-DD, where

CC	:	Century code from 19 to 20
YY	:	Year data from 00 to 99
MM	:	Month data from 01 to 12
DD	:	Day data from 01 to 31

TIME data format is HH-MM-SS, where

HH	:	Hour data from 00 to 23
MM	:	Minute data from 00 to 59
SS	:	Second data from 00 to 59

VERSION shows current firmware version

1.5.2 Alarm Records

```
     ALARM   RECORDS
  C A DATE      TIME

  3 S 1997-03-24 10:00:00
```

The Alarm Record format is : (C   A   DATE   TIME)

C : the channel number from 1 to 8 which invokes the alarm
A : Alarm type, 'S' - alarm from sensor input, 'V' - alarm from video loss detection
DATE, TIME -   the date and time when the alarm happens

1.5.3 Set the Brightness, Contrast, Color, Tint for each channel in Page A

```
              PAGE A

   BRIGHT:   32 │ BRIGHT:   32
   CONTRAST:27  │ CONTRAST:27
   COLOR:    31 │ COLOR:    31
   TINT:     32 │ TINT:     32
   ──────────────────────────────
   BRIGHT:   32 │ BRIGHT:   32
   CONTRAST:27  │ CONTRAST:27
   COLOR:    31 │ COLOR:    31
   TINT:     32 │ TINT:     32
```

1.5.4 Set the Brightness, Contrast, Color, Tint for each channel in Page B

```
              PAGE B

   BRIGHT:   32 │ BRIGHT:   32
   CONTRAST:27  │ CONTRAST:27
   COLOR:    31 │ COLOR:    31
   TINT:     32 │ TINT:     32
   ──────────────────────────────
   BRIGHT:   32 │ BRIGHT:   32
   CONTRAST:27  │ CONTRAST:27
   COLOR:    31 │ COLOR:    31
   TINT:     32 │ TINT:     32
```

1.5.5 Set the camera titles for Page A

```
   CH1:   CH1

   CH2:       CH2

   CH3:   CH3

   CH4:       CH4
```

1.5.6   Set the camera titles for Page B

```
           CH5:  CH5

           CH6:     CH6

           CH7:  CH7

           CH8:     CH8
```

1.5.7   Set sequential switching parameters

```
        SEQUENTIAL  SWITCH  MENU

        CH1:    OFF  CH5:    OFF
        CH2:    OFF  CH6:    OFF
        CH3:    OFF  CH7:    OFF
        CH4:    OFF  CH8:    OFF
        QUAD A: ON   QUAD B: ON

        SWITCH TIME  :   03 SEC

        REFRESH MODE :   FIELD
```

CH1 - CH8 to turn each channel ON or OFF in the sequential switching
QUAD A, B to turn each QUAD ON or OFF in the sequential switching

SWITCH TIME : The time period to switch for each switching item
REFRESH MODE : to set the screen refresh by 'FRAME' or by 'FIELD'

1.5.8 Set alarm parameters

```
ALARM SETTING MENU

CH SENSOR      CH SENSOR
 1 N.O.         5 N.O.
 2 N.O.         6 N.O.
 3 N.O.         7 N.O.
 4 N.O.         8 N.O.

ALARM RESET IN : N.O.
BUZZER         : ON
KEY LOCK       : OFF
ALARM HOLD TIME: 05 SEC
```

CH1 - CH8 to set the sensor input type as
   'N.O.' : normally open, closed will invoke alarm
   'N.C.' : normally closed, open will invoke alarm
   'closed' means to short the alarm signal line to the ground

ALARM RESET IN : to set alarm reset input type as 'N.O.' or 'N.C.'

BUZZER : turn the buzzer ON/OFF

KEY LOCK : turn the KEY LOCK function ON or OFF, when key lock is turned on
              1. all keys except SET key are locked
              2. KEY LOCK stays ON until we turn it OFF by pressing the SET key

ALARM HOLD TIME :   the time period to buzz (if buzzer is on) and send alarm out
              signal when an alarm in

Chapter II Back Panel Connection
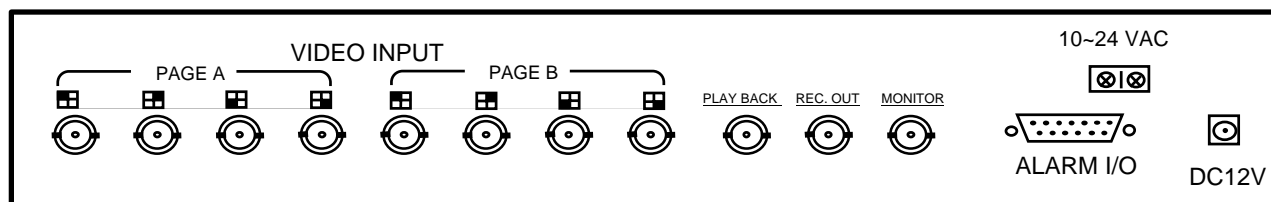
1. BNC Connectors

1.1 MONITOR

Connect this output port to the main monitor.

1.2 REC. OUT

Connect this output port to the VIDEO IN of VCR. The quad video output of current active page is obtained from this connector.
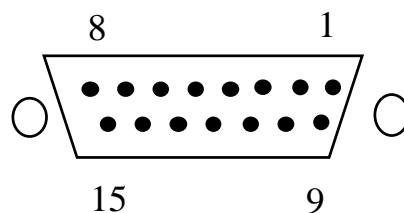
1.3 PLAY BACK

Connect this input port to the VIDEO OUT of VCR.

1.4 VIDEO IN

Connect camera video out to this connector by a 75 ohm coaxial cable.

2. Alarm Connectors (DB-15)

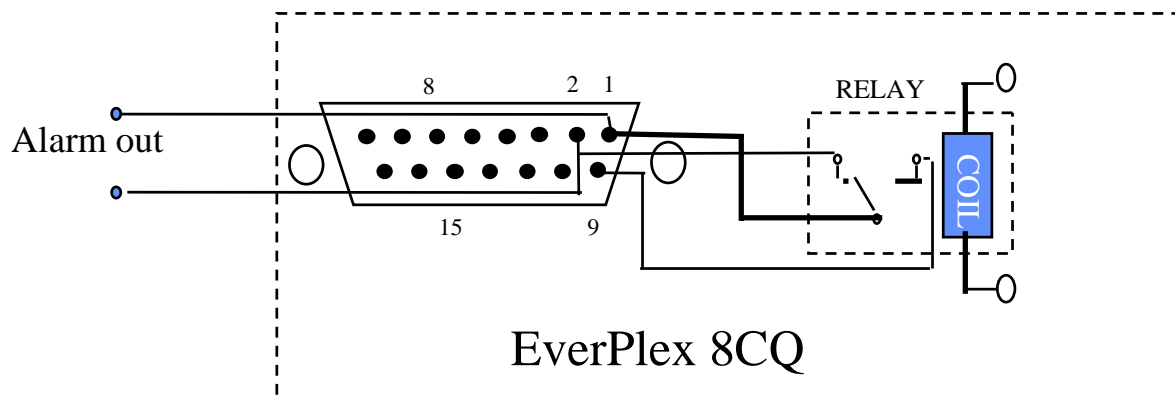| PIN #	NAME	PIN #	NAME
1	Alarm Out Common contact	9	Alarm Out Normally Open
2	Alarm Out Normally Closed	10	TXD *
3	Alarm Reset	11	RXD *
4	GROUND	12	ALARM IN 8
5	ALARM IN 4	13	ALARM IN 7
6	ALARM IN 3	14	ALARM IN 6
7	ALARM IN 2	15	ALARM IN 5
8	ALARM IN 1		

2.1 Alarm out

There are two ways to do the alarm out connection:
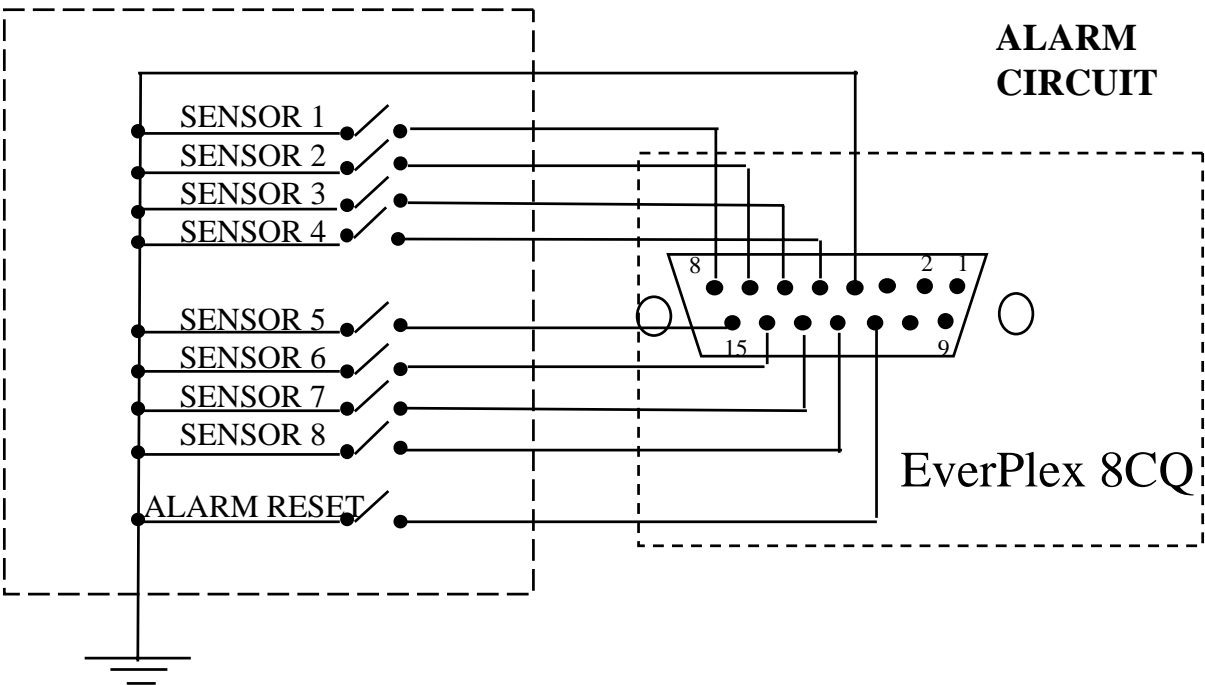
2.1.1 Normally Open Connection (use pin # 1 and # 9)

Alarm out

8   2   1

RELAY

COIL

15   9

EverPlex 8CQ
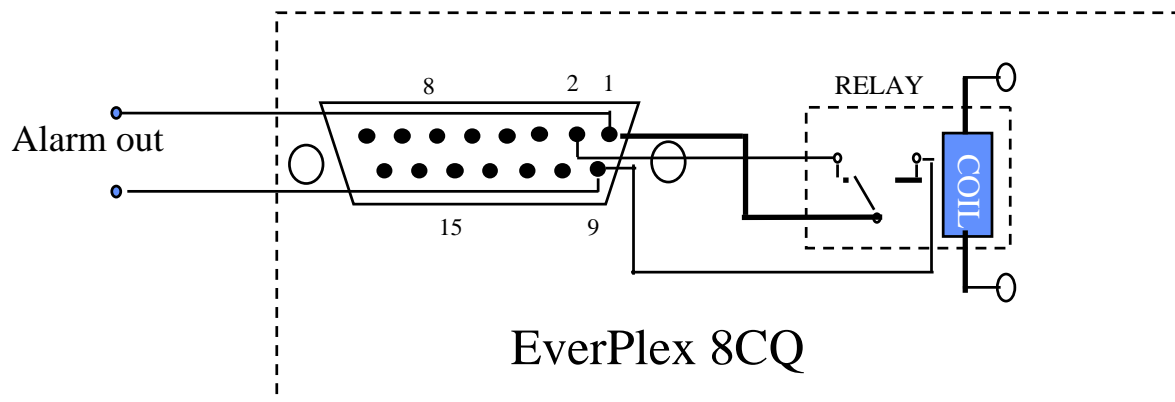
2.1.2 Normally Closed Connection (use pin # 1 and # 2)

Alarm out

8   2   1

RELAY

COIL

15   9

EverPlex 8CQ

2.2 Alarm in and Alarm reset

There are 8 alarm sensors in for 8 channels and 1 alarm reset in, all these
9 alarm input can be set to Normally Open or Normally Closed by user and
the setting menu.

2.2.1 ALARM IN

There are eight alarm inputs, one for each camera of page A & B. Please connect the alarm
input in the same sequence as the cameras input BNC of page A & B.

When any alarm signal is input, machine will do the following:
> 1. switch to the full screen display of this channel.
> 2. blink the channel ID with alarm message.
> 3. turn on the buzzer if the buzzer setting is on.

When more alarms come up in the alarming status, the monitor screen will switch to quad
display to show all the channels which have alarms in.

The **ALARM IN** can be selected as normally open input or normally closed input:

Normally Open : if the alarm input is selected as Normally Open input, then the
  (N.O.)   input is opened normally, and shorted to the ground means an
   alarm happens
Normally Closed : if the alarm input is selected as Normally Closed input, then the
  (N.C.)   input is shorted to the ground normally, and opened means an
                  alarm happens
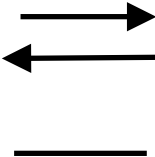
2.2.2 ALARM RESET

External alarm reset signal used to reset the alarm and turn the buzzer off. if it is selected
as Normally Closed input, then the input is shorted to the ground normally, and opened
when an alarm reset signal comes in. if it is selected as Normally Open input, then the
input is opened normally, and shorted to the ground means an alarm reset signal comes in.

3. RS232 Connection

EverPlex 8CQ may be controlled by a computer or a terminal via the standard 9 pin
D- sub/RS232 connector, which is connected to the alarm I/O by a cable with 15 pin
and 9 pin connectors. EverPlex 8CQ will send the alarm message to the host via RS232
when any alarm occurs.
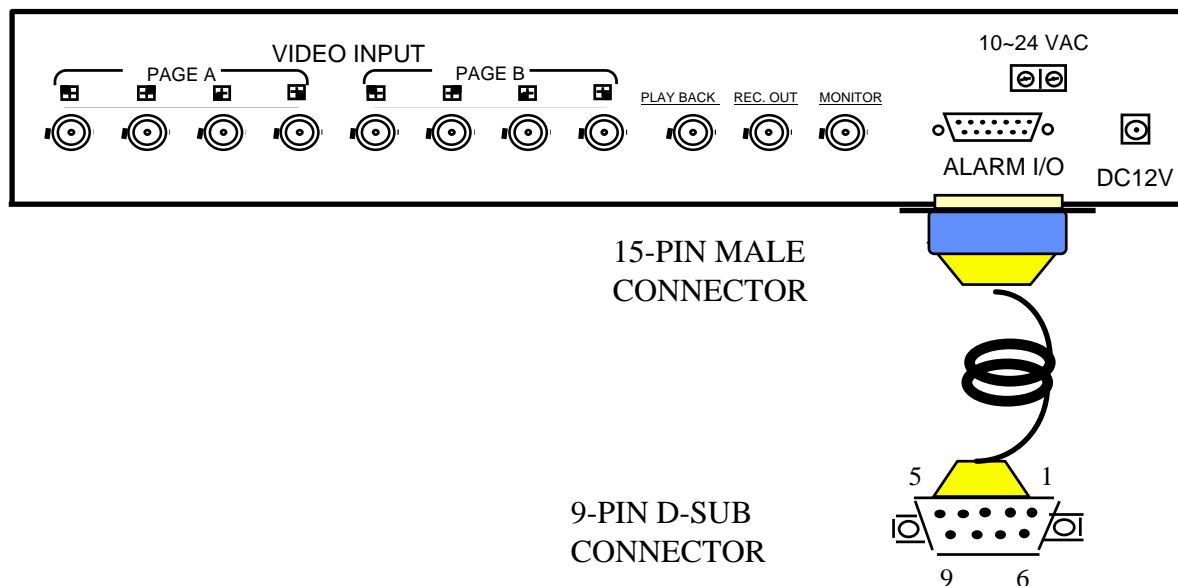
3.1. The pin assignment of the 9 pin D-SUB connector

EverPlex 8CQ			HOST	
PIN #	NAME		PIN #	NAME
1	NOT CONNECTED		1	NOT CONNECTED
2	TXD	→	2	RXD
3	RXD	←	3	TXD
4	NOT CONNECTED		4	DTR
5	GROUND	——	5	GROUND
6	NOT CONNECTED		6	DSR
7	NOT CONNECTED		7	RTS
8	NOT CONNECTED		8	CTS
9	NOT CONNECTED		9	NOT CONNECTED

3.2. Transmission Setting

The transmission setting in EverPlex 8CQ is 9600 baud rate, 1 start bit, 1 stop bit and no parity

3.3. Remote control protocol

A computer or a terminal can be used to control the EverPlex 8CQ by sending two-character ASCII command through RS232 connector, these ASCII commands are started with 'K' or 'k'. there are 9 ASCII commands mapped to the 9 keypads in the front panel and 1 additional commands to reset the EverPlex 8CQ to the QUAD A display state. these 10 ASCII commands are:

EverPlex 8CQ Remote Control Command Table		
ASCII CODE	**FUNCTION**	**Keypad in front panel**
K1	Full Screen 1	⊞
K2	Full Screen 2	⊞
K3	Full Screen 3	⊞
K4	Full Screen 4	⊞
K5	PAGE A	**A**
K6	PAGE B	**B**
K7	Sequential Switching	**SEQ**
K8	VCR Play Back	📷
K9	SET	**SET**
K0	Reset EverPlex 8CQ to Quad display none	

3.4. Alarm message sent via RS232

EverPlex 8CQ will send out alarm message thru RS232 when any alarm occurs, the alarm message format are three ASCII characters followed carriage return and line feed, they are

first charater is the leading code , **'!'**
second character is the alarm type, **'S'** indicates a sensor alarm, **'V'** indicates a video loss
third character is the channel number having the alarm, **'1' ~ '8'**
fouth byte is the carriage return code, 0DH
fifth byte is the line feed code, 0AH

4. Record output selection

The record out will output quad display according to the page selection. The relation between the outputs of record out and monitor out are:

Monitor out	Record 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 8 cameras into VCR thru record out, turn on Quad A and Quad B simultaneously in sequential switching mode.

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