POS function

Galaxy NV Series POS-DVR surveillance system is a professional surveillance integrated with POS system. By bringing video and POS transaction data together, the POS-DVR surveillance system provides visual text information to reduce shrinkage and prevent asset from losing.

Galaxy NV Series DVR System can integrate any POS devices that send **plain text data based on ASCII code** through serial port (RS-232-C) or network (TCP/IP).

When text information was sent to DVR through COM port or network, user can set filter rule according to the data information. After correct settings, DVR will overlay text information over the video image.

1.1 Connection

Galaxy NV Series DVR System supports two methods to receive the data from POS system: Serial port and network.

Result from that, POS system can send data through serial port or network directly, or the combination of them by using converter.

1.1.1 Direct COM port connection

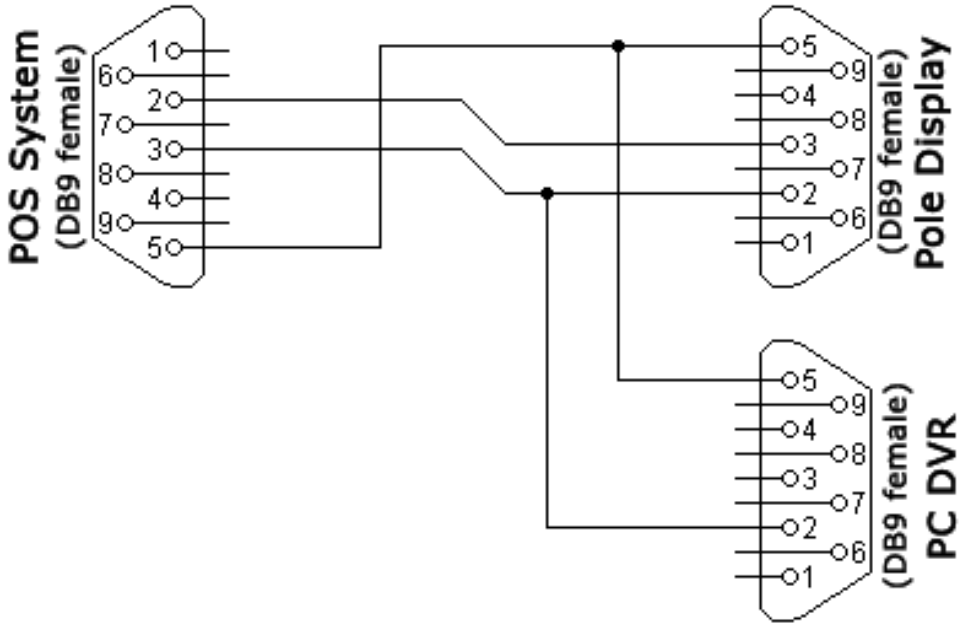
For direct COM port connection, we always recommend user send the data for pole display to our POS system, since it is real time and will not send much data at a time, which will cause the difficulty to read the fast scroll text over the video. And use should use cross-line cable to connect two sides.

If the POS system support copying the data for pole display to another COM port, user can connect that COM port with the PCDVR directly.

If the POS system does not support copying the data for pole display to another COM port, user can make a spy monitor cable to divide the data from POS to pole display (RS-232-C serial port connection) to two terminals, one for pole display and the other for PCDVR.

Note: before you make the DIY spy cable, please consult your POS supplier to be sure the pin definition of the RS-232-C cable between POS System and Pole Display.

1. Half duplex RS232 spy cable without handshaking



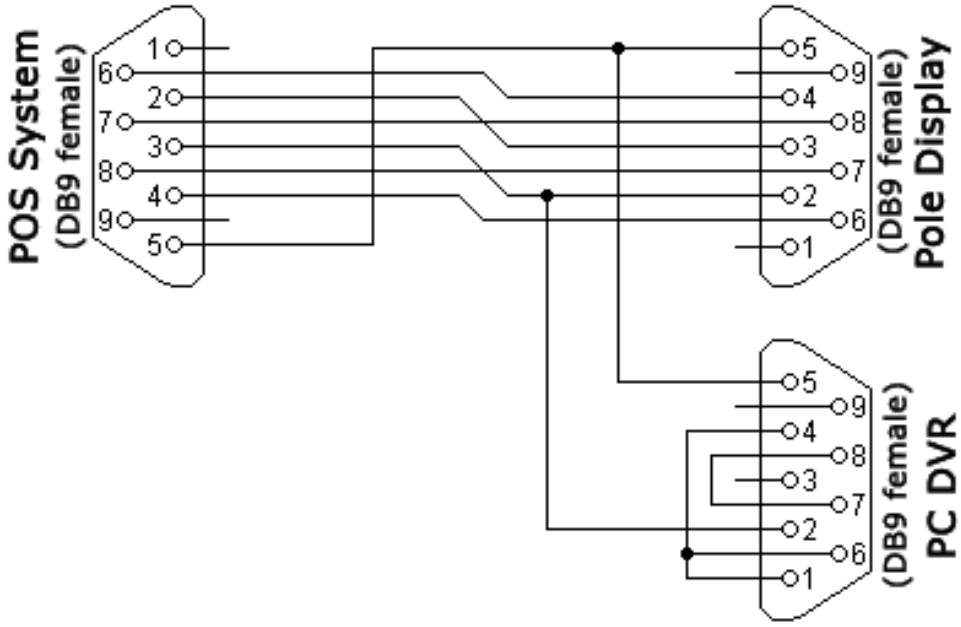
Half duplex RS232 spy cable without handshaking

PCDVR	Function
3 (POS system) → 2*	Tx → Rx
5 (POS system) → 5	Signal Ground

**** Since we just need the data from POS system to Pole display, so we just connect the pin 3(Transmit data) of POS system with pin 2 (Receive data) of PCDVR. Next is the same.***

2. Half duplex RS232 spy cable with handshaking

Our PCDVR does not need any flow controls for direct COM port, including software and hardware flow control. If the POS system need flow control, user should do some changes as below:



PCDVR	Function
3 (POS system) → 2	Tx → Rx
5 (POS system) → 5	Signal Ground
1 + 4 + 6	DTR → CD + DSR
7 + 8	RTS → CTS

For more detailed information, please refer to: http://www.lammertbies.nl/comm/cable/RS-232.html.

Since serial cable can only be used in near distance, when the distance is too far, use can use direct network connection or RS232 to network connection:

1.1.2 RS232 to network connection

For this connection, we supply a converter for client to convert RS232 to network: NC6XX series IO-Server.

Our IO server adopts RJ45 standard RS-232-C interface, for the conversion between DB9 and RJ45, please refer to corresponding manual, here take NC602 for instance:

NC602 (RJ45)	POS System (DB9)
1 TXD	2 RXD
2 RXD	3 TXD
3 RTS	8 CTS
4 CTS	7 RTS
5 DSR	4 DTR
6 GND	5 GND
7 DTR	6 DSR
8 DCD	1 DCD

1.1.3 Direct network connection

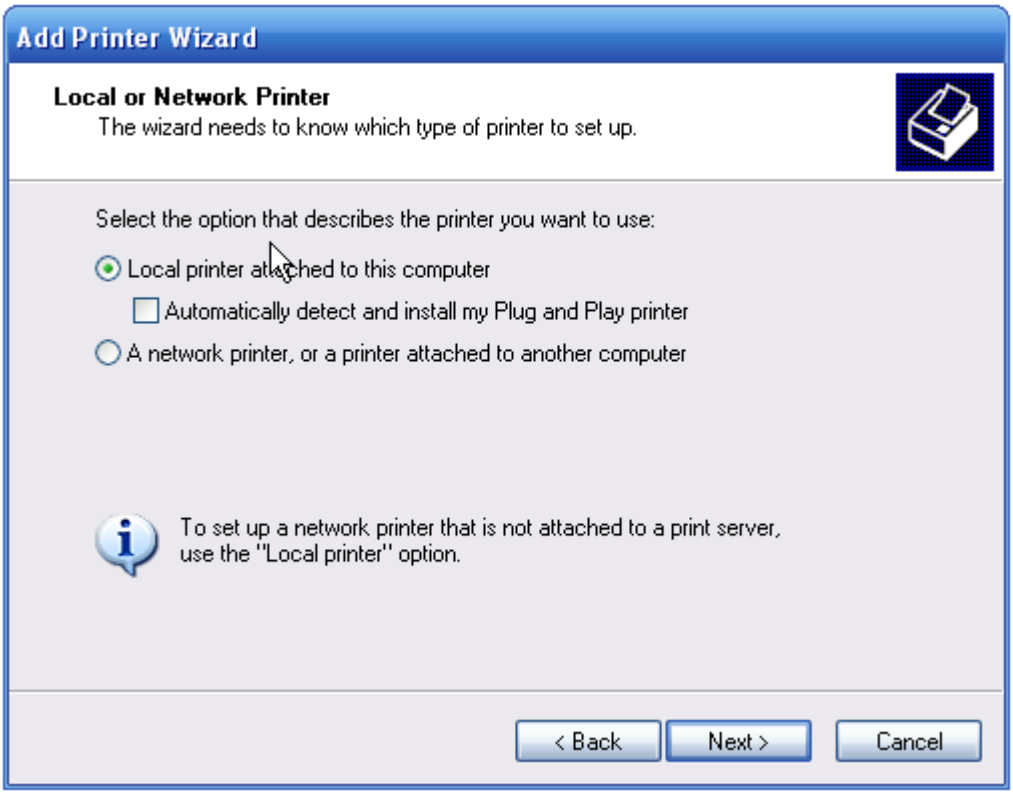
Generally speaking, since it will be too difficult to read the text over video, we do not recommend user to use this connection. It's too quick. However, it's easier to set.

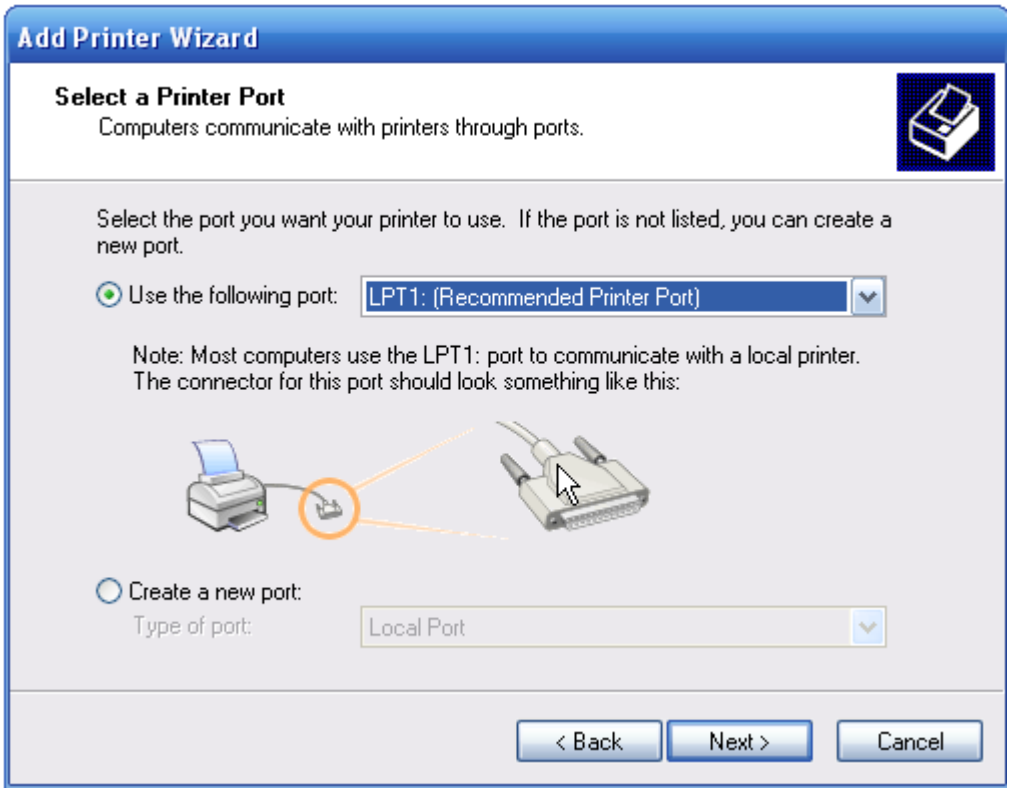
Please note you can't put your local and network printer on the same computer. Otherwise, you will get a print error. You should send your print data form network printer, then, it will be printed to local printer. And then, the print data will be displayed on the DVR screen.

1. Install Generic/Text Only printer driver on the PC you run Galaxy NV Series DVR (such as 192.168.0.102)

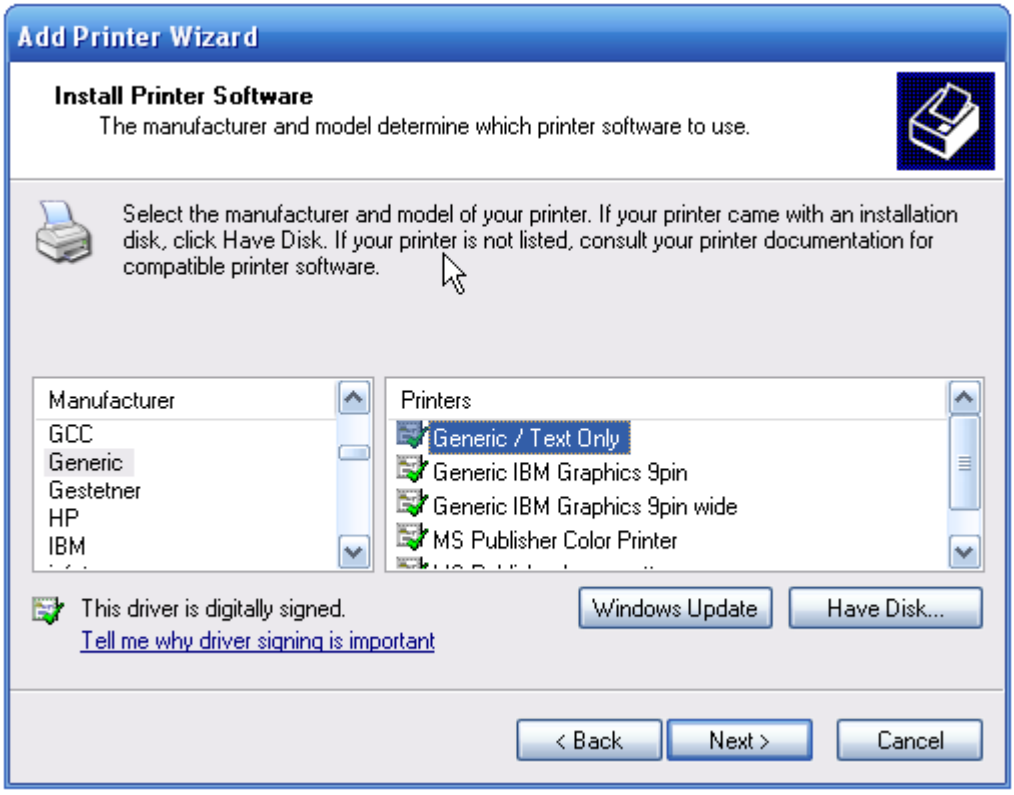
The steps to set local printer are as below:

Click “Add Printer” to enter the following GUI. Then, operate as the pictures shown.



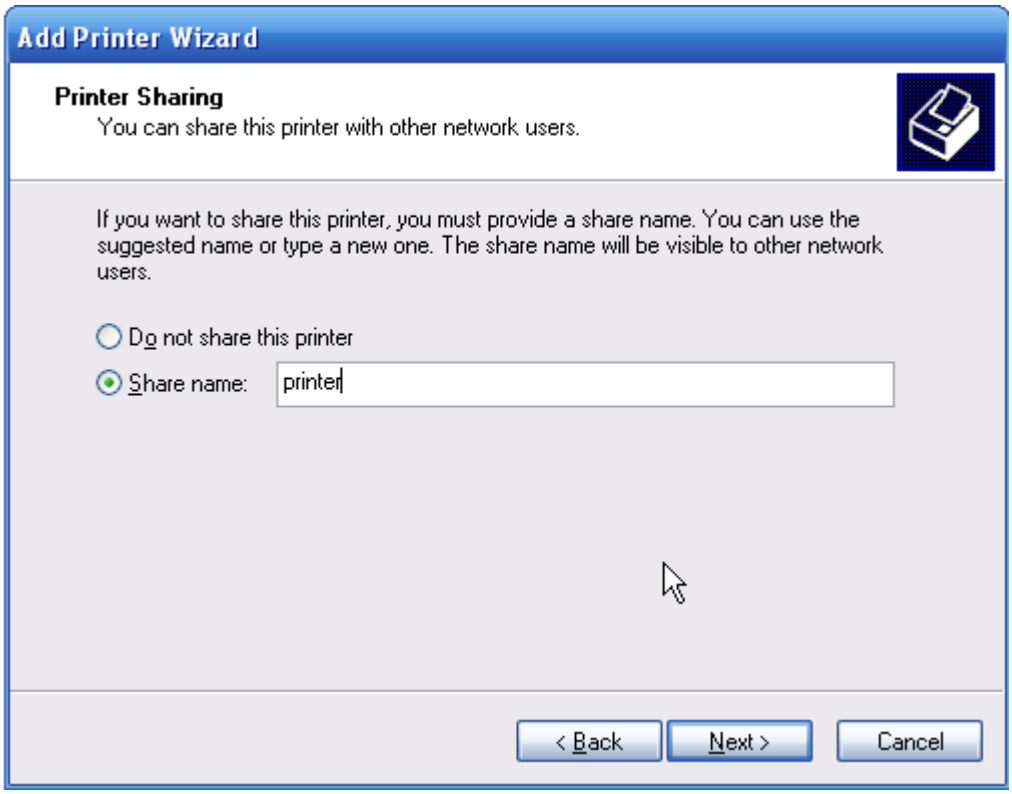


Select “Generic”→”Generic/Text Only” and then clicke “Next”.

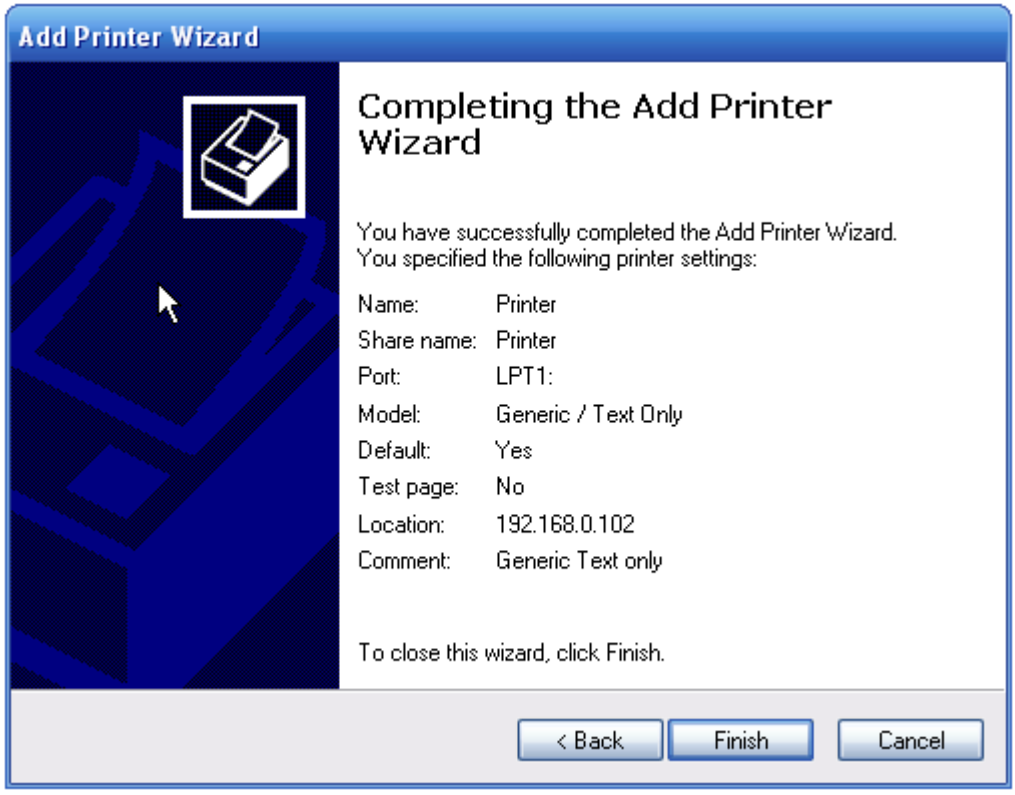


Select “Generic”→”Generic / Text Only”

Fill in a simple share name for your local printer. It will be used again in the later operation. So please remember it.

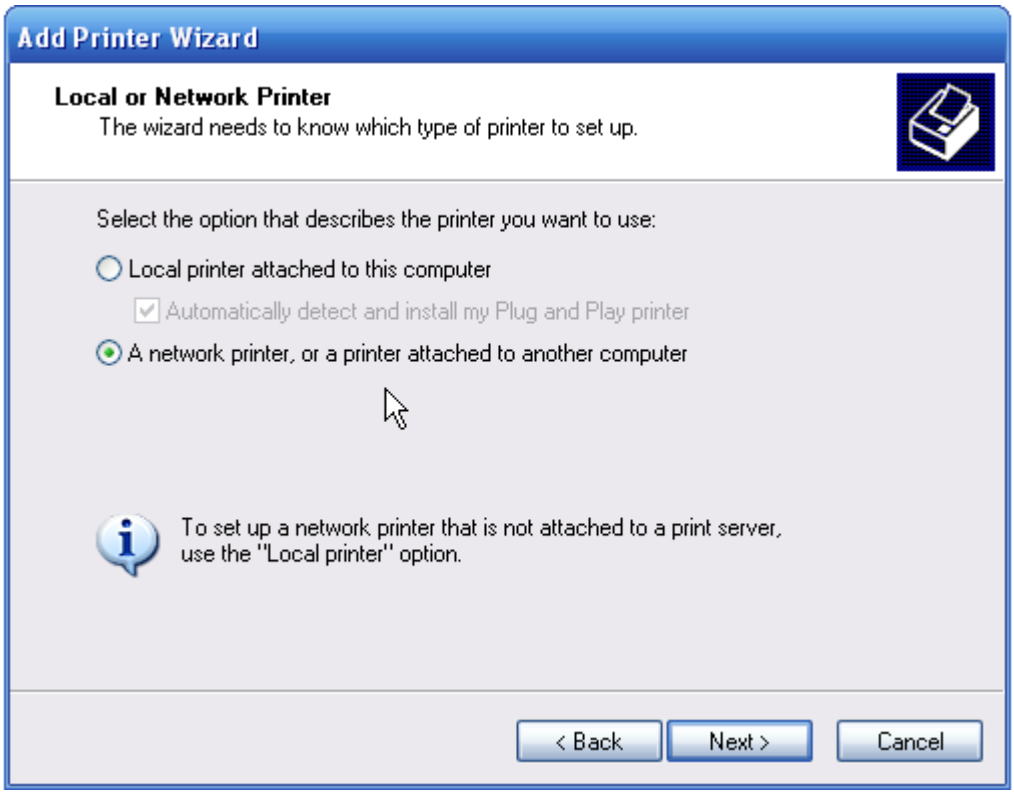


Share the "printer"

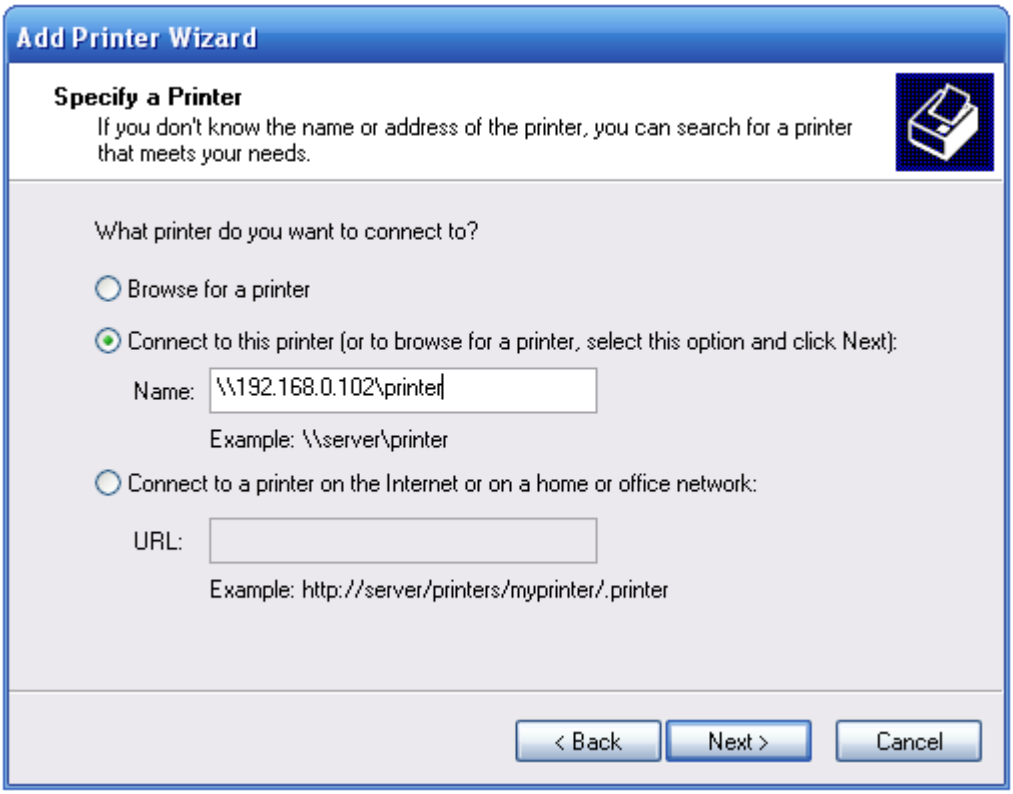


Now you can regard the Galaxy NV Series DVR as a shared printer.

2. Add the printer on the PC that runs as a network printer for POS (such as 192.168.0.192) and set it as the default printer for POS.



Add a network printer

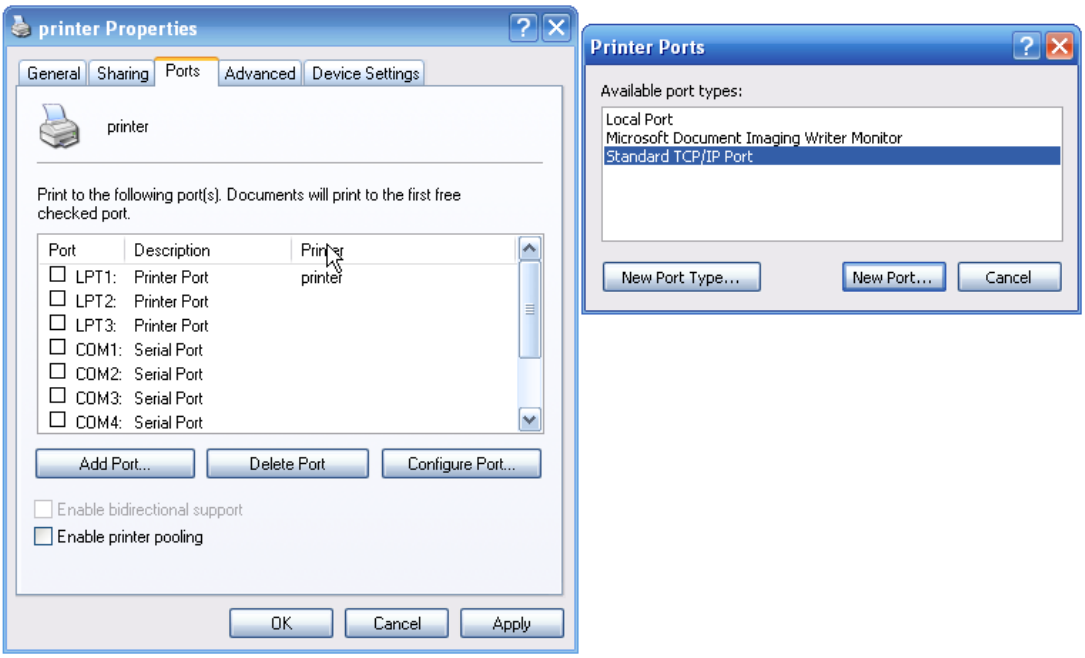


Add the printer shared in 192.168.0.102 (Galaxy NV Series DVR)

Set the shared printer in 192.168.0.102 as the default printer

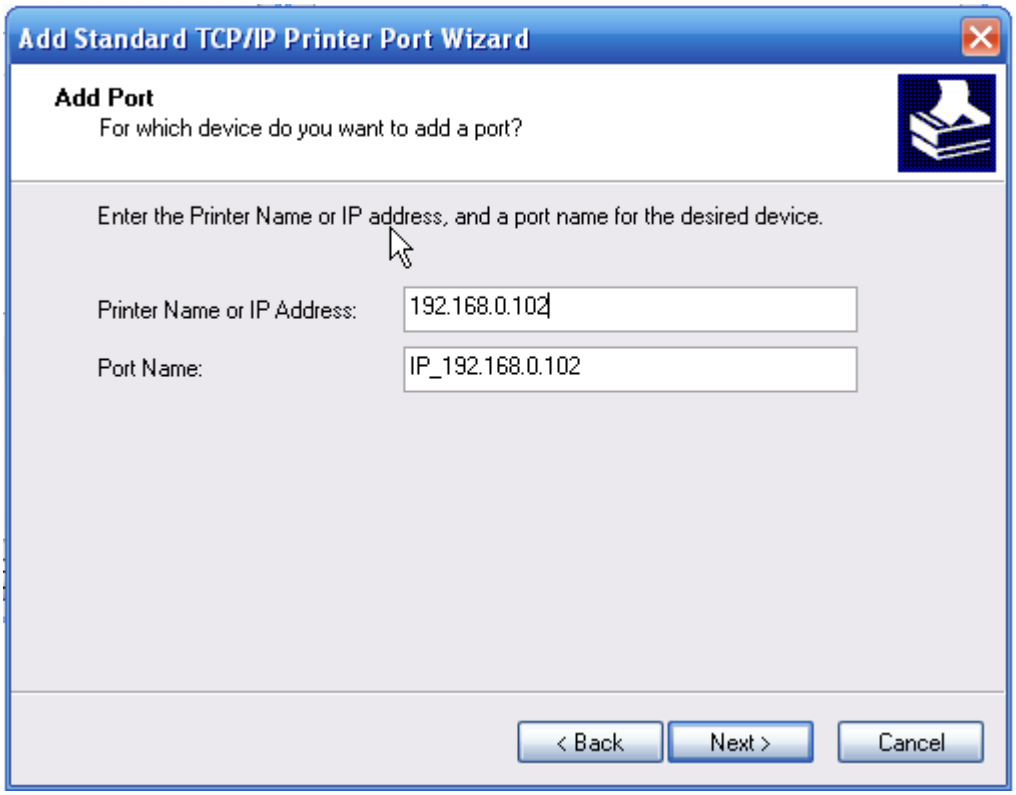
3. Add a standard TCP/IP Port for default printer of POS:

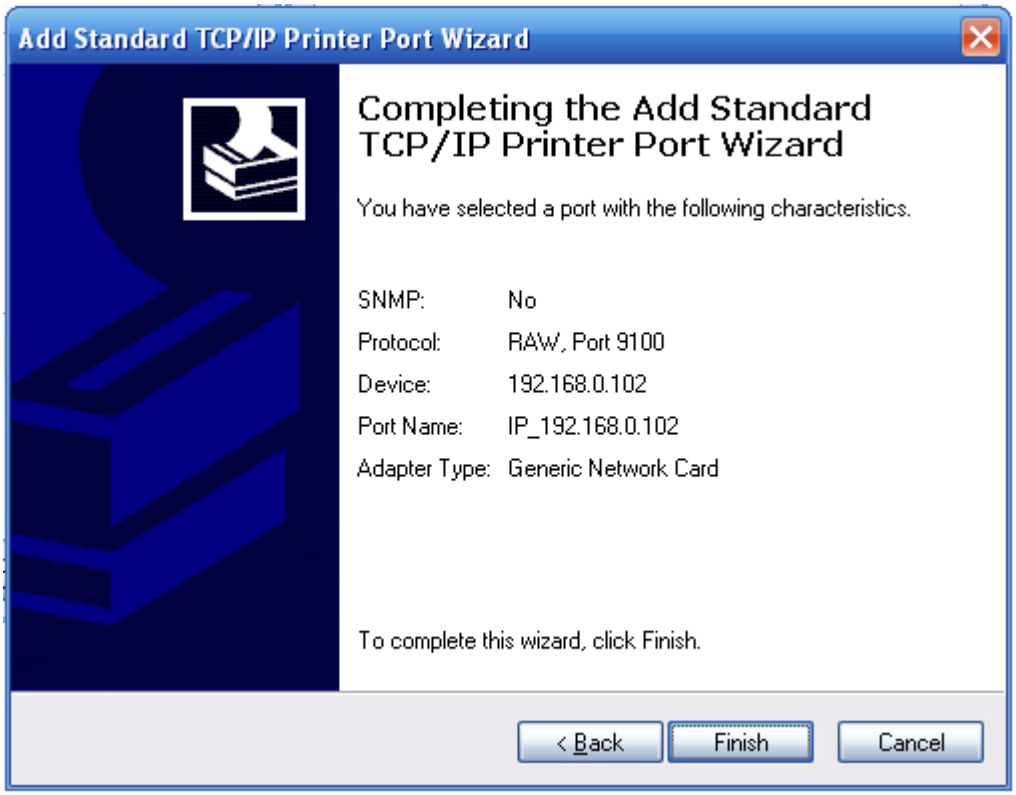
Single-right-click the printer name to enter its properties when it's added successfully. Click "Ports"→ "Add Port", double click "Standard TCP/IP Port" to get the add port GUI shown in the next page.



Add Standard TCP/IP Port

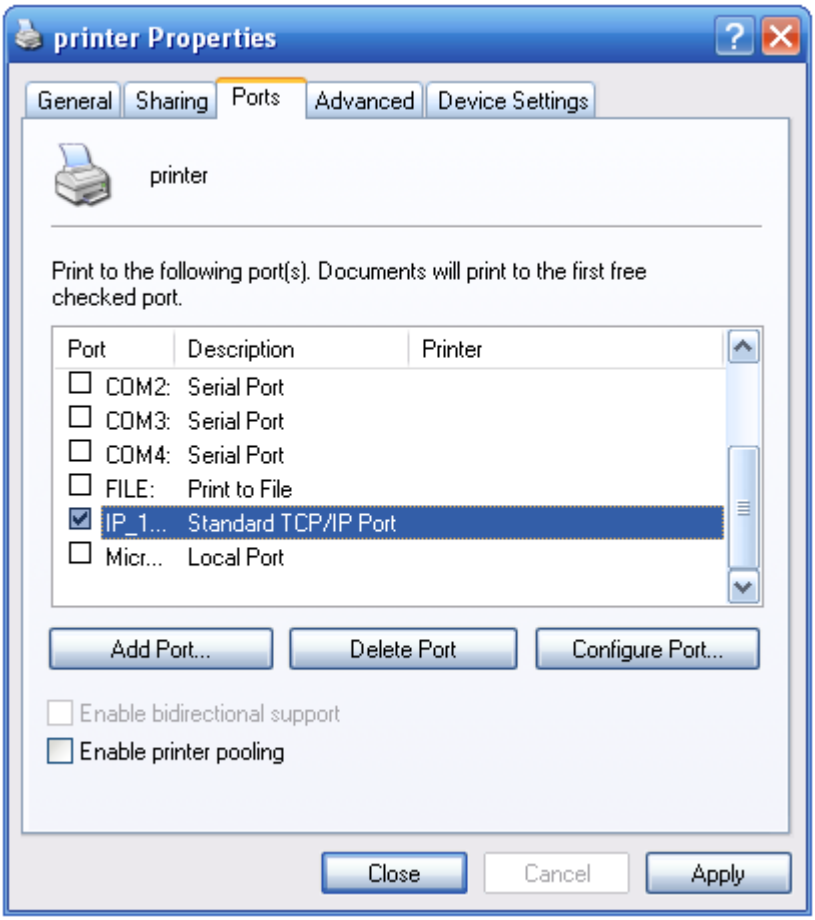
Fill in the IP of your local printer you added just now:





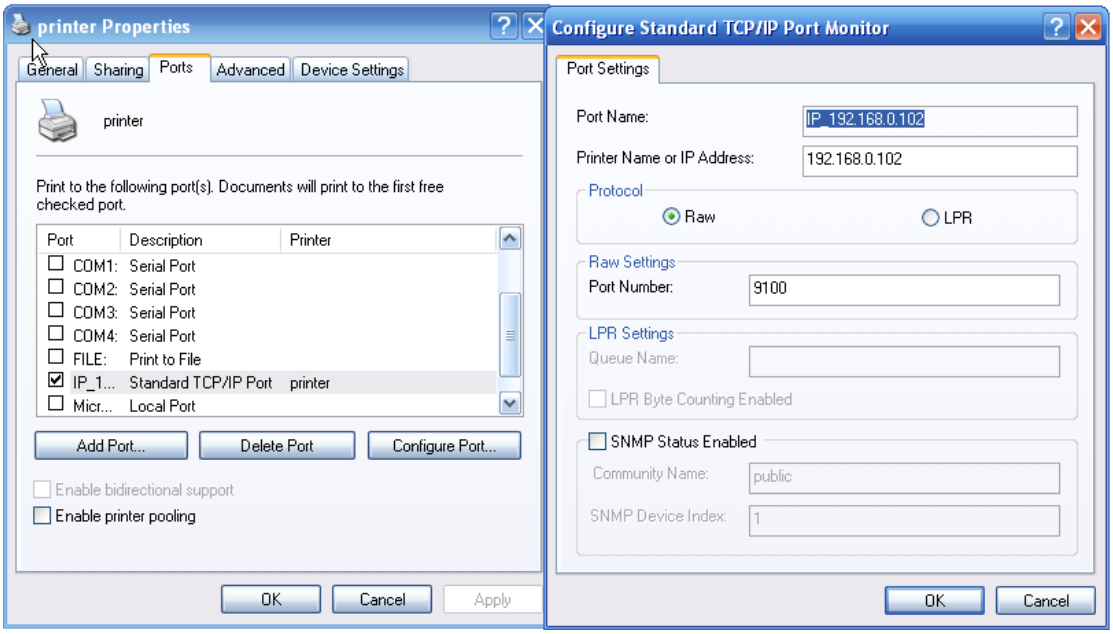
Network printer: IP 192.168.0.102, default port: 9100

When TCP/IP printer port is added successfully, you will see the following GUI when you enter the properties of your network printer again.



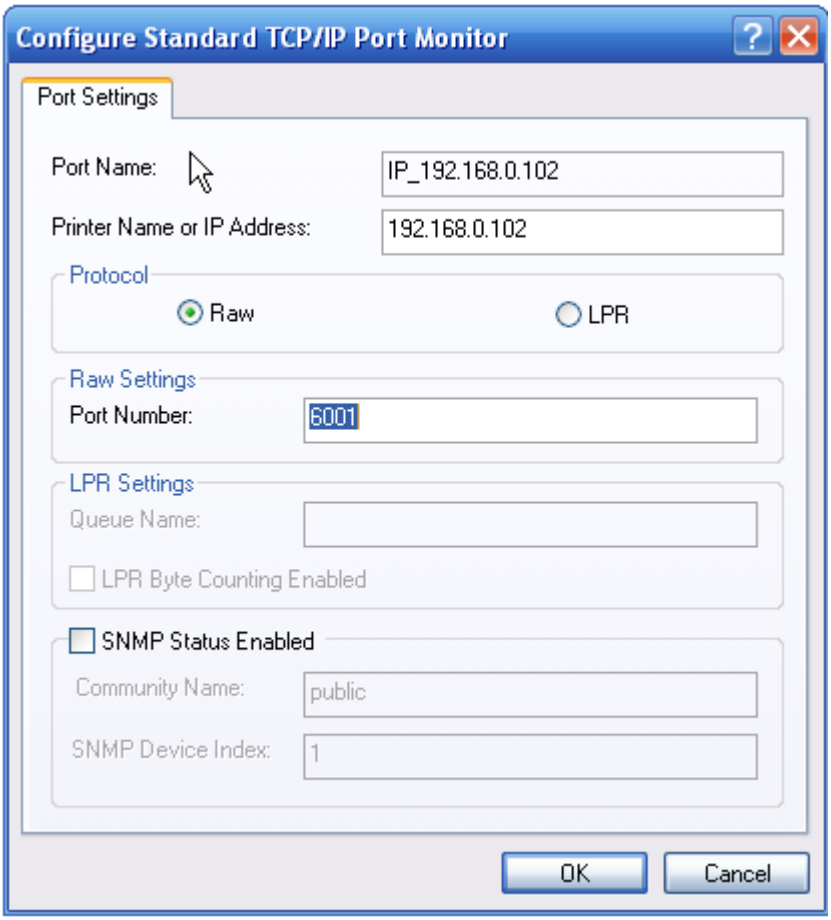
The result of setting

You can click “Configure Port” to change the default port (9100) to others when the TCP/IP port is selected.



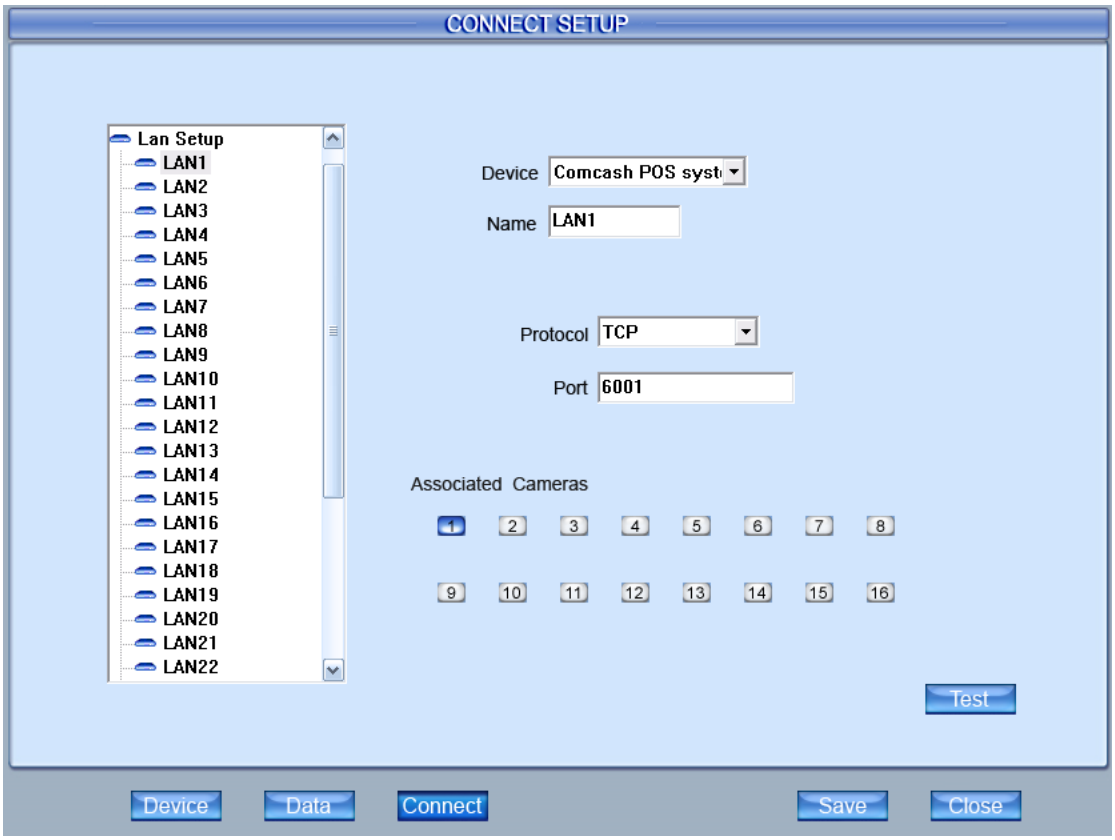
Configure the standard TCP/IP Port

For example, you can change the port to 6001. Then, you have to set the POS function port in DVR to 6001.



Change the default port 9100 to 6001

4. Set a port (such as 6001) to get text information from POS under POS setup interface in Galaxy NV Series DVR.



Set the port 6001 in Galaxy NV Series DVR to receive the text information from POS

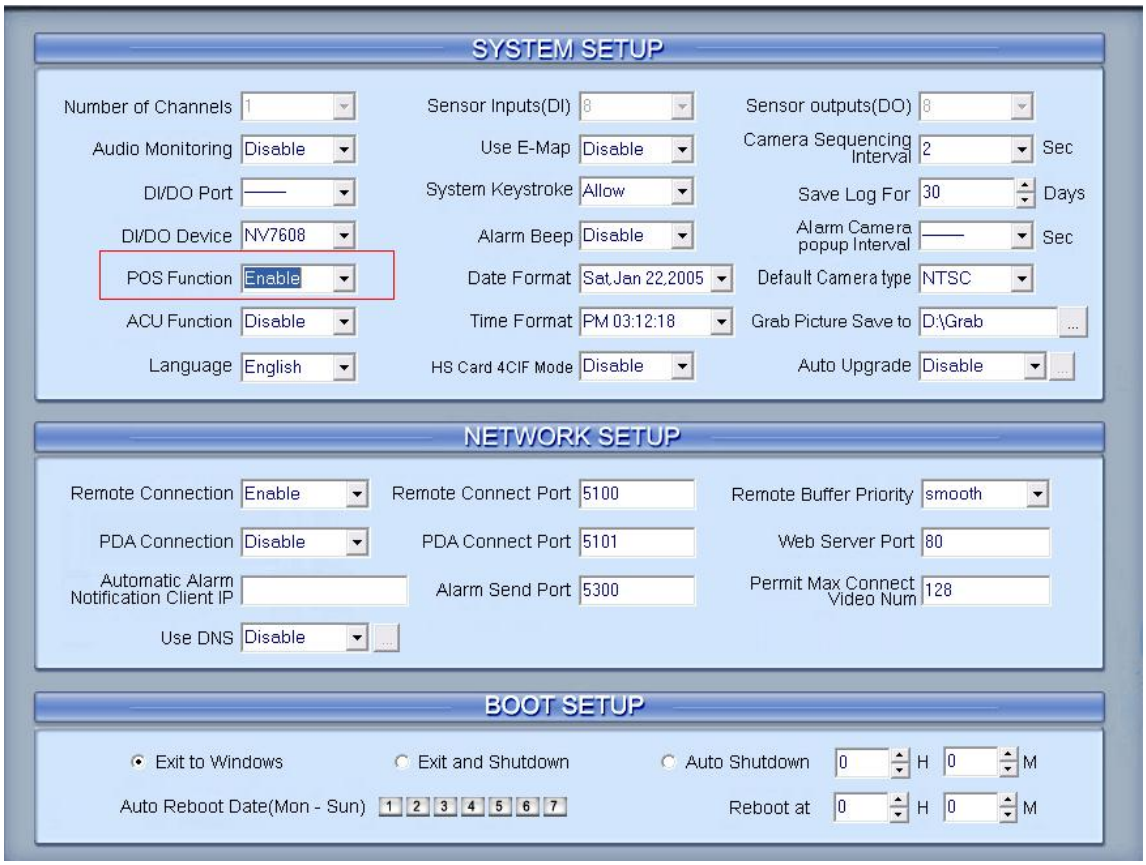
The port 6001 is the port for DVR to receive the information from POS. Also, user can change the receive port of DVR to 9100, which should be the same

as the default network printer port.

The result after all the above settings (Network print from POS to DVR)

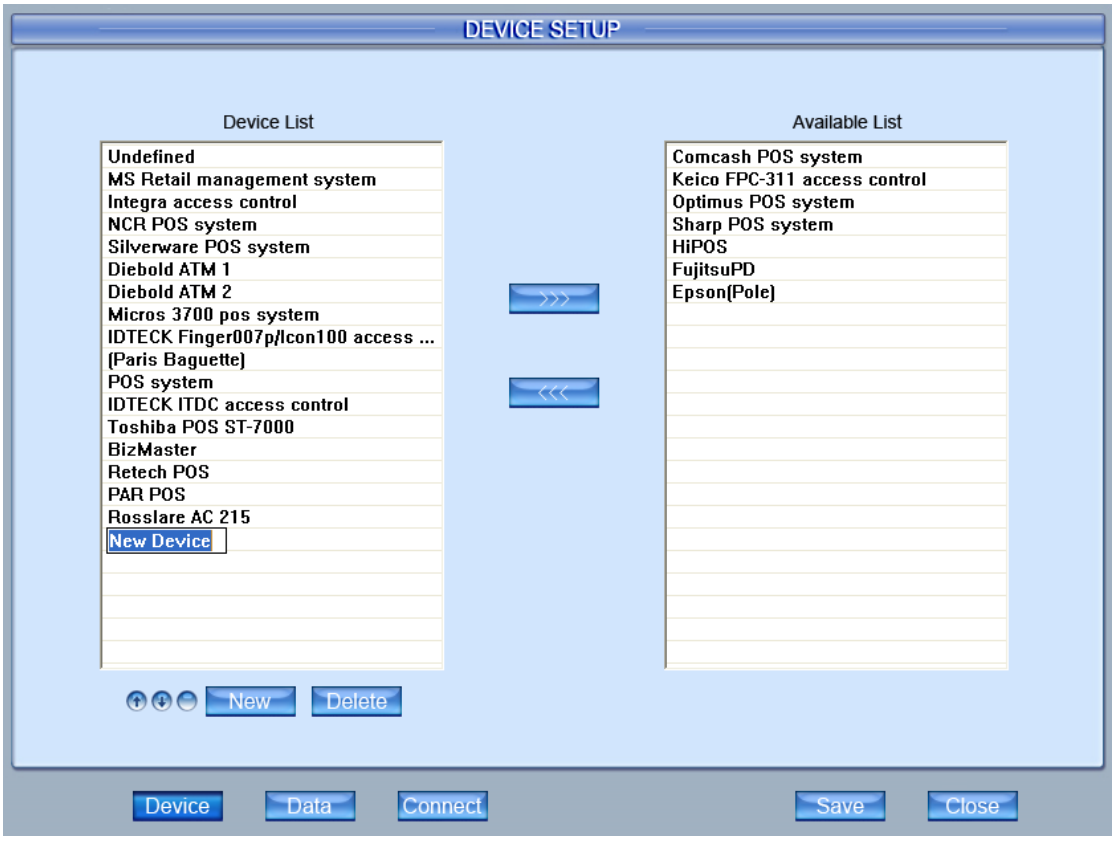
1.2 POS setup

Firstly, you should enable "POS Function" in system setup. The function will take effect after the software restarted.



Then open POS function setup interface by clicking "POS Function Setup" in system menu.

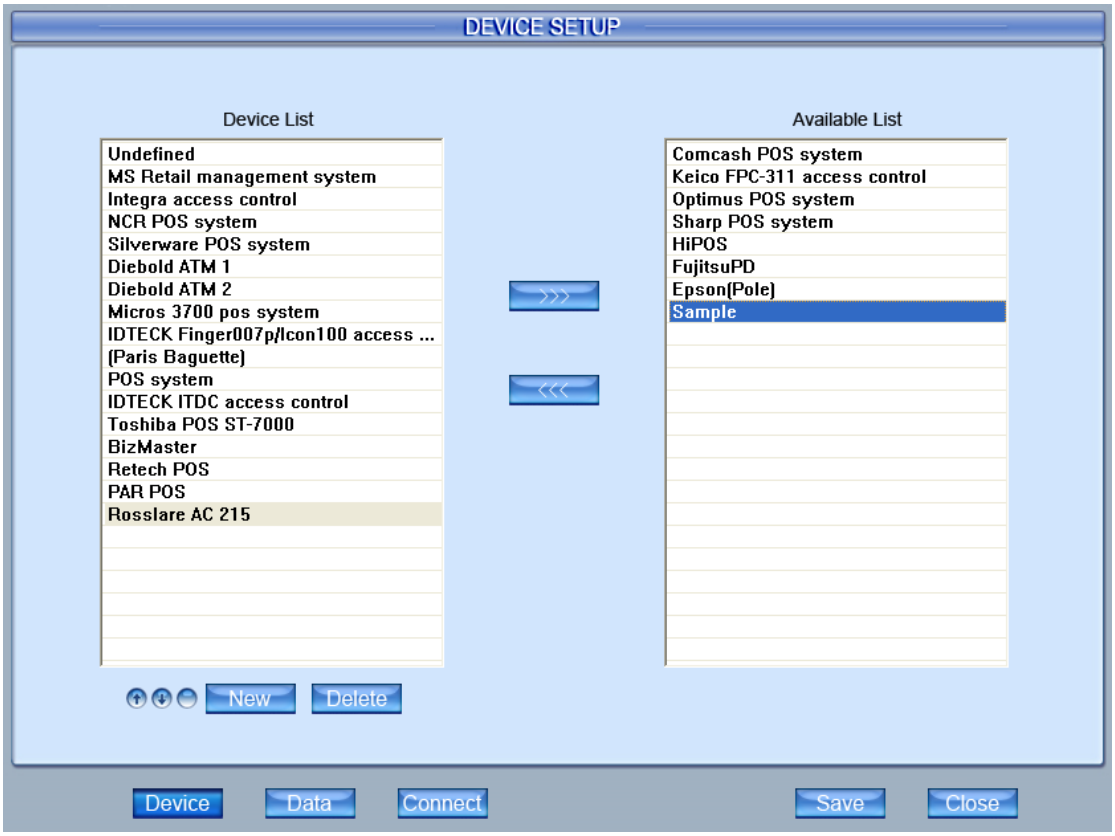
1.2.1 Add/delete device



Open **POS Setup** interface and press **Device** button, user can add/delete device in the left list:

Press **New** button, system will add a device named "**New Device**", user can single-left-click to select it and again to change its name as you like.

After that, user can press the arrow in the middle to add them to the available list.

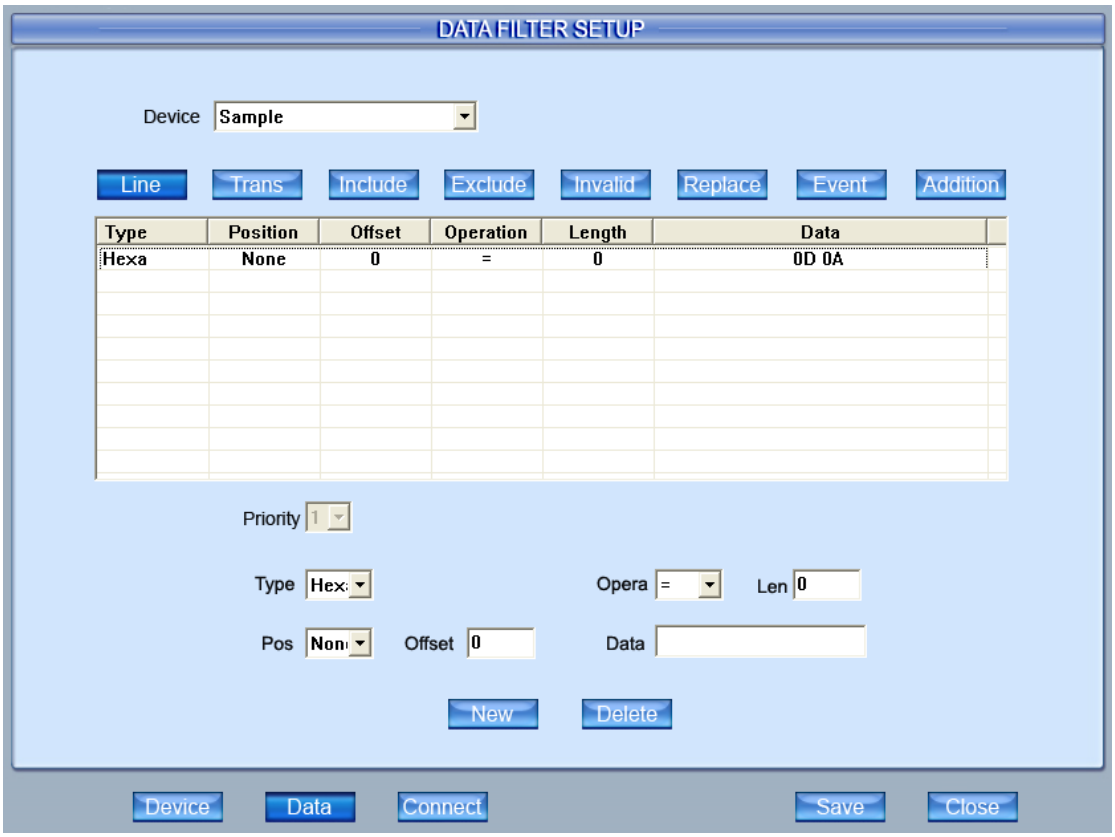


Add a new device named "Sample" to available list

1.2.2 Data setup (Text filter rules)

Press **Data** button and select the device (you want to set, such as **Sample**) to set pos text filter rule:

1. Line Break



Set Line Break

Set a rule for separating each line.

Priority: Default priority 1, user can't modify it.

Type: Choose a type of data. Data types must be either 'Hex' or

'ASCII'.

Position/Offset: Select a position to search the data string (ex. Start to search from begging ---- not useful right now)

Operation: Select an operator to be used when comparing 'Data' with data from POS.

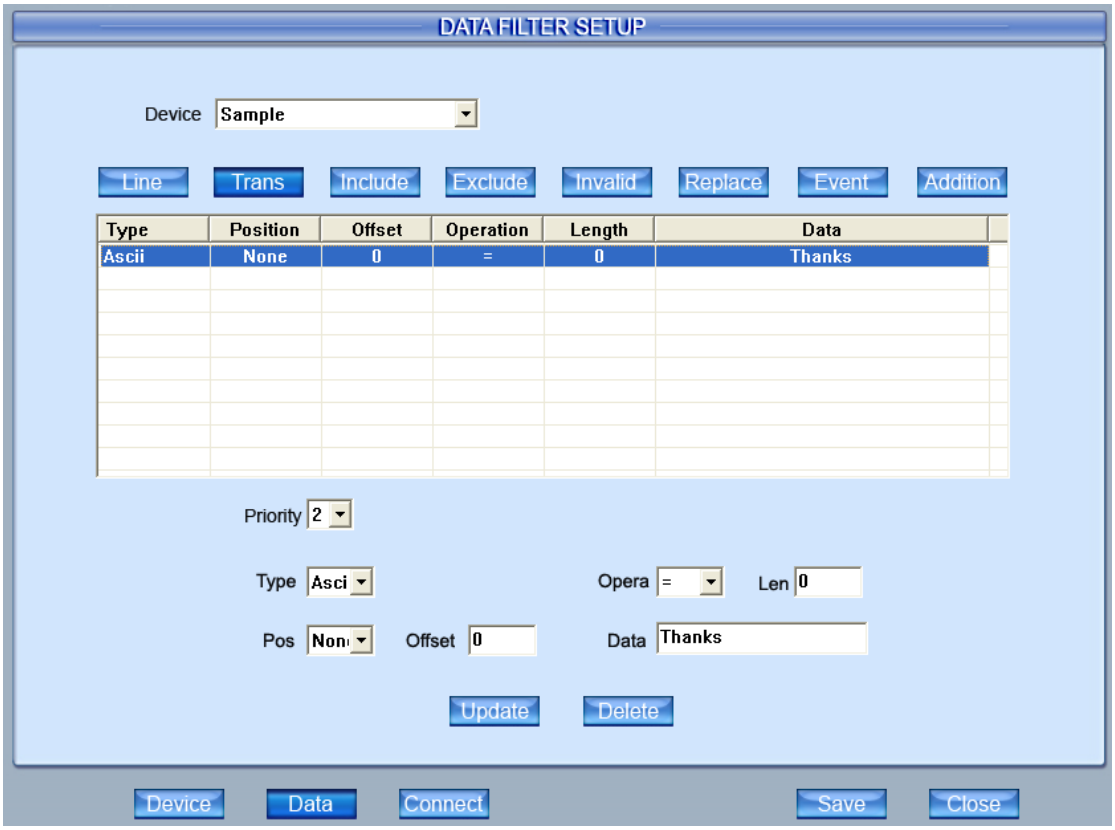
Data: Set Data that will trigger the operation.

When system receives the character or string, which is equal to the setting here, system will process these characters as below:

Only line break character or string set here – discard;

Any other characters and string before line break character or string set here – discard line break character or string and display the other characters or strings and change to new line.

2. Transaction Break



Set Transaction Break

Set a rule for separating each Transaction.

Priority: Set the priority of this rule.

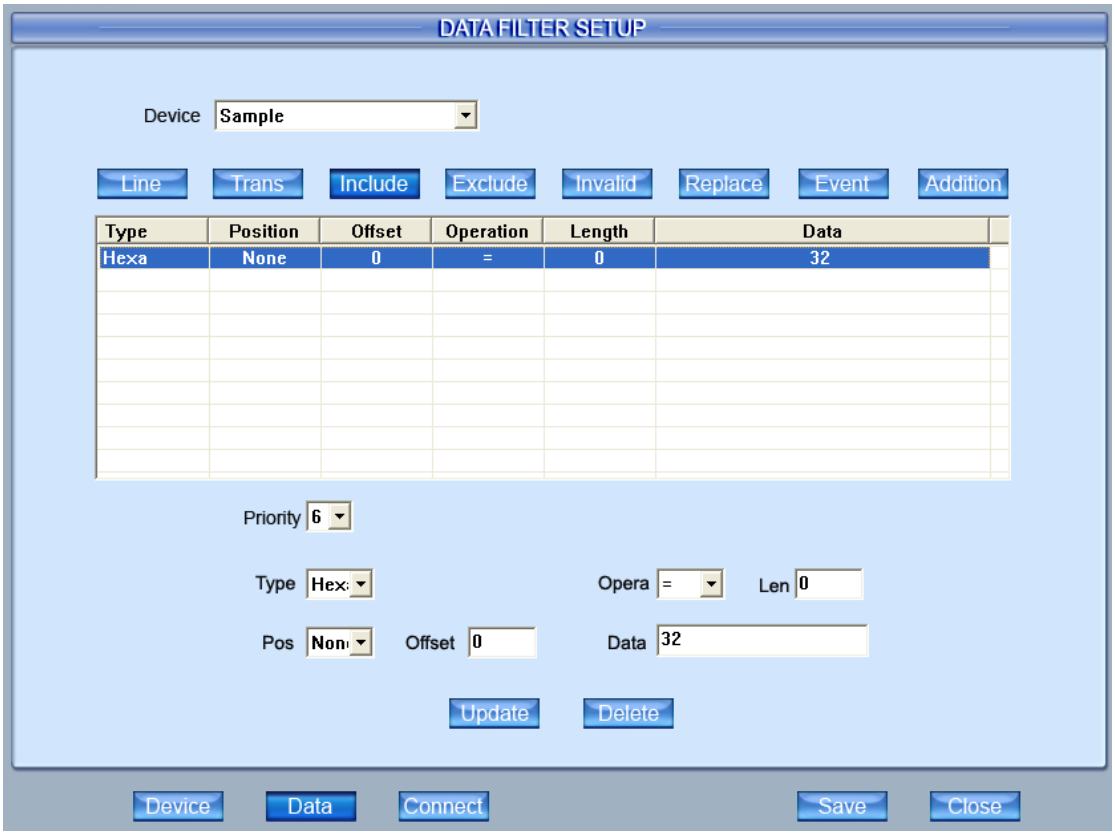
Type: Choose a type of data. Data types must be either 'Hex' or 'ASCII'.

Position/Offset: Select a position to search the data string (ex. Start to search from begging ---- not useful right now)

Operation: Select an operator to be used when comparing 'Data' with data from POS.

Data: Set Data that will trigger the operation.

3. Include



Set a line to be displayed, which include the specific character or string

Set a rule for a line with a string or character to be displayed.

Priority: Set the priority of this rule.

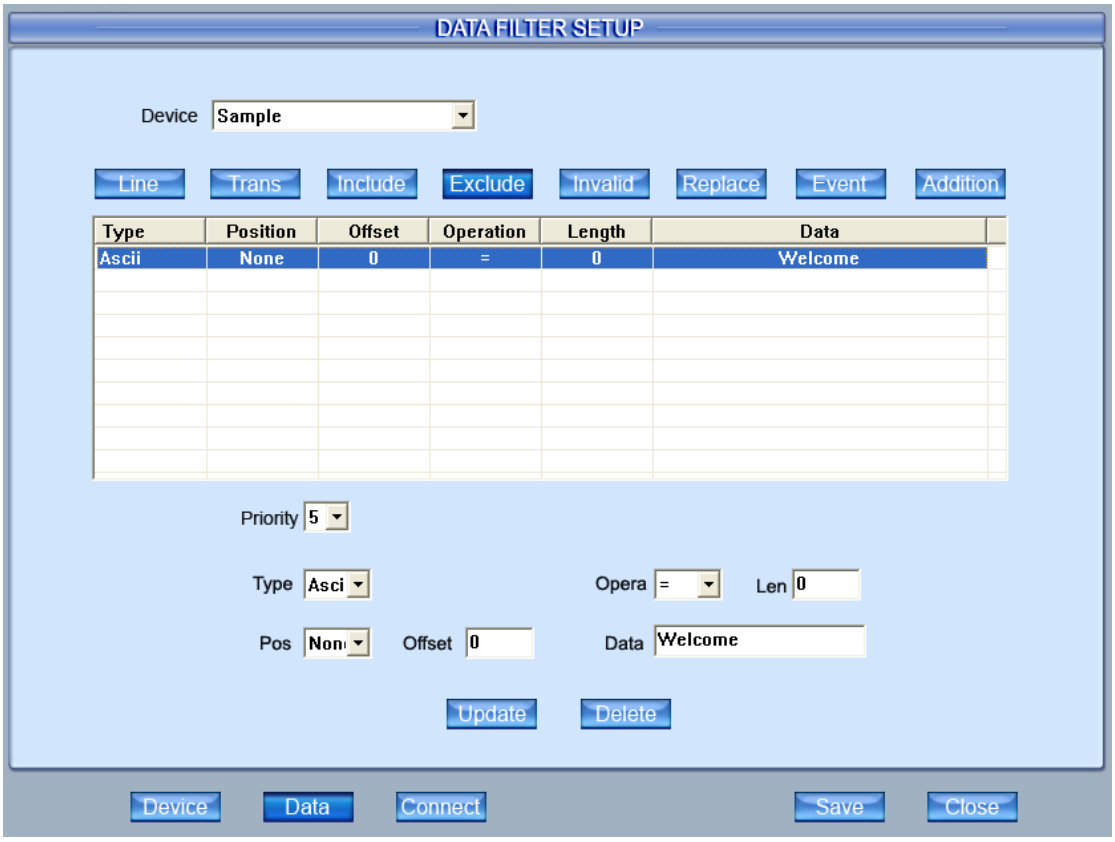
Type: Choose a type of data. Data types must be either 'Hex' or 'ASCII'.

Position/Offset: Select a position to search the data string (ex. Start to search from begging ---- not useful right now)

Operation: Select an operator to be used when comparing 'Data' with data from POS.

Data: Set Data that will trigger the operation.

4. Exclude



Set a line to be discarded, which include the specific character or string

Set a rule for a line with a string or character to be not displayed.

Priority: Set the priority of this rule.

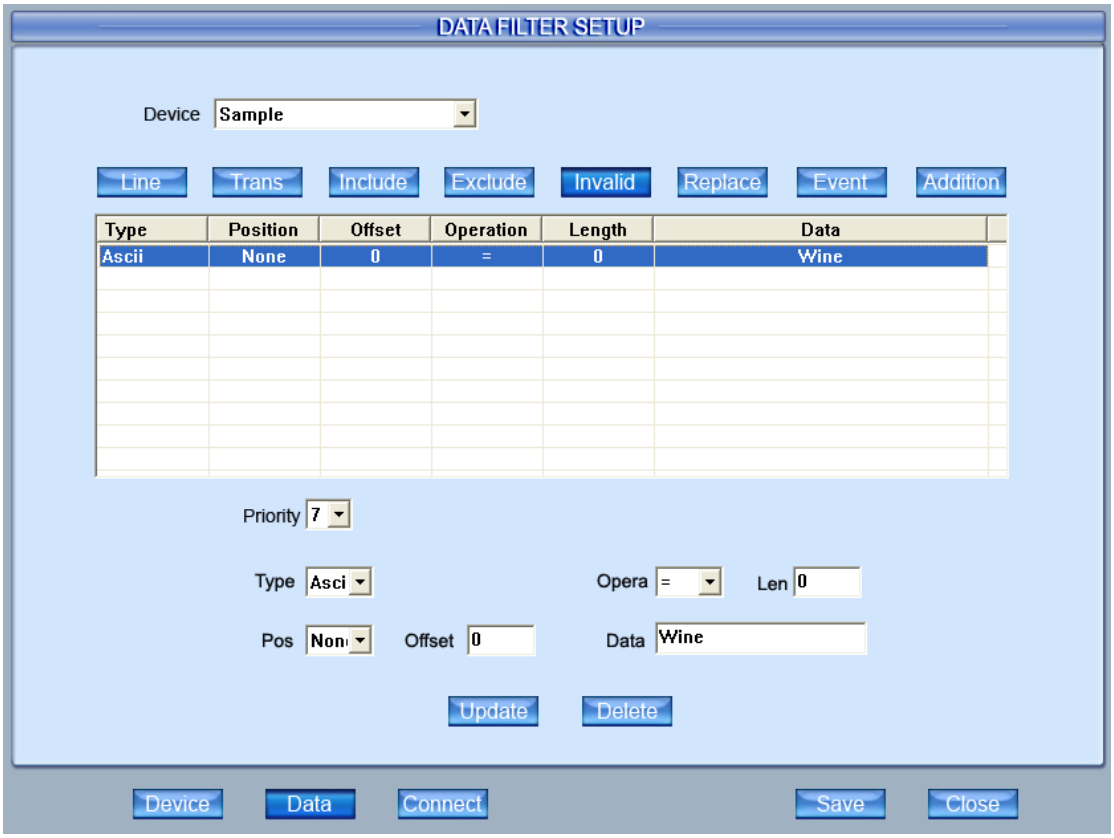
Type: Choose a type of data. Data types must be either 'Hex' or 'ASCII'.

Position/Offset: Select a position to search the data string (ex. Start to search from begging ---- not useful right now)

Operation: Select an operator to be used when comparing 'Data' with data from POS.

Data: Set Data that will trigger the operation.

5. Invalid



Set the character or string to be discarded

Set a rule to discard a string or character

Priority: Set the priority of this rule.

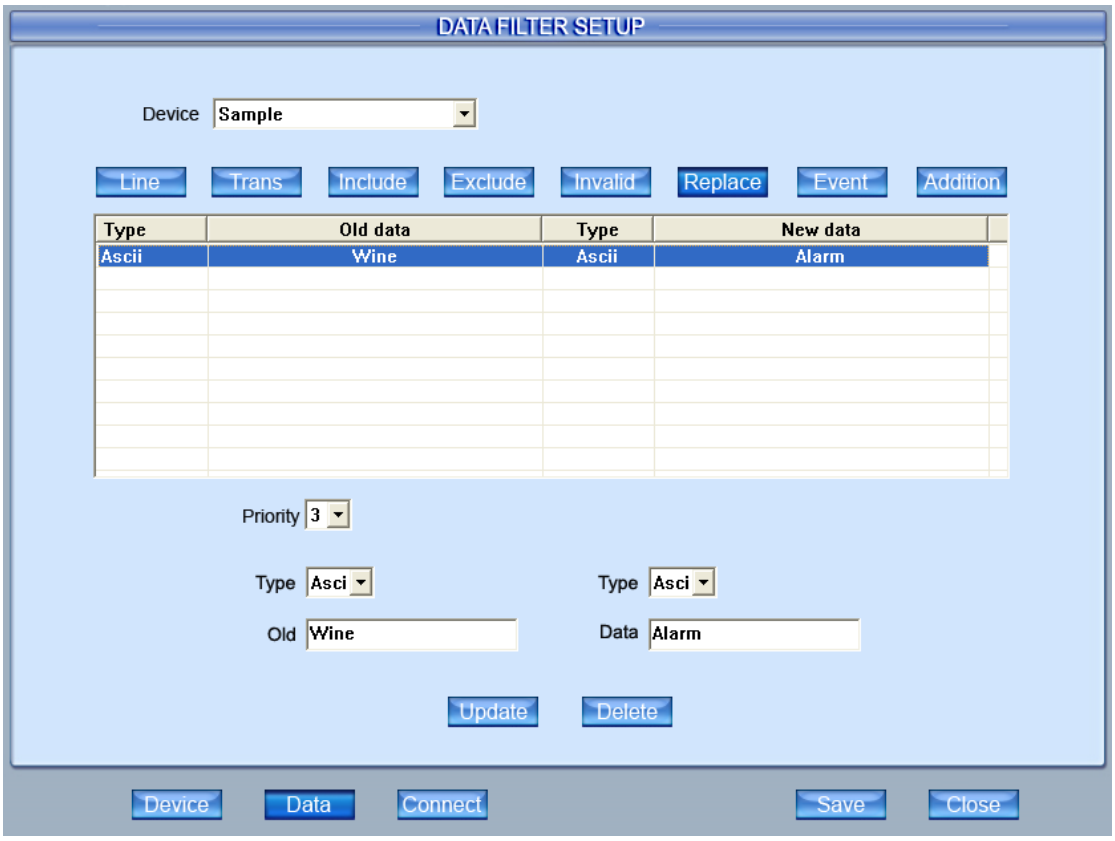
Type: Choose a type of data. Data types must be either 'Hex' or 'ASCII'.

Position/Offset: Select a position to search the data string (ex. Start to search from begging ---- not useful right now)

Operation: Select an operator to be used when comparing 'Data' with data from POS.

Data: Set Data that will trigger the operation.

6. Replace



Set the character or string to be replaced

Set a rule to replace a word or character to another

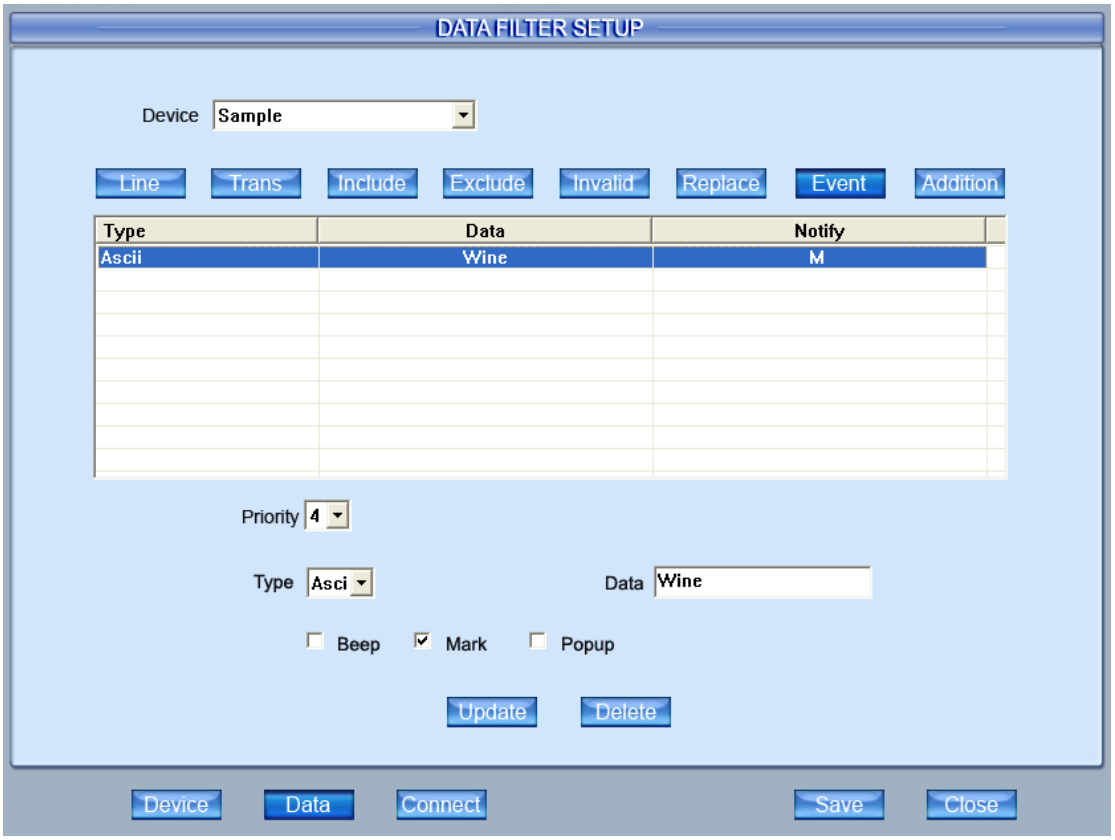
Priority: Set the priority of this rule.

Type: Choose a type of data. Data types must be 'Hex' or 'ASCII'.

Old: Enter data string that needs to be replaced.

Data: Enter a new data string that will take a place of the Old Data.

7. Event



Set a rule to trigger a beep, mark or popup event. (It is not useful right now)

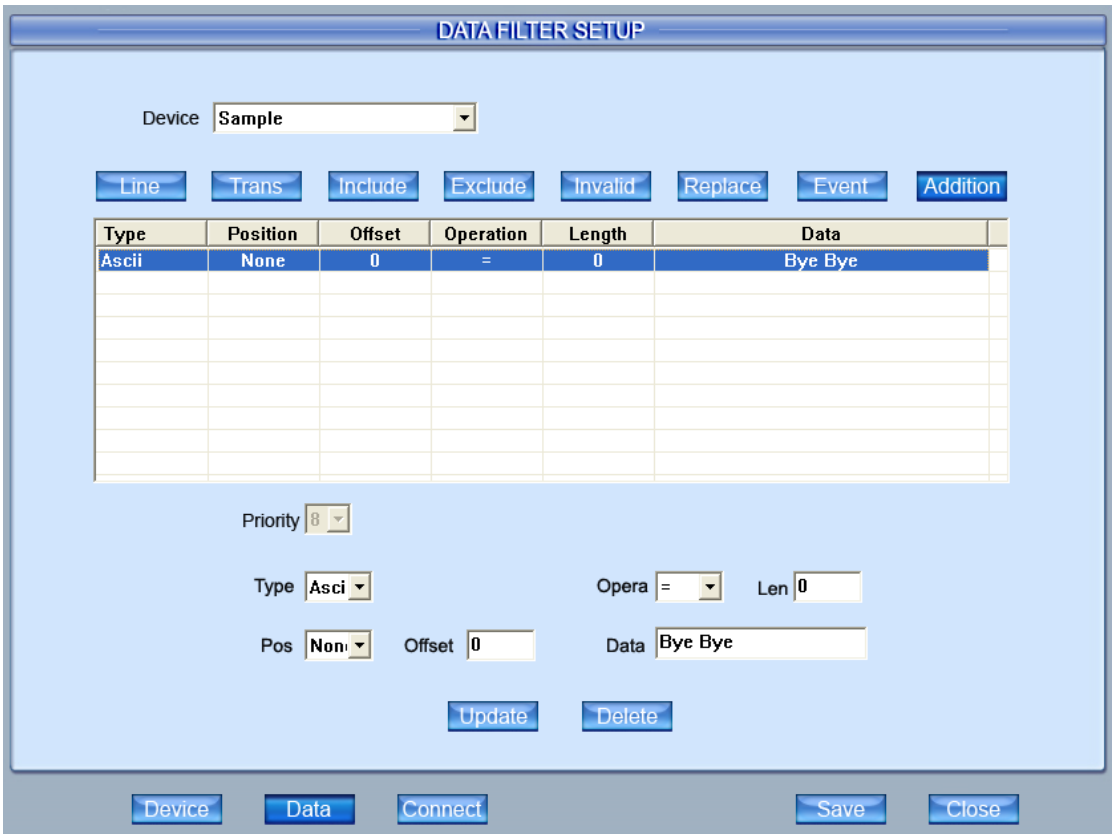
Priority: Set the priority of this rule.

Type: Choose a type of data. Data types must be either 'Hex' or 'ASCII'.

Data: Set Data that will trigger the operation

Methods: Select a method of event.

8. Addition



Set a rule to add a string or character.

Priority: Default priority 8, user can't modify it.

Type: Choose a type of data. Data types must be either 'Hex' or 'ASCII'.

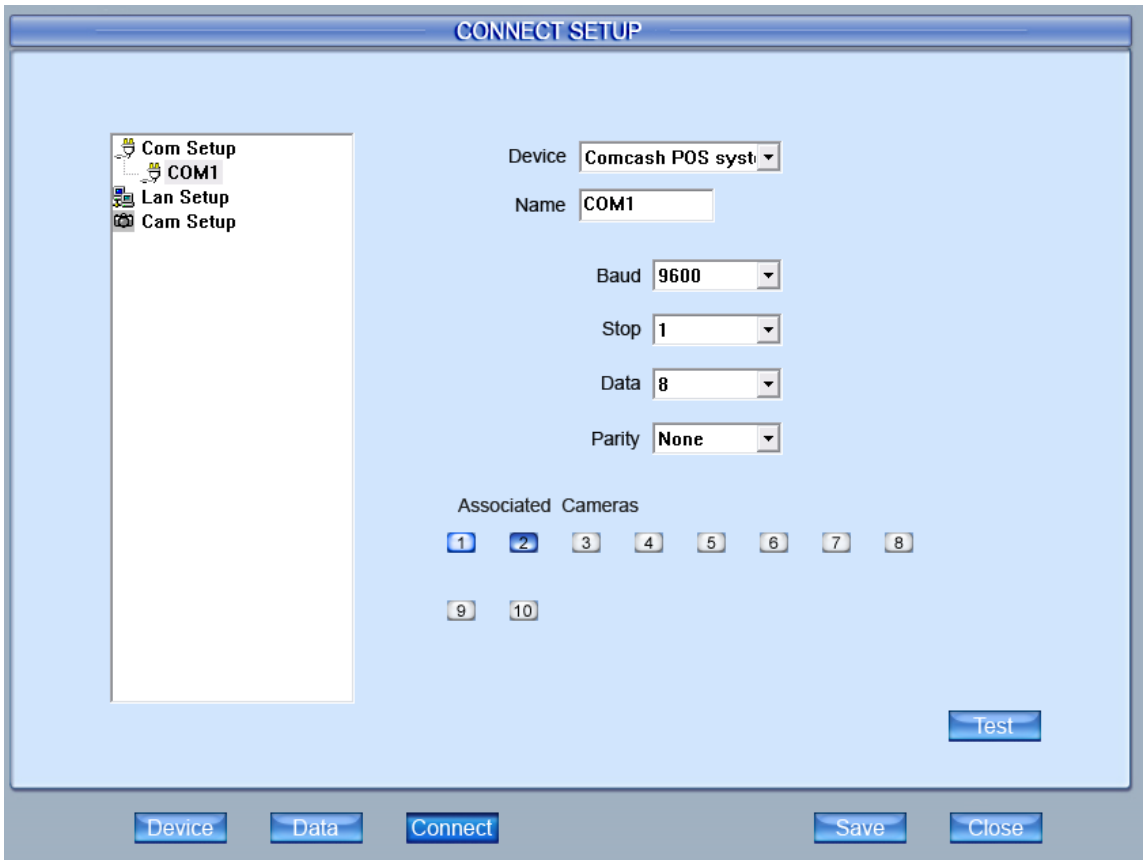
Position/Offset: Select a position to search the data string (ex. Start to search from begging ---- not useful right now)

Operation: Select an operator to be used when comparing 'Data' with data from POS.

Data: Set Data that will trigger the operation.

1.2.3 Connection selection and settings

1. Select connection method



Select COM port connection method and set parameters

All available Com ports are listed in tree view. Select the COM Port you like.

【Device】Select the Device connect to this COM Port.

【Name】Set a name for current connection

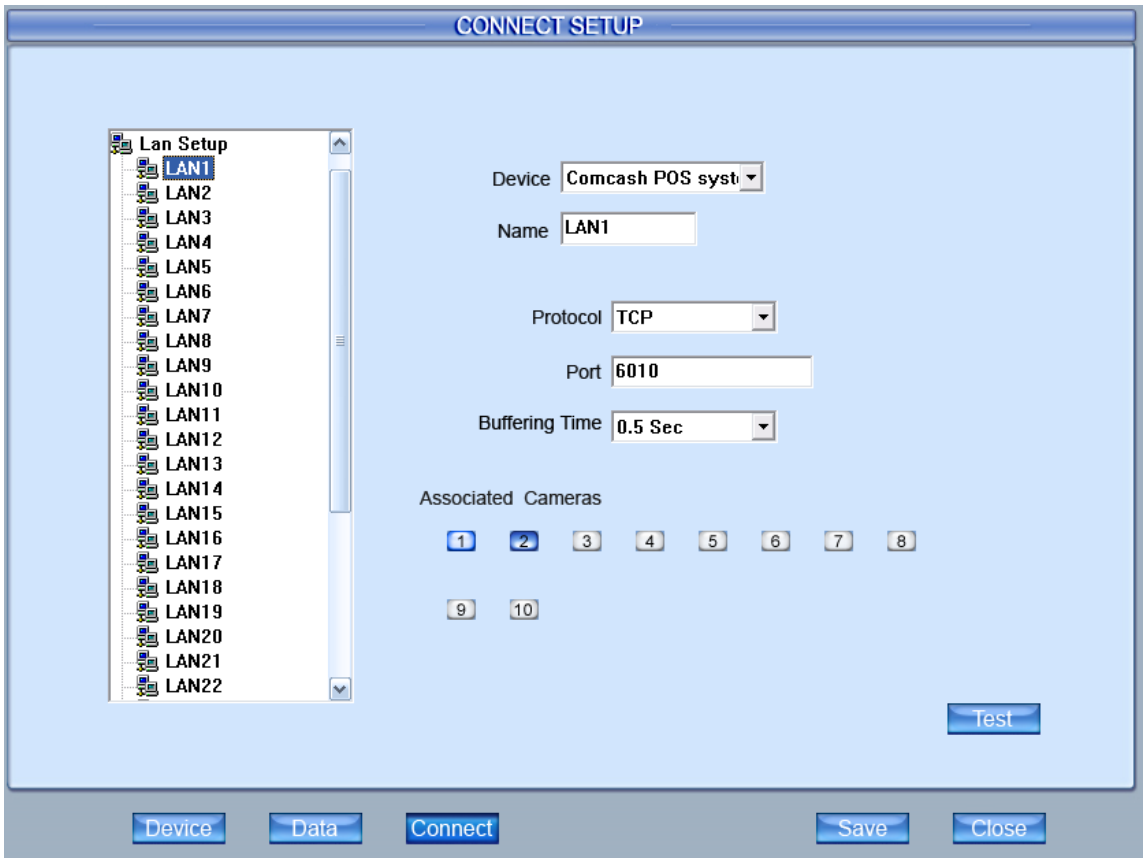
【COM Port Parameters】Set the parameters of COM Port, includes baud rate, stop bit, data bit and parity.

Choose Associated Camera/Cameras. Associated Cameras have three statuses:

5 Not selected by any COM.

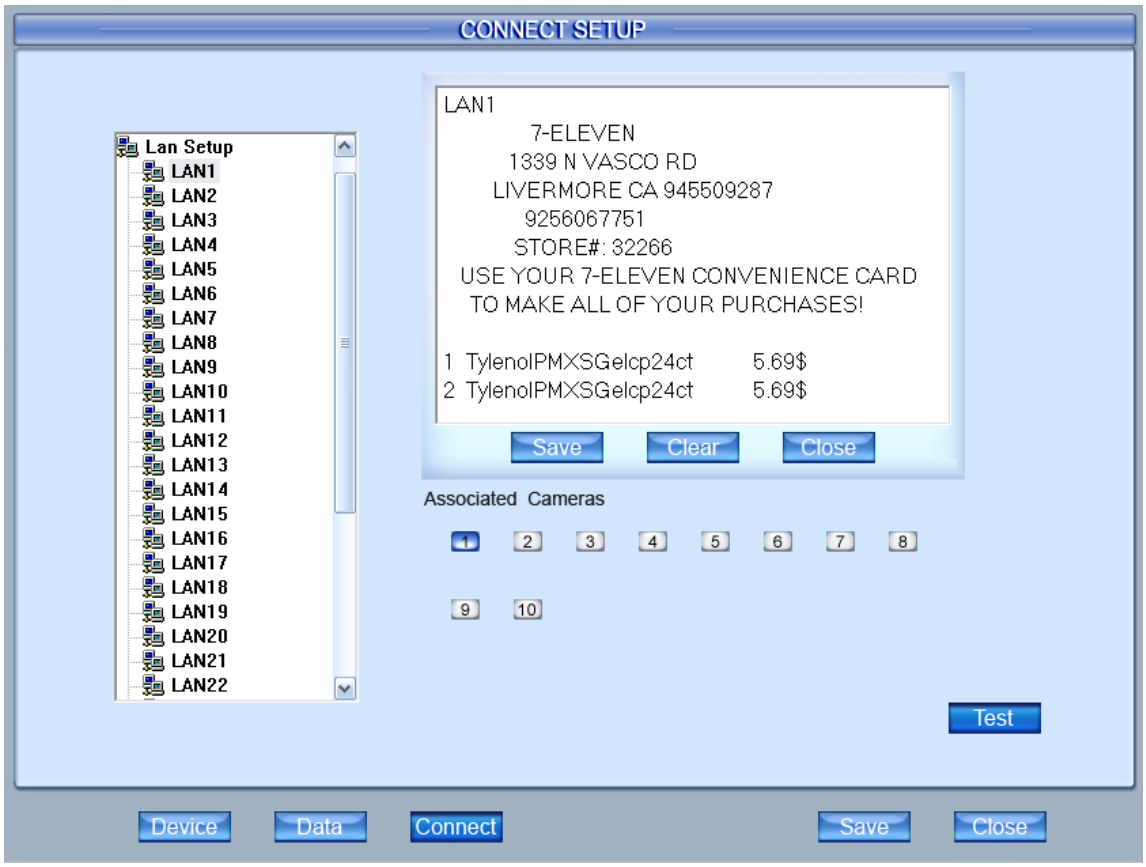
2 Selected by current COM.

1 Selected by other COM.



Select network connection and set parameters

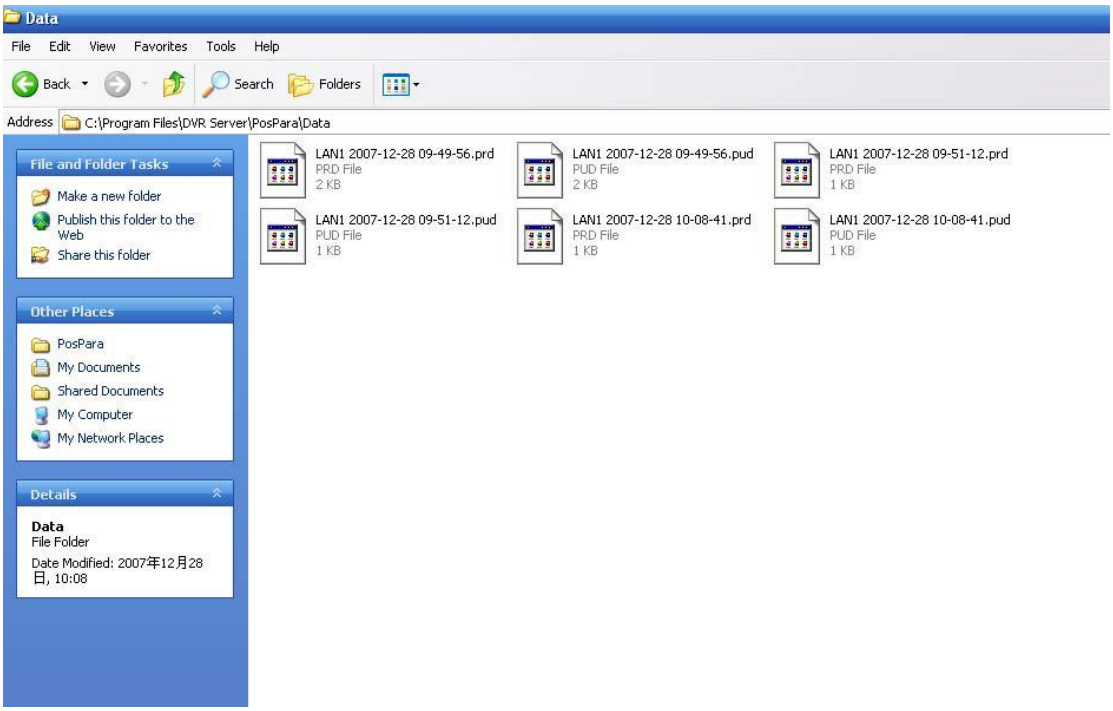
2. Test connection



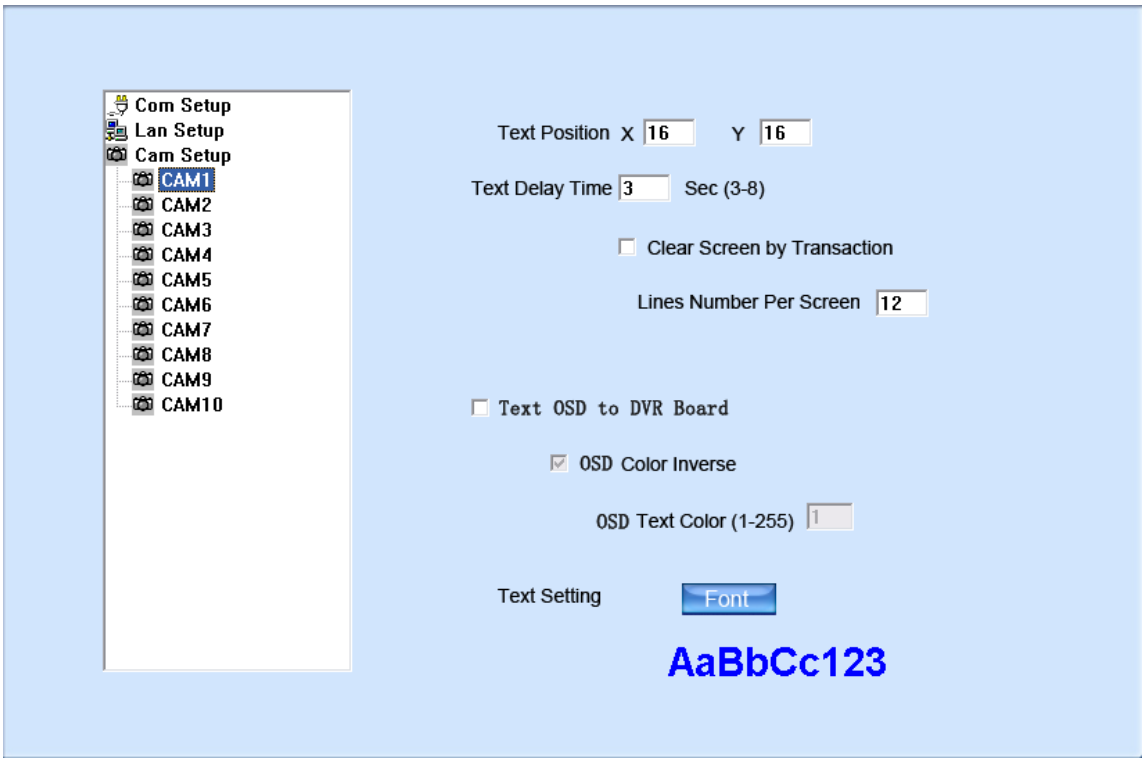
Press Test button to test connection

Press **Test** button on the **Connect** interface, if system popup a window, that is to say, the connection is ok.

When text data is sent from POS, the data will be shown on the window, user can press **Save** button to begin saving and press it again to end saving. After that user can find the data is saved under *installed folder/pospara/data,* the suffix name is .prd. User can analyze the data or send back to Smart Vision Direct, our engineer will analyze for you.

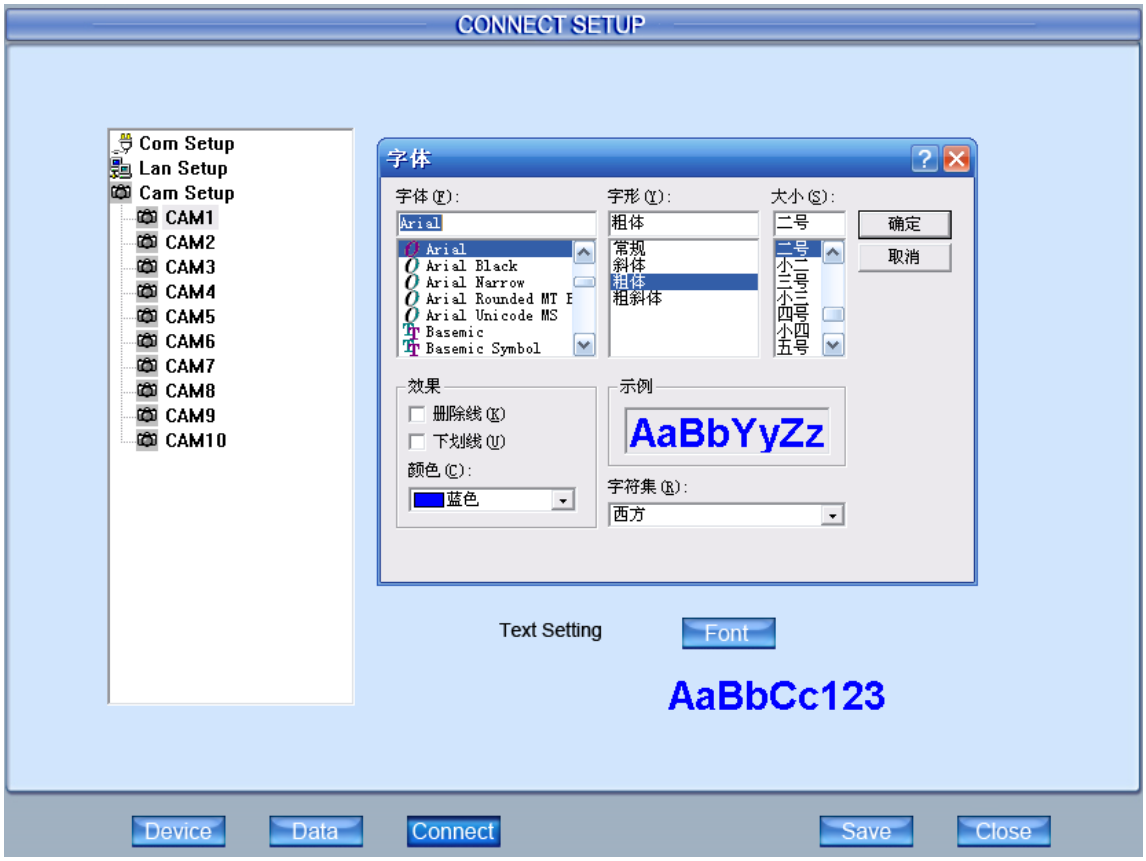


3. Cam setup



Firstly, choose camera number in list.

【Font】Click “Font” and change font, size and color as below:



【Text Position】Setup the position of text. Default is set to top of the screen. As number increases, text will be displayed farther from the top.

【Text delay time】Set time (sec 3-8) for text to stay on screen.

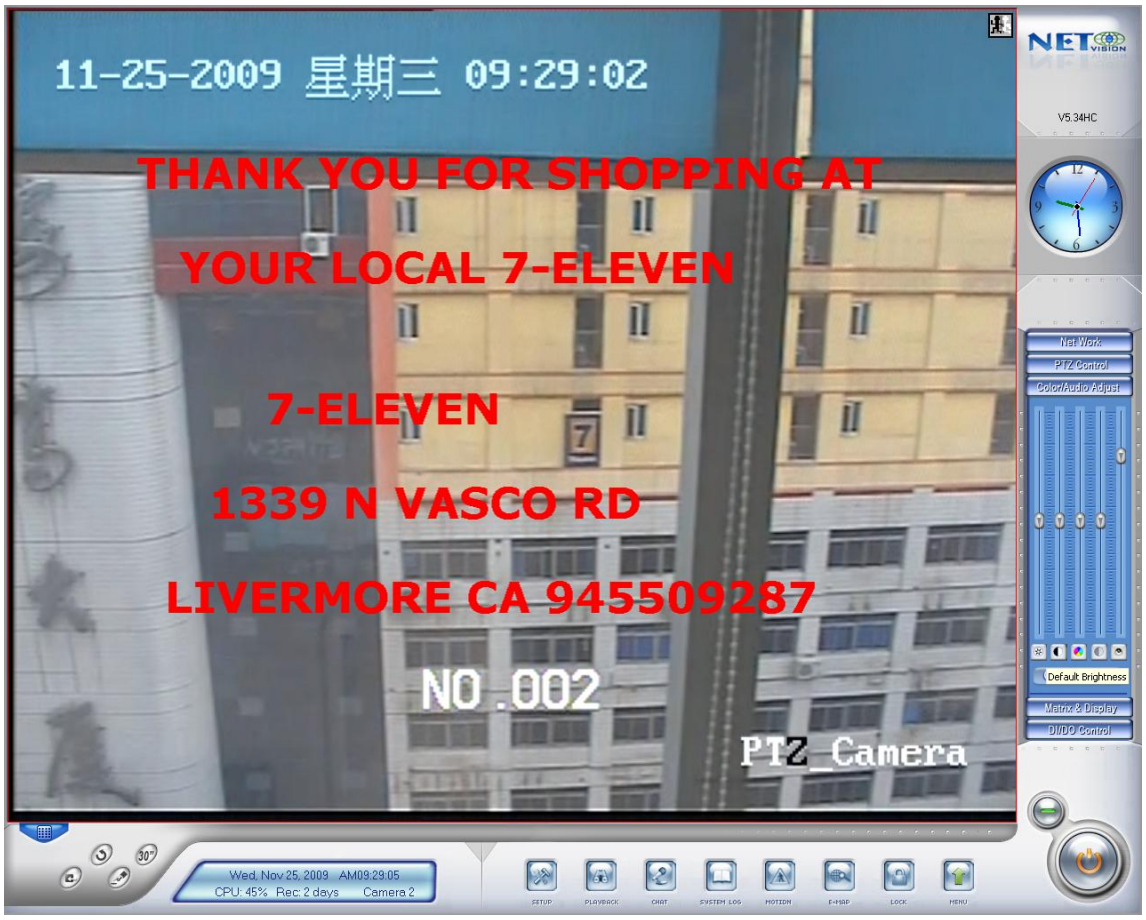
【Clear screen by transaction】Keep display text until transaction break is delivered.

【Lines number per screen】Set the desired lines(1-8) to display text. Disabled if "by transaction" is displayed.

【Text OSD to DVR Board】When checked, camera image and data from external device is compounded together. When unchecked, they are not compounded together. However, it is still possible to verify the data and image together in Search and remote access.

Note:

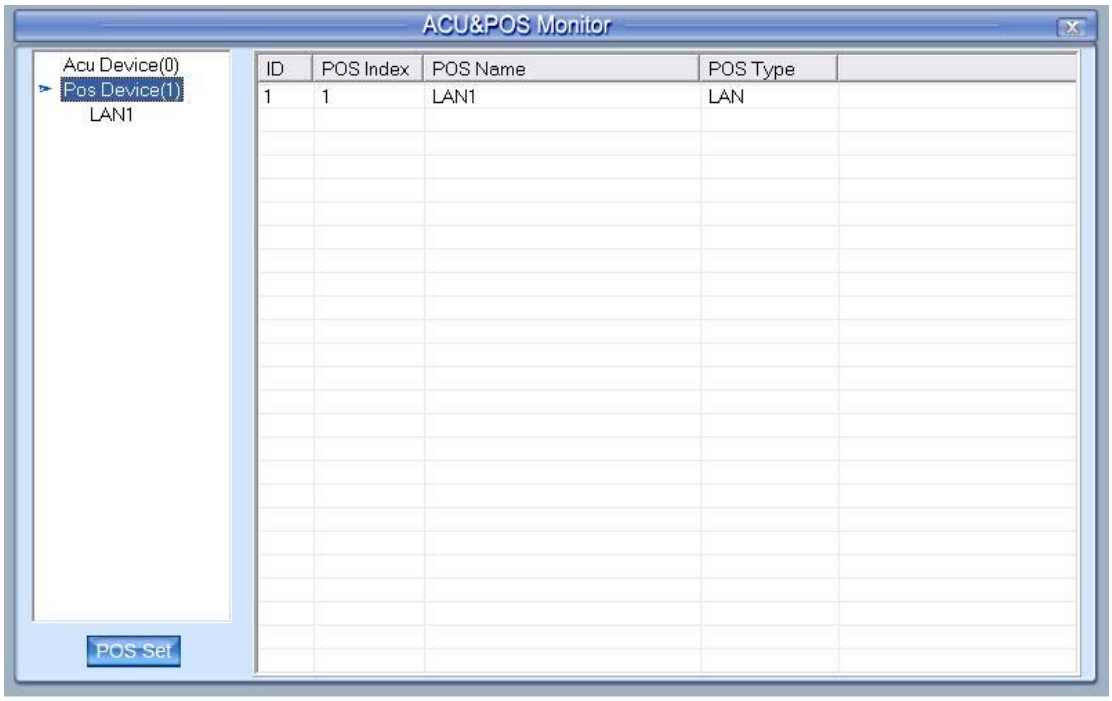
Now, to IP cameras, user should not check the option. And user can set the font and "Lines Number per Screen". However, the size of the characters will not be changed automatically according to the window size. For example, when you set the characters to be suitable for one view mode, they will be too large for more views mode. So, we recommend user select one view mode and set the font to be larger so that the characters will be clearer when he want to display POS data on IP camera video.



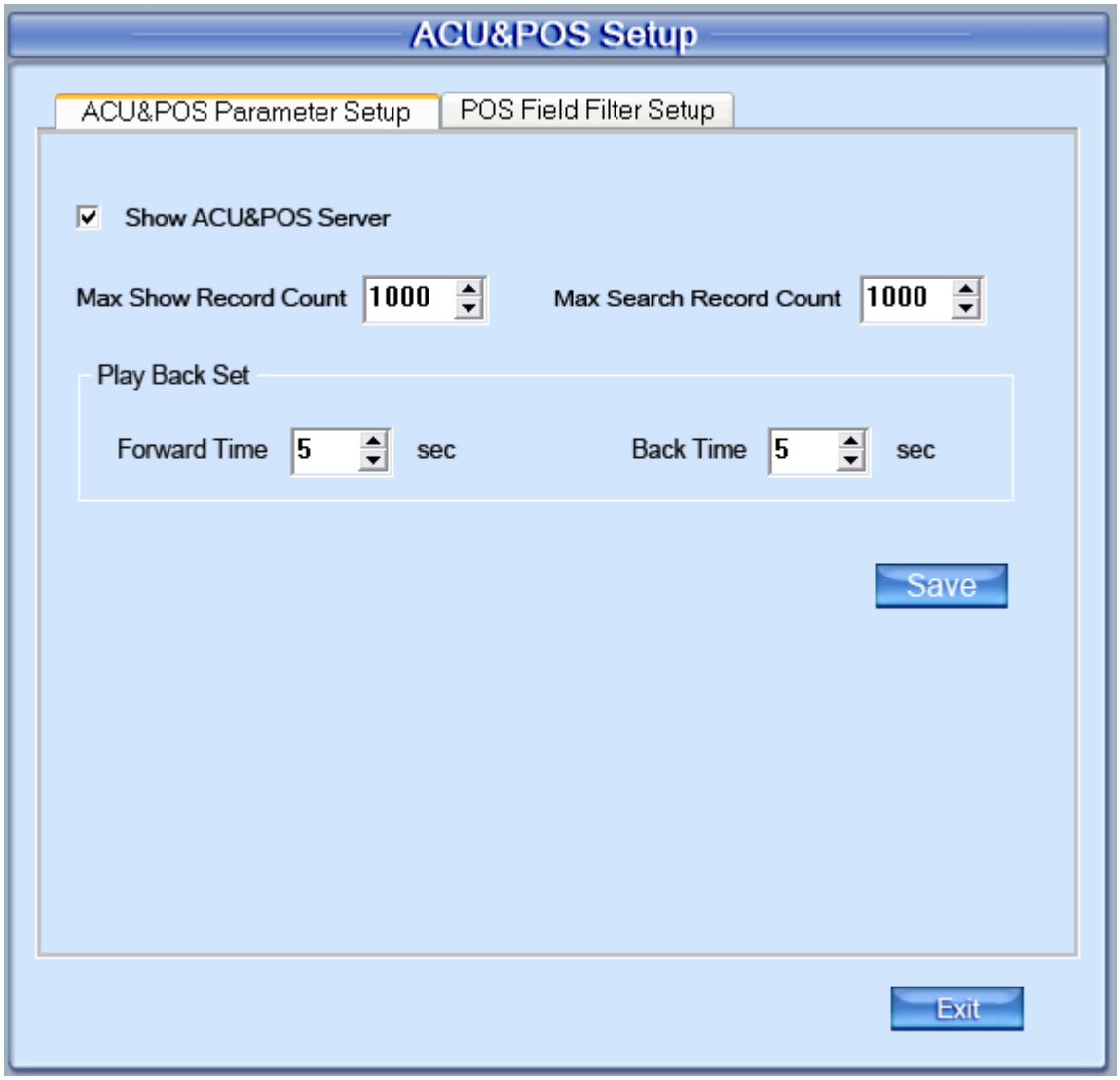
1.2.4 Pos Event Monitor

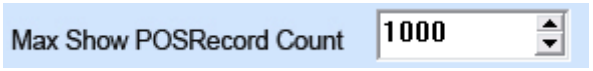
Access Pos monitor interface:

All connection details display on table:

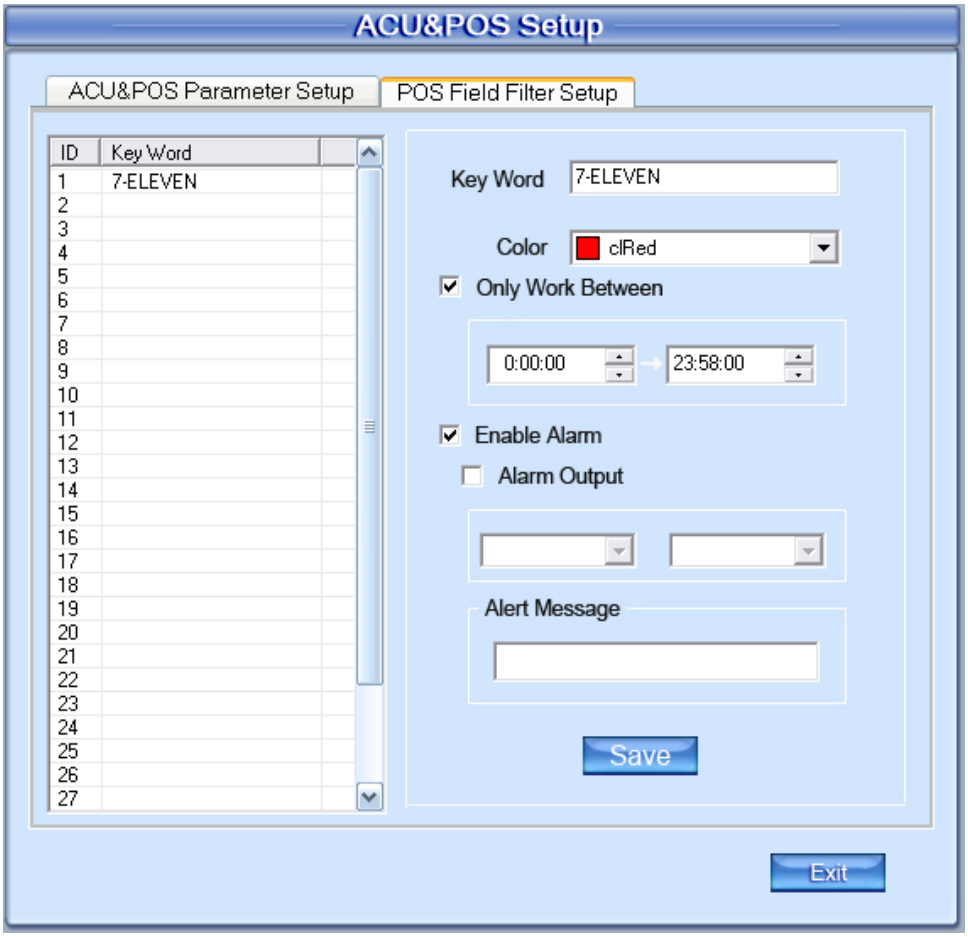


Click “POS Set” button.



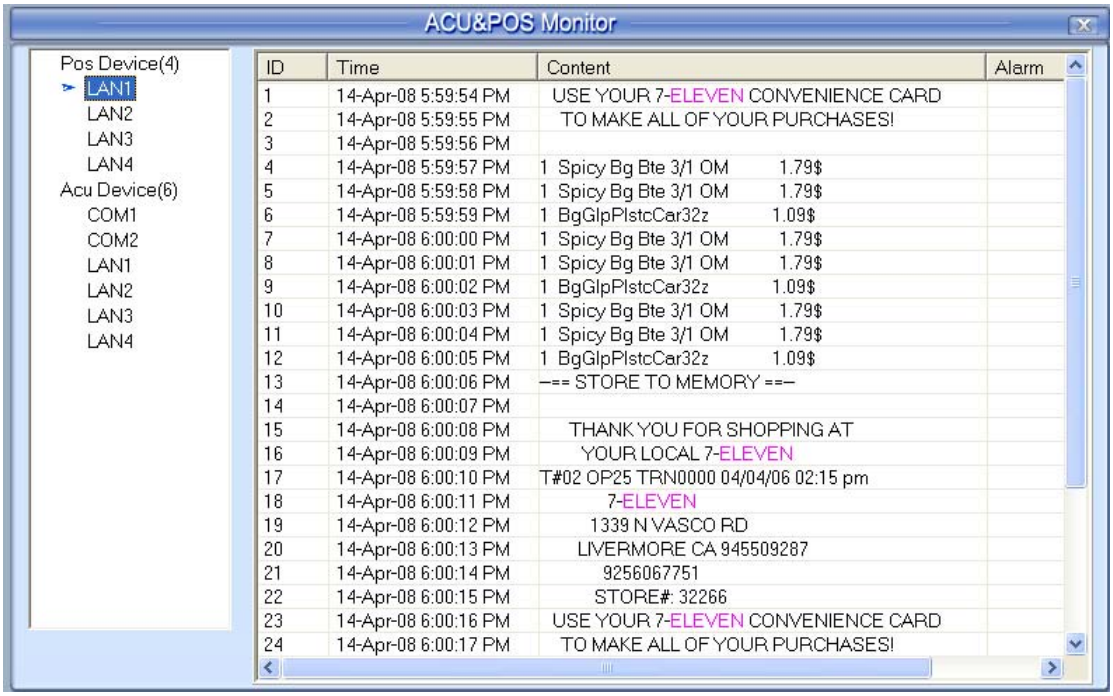


The toolbar can set the POS Record Count to be displayed. The max count is 1000.

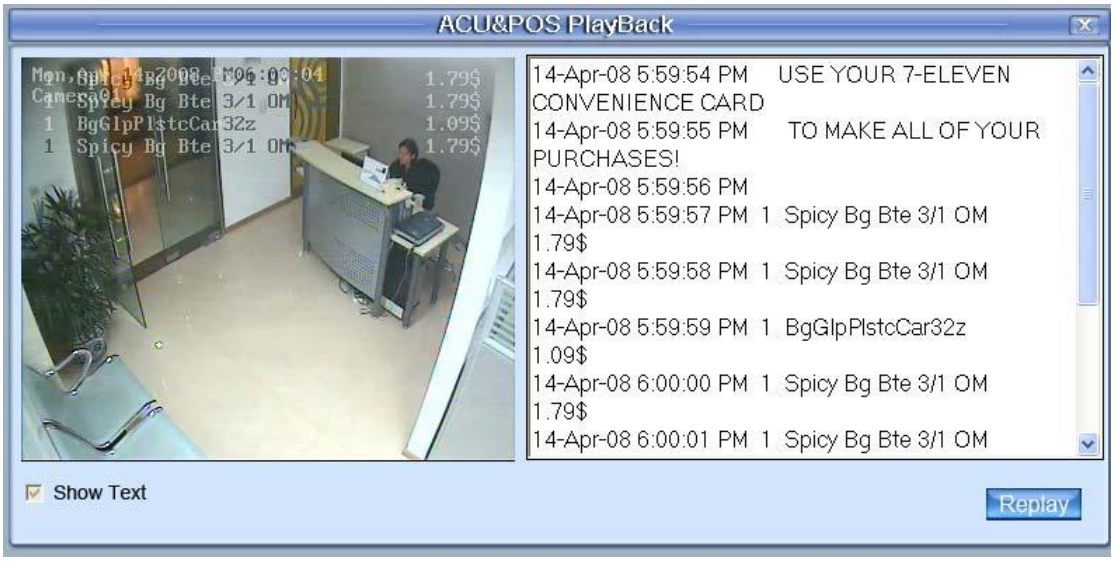


User can set the POS Field Filter in this interface, such as: if set the color of 7-ELEVEN to be red and the work time between 0:00:00 and 23:58:00, when the 7-ELEVEN appears in this period, it will be displayed in red on screen.

The settings to ***Alarm Output*** are the same. The alarm will display the alert message.



Select a record and double-click it.



The video will display the period bases on the Forward time and Back time.