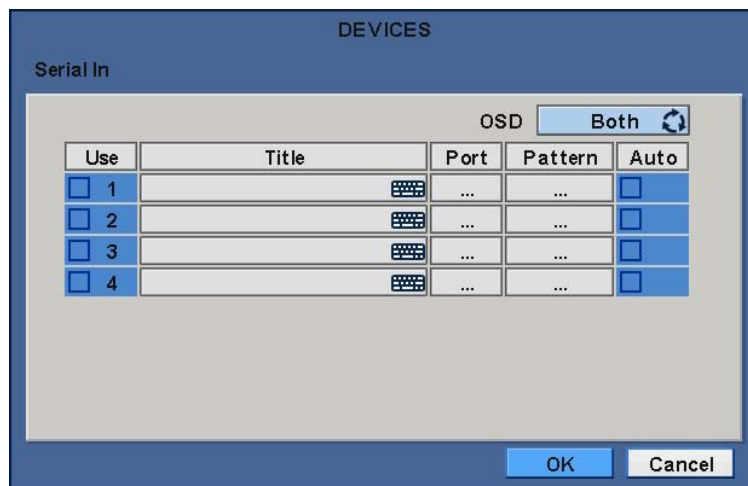


# Serial In (POS / ATM)

## User`s Manual



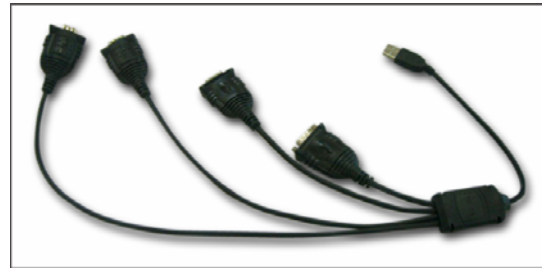
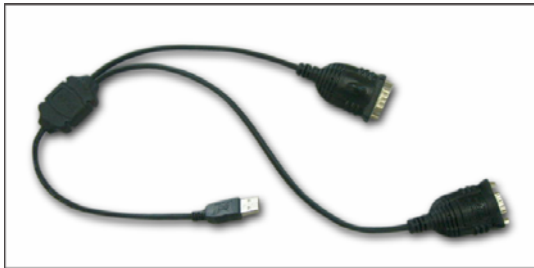
# 14. SERIAL IN (POS/ATM)

## 14.1 Usage of Serial-In Function

- Enables to record/search/display all transactions on monitoring screen by connecting POS/ATM/Cash Register.
- User can choose the data whether to record/display on their taste without limitedly designated protocols.

## 14.2 Connection Method

- **PRO 4000 / 8000 / 1600, PRO 4010 / 8010 / 1610, PRO HD08 / HD16**
- This model has one ATM/POS channel and it is available to expand its connections up to four channels (Optional).
- Connect the RS232 port of Serial-in application to USB slot of DVR by using USB to RS-232 Converter Cable and it is available to connect up to 4 serial-in devices by using the converter.
- Applicable converters as follows
  - FTDI chipset included converter
  - Prolific PL2303 / PL2303X / PL2303HX chipset included converter
  - Winchiphead chipset included converter
- When use a converter, please connect USB slot of DVR first, then restart in order to the DVR recognizes the USB converter.
- When use a multi-converter, the port recognizes as Number 1 as its shortest line of converter consequently.
- When use both single and multi-converters, single converter is recognized as Port Number 1.



- **PRO 0808 / 1616**
- Connect the RS-232 port of ATM/POS machine through the RS-232 port of DVR.

### **HE, PRO 4010 / 8010 / 1610, PRO HD08 / HD16**

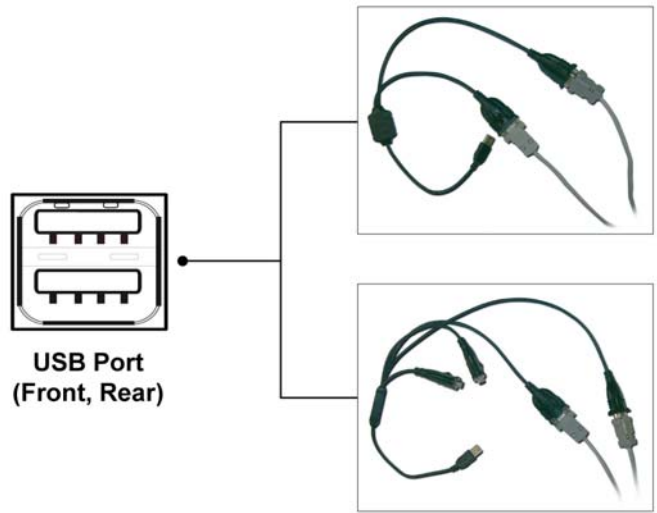
It is available to connect 1 Serial-In application without additional option.  
You can add 3 more Serial-In applications with additional option.  
This function is only supports English alphabetical characters.  
The maximum extension length for RS-232 cable is 15 meters approximately.

### **PRO 0808 / 1616**

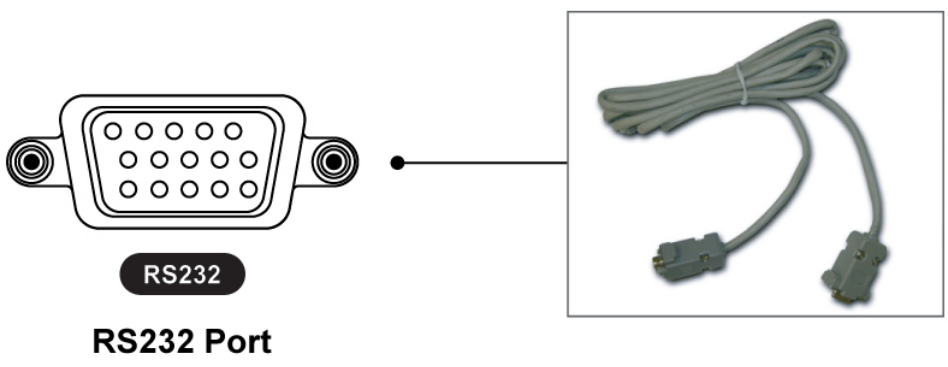
This type of DVR is only able to connect a Serial-in function due to the limitation of RS-232 connection.  
This function is only supports English alphabetical characters.  
The maximum extension length for RS-232 cable is 15 meters approximately.

## 14.3 Connection Diagram

- PRO 4000 / 8000 / 1600, PRO 4010 / 8010 / 1610, PRO HD08 / HD16 Using USB: Connect RS-232 port to USB port at front/rear of DVR by using a converter.



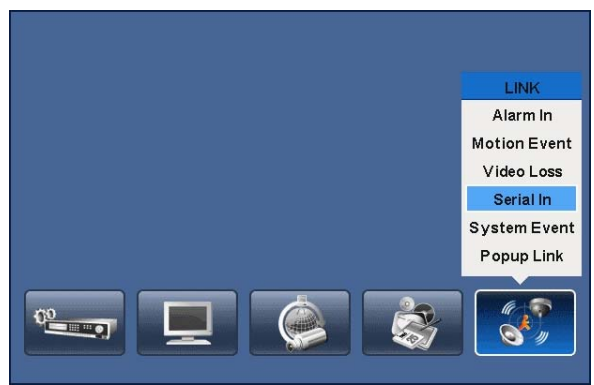
- PRO 0808 / 1616 Using RS-232: Connect RS-232 port to USB port at front/rear of DVR by using a converter.



## 14.4 Link

### 14.4.1 Link Setup

- Click "Setup>Link>" then shows as below.



**(NOTE)**

The above menu is only available on the DVR model with Serial-In function.

- Click "Serial In" to appear following screen.



- Select POS/ATM port by clicking 'Serial In' button.
- Assign the port to display/record channel by clicking a "Link Camera".
- Select "Link Alarm Out" item to run alarm output when the serial in events occur.
- Designate the E-Mail address or IP/Domain name at "Link Notification" box when the serial in events occur.

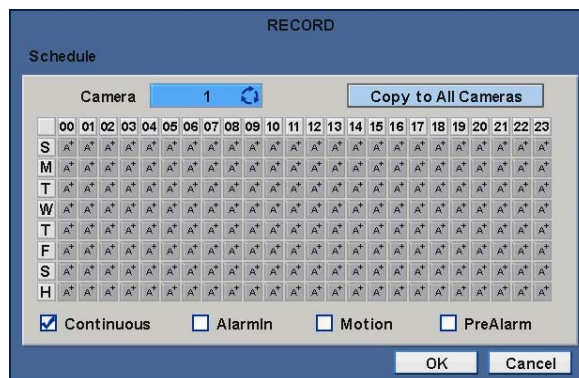
**(NOTE)**

E-Mail address or IP/Domain configuration is possible to set in 'Setup>Network>Notification' menu.

- Set other POS/ATM port as above.
- Click "OK" to save the configuration.

### 14.4.2 Schedule Setup

- Click "Record>Schedule>" then shows as below.



- Tick the box(☐) item Alarm In.
- Click the Time/Date that wish to activate ATM/POS function on schedule.
- It is possible to activate all the time by clicking top-right side of table.
- Click "OK" to save the schedules.

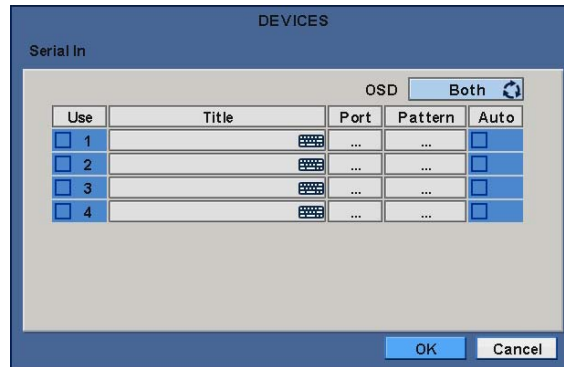
### 14.5 Setup

- Please click (←) "System>Devices>Serial-In", then user will see the display below.



**(NOTE)**

This [Serial In] section does not show without additional Serial-in option.

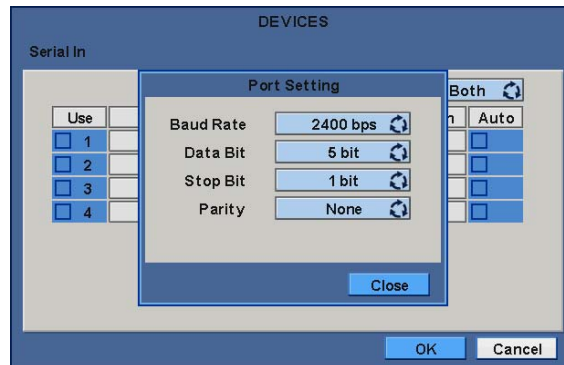


### 14.5.1 Title

- Click “Title” item then virtual keyboard will appear.
- Input the title then click (↵) to save.

### 14.5.2 Port Setting

- Press (↵) the “Port Setting” button in order to set up the port. Default values are Baud rate 2400 bps, Data Bit 5 bit, Stop Bit 1 bit, Parity None.



- When the setup is done, press enter (↵) to save the setting.

### 14.5.3 OSD Display

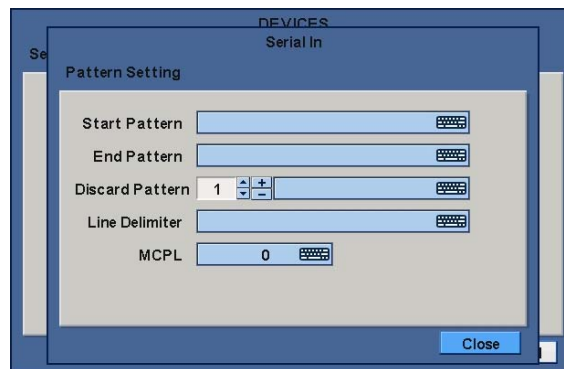
- OSD items are to decide whether to display the information from the serial port connected to the rs232 port on OSD screen.
- They have 4 menus as followings:
  - None : displays nothing on the OSD screen.
  - Live : displays incoming information from the serial port in real time on the OSD screen.
  - Playback : displays the saved information on the OSD screen during replay.
  - Both: displays all the information on both Live and Playback mode.

### 14.5.4 Pattern Setting

- User can select the name of serial device if click (↵) the keyboard button of Title.
- When “Use” items of Numbers 1-4 are checked  on Serial-In page, it receives the data from the applicable serial device.
- Check  the “Auto” item so as to capture automatically all the data which includes unnecessary dummy data out of serial device as below.



- Analyze among the automatically captured data which will be displayed or discarded then enter Pattern Setting.
  - Unless user checks “Auto” item, make sure to set up “Start Pattern” and “End Pattern”
  - “Discard Pattern”, “Line Delimiter” and “MCPL” are utilized independently, not relation to “Auto” mode.
- It is possible to input and analyze the serial data by clicking “Pattern” after tick the “Auto” box() off.



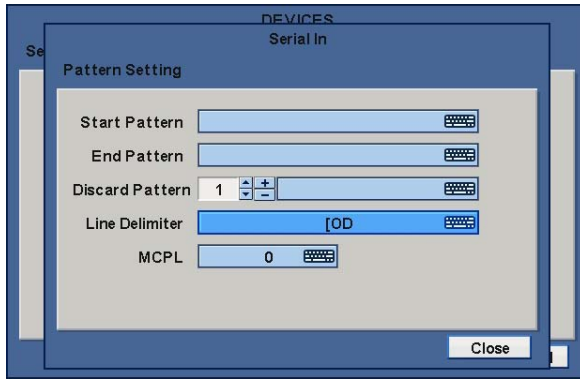
- Each item explains below:
  - Start Pattern : Indicates the beginning of the new data when new designated data are received from a serial device.
  - End Pattern : Indicates the end of the data when designated data are received from a serial device.
  - Discard Pattern : Does not show the designated data on OSD screen. Sets up in order to designate dummy data or characters which is not favorably to be displayed. Can be designated up to 64 of discard patterns in total.
  - Line Delimiter : Inputs characters to be used as delimiter between lines.
  - MCPL(**M**inimum **C**haracter **P**er **L**ine) : Sets up the number of the minimum strings each line. Does not show the characters on OSD screen if there is a character of which number is below the designated number in each line divided by the line delimiter.

### Example

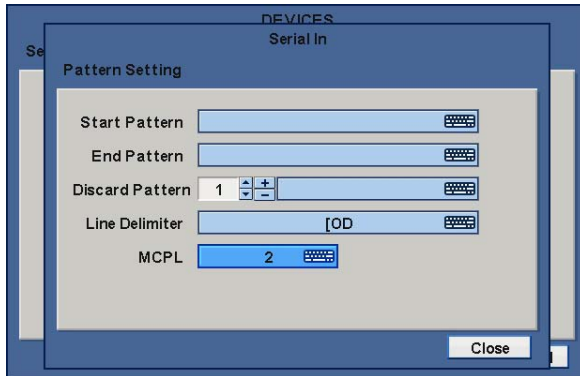
- When it firstly connected, the data will be displayed as below.



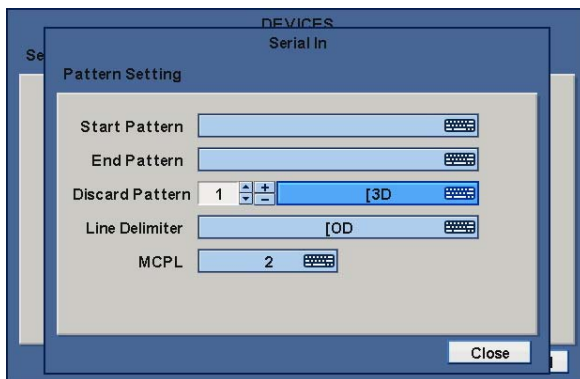
- Input a certain repeated string to “Line Delimiter”.



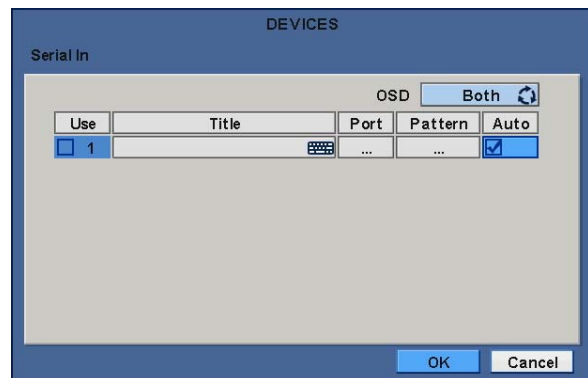
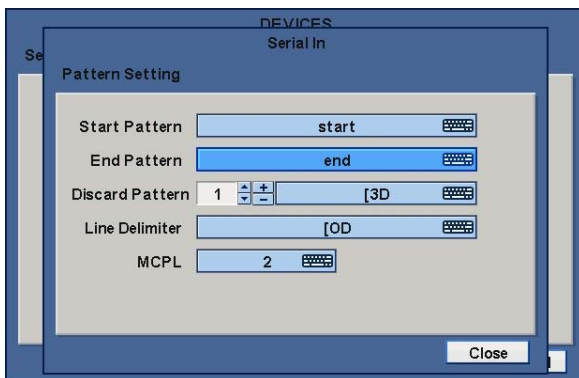
- Decide the number of minimum characters in "MCPL" item to hide data under the designated number of characters.



- Input the pattern of dummy data to Discard Pattern.



- Choose the data which willing to display and enter the Start Pattern and End Pattern.



- Then tick the Auto box off in order to make the DVR recognizes the data between the Start and End patterns.



- Finally, test again and adjust data to remove missed dummy data.

## 14.6 Search

- Using event search function.
- Please click (←) the “Search>Event Search” menu on the pop-up menu of the wallpaper, then user will see the following screen.

Event SEARCH	
From	To
2007/08/02 10:14:53	2007/08/02 13:14:53
Camera	Time
Camera1	2007/08/02 10:44:37
<input type="checkbox"/> Motion	2007/08/02 10:45:50
<input type="checkbox"/> Alarm In	2007/08/02 10:46:55
<input type="checkbox"/> Emergency	2007/08/02 10:48:10
<input checked="" type="checkbox"/> Serial In (POS/ATM)	2007/08/02 10:55:21
	2007/08/02 11:05:30
	2007/08/02 12:10:17
	1 / 4
	Search Index
<input type="button" value="Search"/> <input type="button" value="Cancel"/>	

- It is possible to search the recorded data which is set up on Serial In and Linking pages.
- The keyboard button for setting up the characters to be searched activates only when the Serial In item is checked .