



**How-to guide of integrating Optex PIE-1  
Module in Hikvision I-Series NVR**

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# Overview

With a fully-integrated security system that combines OPTEX's sensors with Hikvision's full range of IP cameras and Network Video Recorders on site, users in local or remote monitoring stations will be alerted in the event of an unwanted intrusion. Events can be monitored in real-time, the images recorded, and an appropriate response determined. Equipped with OPTEX's latest analytics programming, false alarms are sure to be minimized.

This how-to guide explains step-by-step how to integrate the PIE-1 with the I-Series NVR, how to receive alarms generated by the Optex sensor.

# Prerequisites

Hikvision I-SERIES NVR

Firmware

DZ\_K51\_EN\_STD\_V3.4.93\_170502

Optex supported software versions

Redscan RLS-3060L/SH v7.13+

Redscan RLS-2020I/S v1.43+

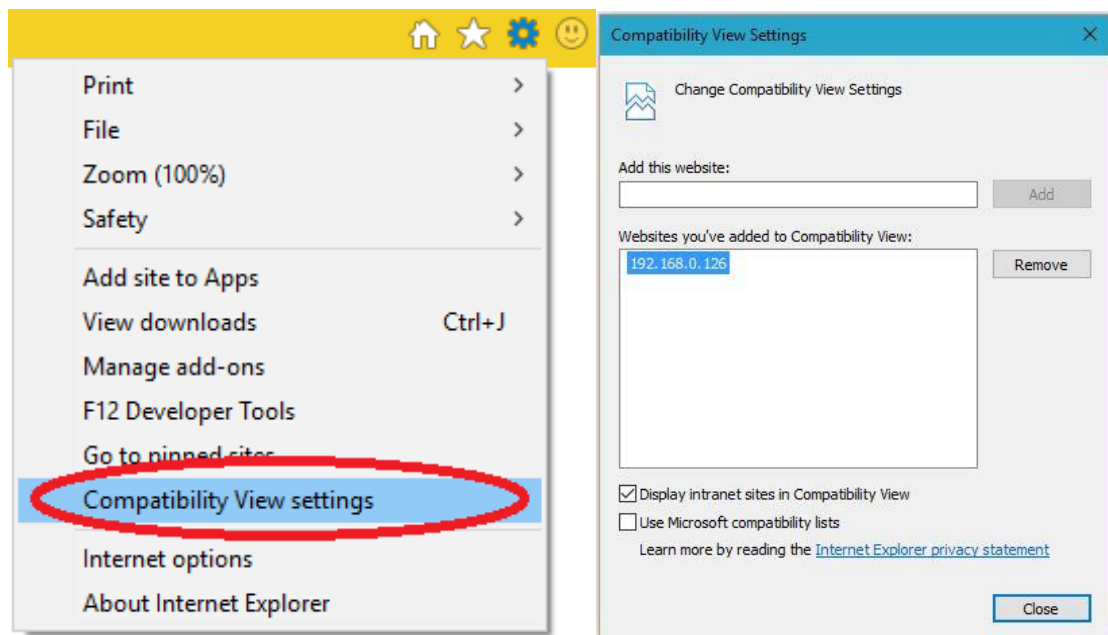
PIE-1 v1.2.0+

Main functionalities:

- Receive Optex IP comm. protocol
- Report alarm-area data
- Diagnose Tamper/Trouble Sensor events
- Heartbeat monitoring (Device online/offline monitoring)
- Alarm + Camera linkage action
- PTZ linkage
- Event logging

# Configuring PIE-1 Module

1. Using a Windows OS Machine open Internet Explorer
2. Navigate to PIE-1 web page (Default address is 192.168.0.126)
3. Enter username and password when prompted (Default User: PIE-1 Password:OPTEX)
4. Enable “Compatibility View Settings” and add PIE-1 address



5. On PIE-1 web page select “Configuration” under the left hand column.



6. Set IP address for unit.

PIE-1 Configuration	
<b>IP Address</b>	192.168.0.126
<b>Subnet Mask</b>	255.255.255.0
<b>Default Gateway</b>	0.0.0.0

7. Under Event code configuration select your desired "Transmission Mode" Destination IP address is the NVR IP address, Port Number is Port Event code is sent to

\*Note all modes are compatible, be aware when using UDP Broadcast event codes are sent to all devices on the network.

Event Code Configuration	
<input type="checkbox"/> Use an arbitrary number	
<b>ID of Detector</b>	126 (000-999)
<b>Transmission Mode</b>	UDP Unicast
<b>UDP (Destination)</b>	
<b>IP Address</b>	192.168.0.1
<b>Port Number</b>	1234 (0-65535)
<b>Number of transmission</b>	3 (1-20)
<b>TCP (Destination)</b>	
<b>IP Address</b>	192.168.0.1
<b>Port Number</b>	1234 (0-65535)
<b>Time out setting</b>	10 sec. (1-30000)
<input checked="" type="checkbox"/> Set continuous alarm of TA/TR available	
<b>Transmission interval</b>	1 sec. (1-3600)
<b>Delay time of event code stop transmission</b>	2 sec. (2-60)

8. Under I/O Configuration select detector model PIE-1 is connected to. E.g. SIP-100

I/O Configuration	
<b>Detector</b>	SIP-100 ▼
<b>Number of Output Selector</b>	2(DOWN) ▼
<b>Detection Range Selector</b>	Far+Near(DOWN) ▼
<b>Orange</b>	OFF ▼
<b>Yellow</b>	Alarm(Far&Near) ▼
<b>Green</b>	Alarm(Creep zone) ▼
<b>Blue</b>	Tamper ▼
<b>Purple</b>	Trouble ▼

9. Click "Save Config"



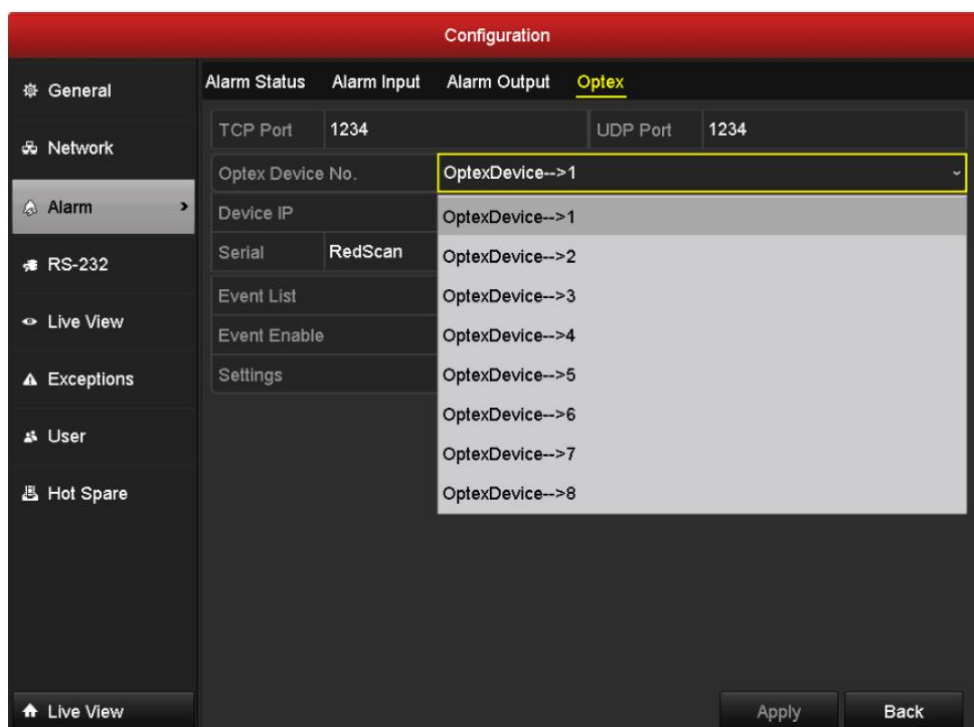
# Optex Redwall Event code (REC) definitions

PIE-1 Model name	REC	Meaning	Cause	REC	Meaning	Cause
SIP-100	MO	Master Alarm	Any zone is in alarm condition	FR	Far Zone Alarm	Far Zone of sensor Active
	CL	Master Alarm Clear	Alarm condition restores and clears	NR	Near Zone Alarm	Near Zone of sensor Active
	TA	Tamper Output	Tamper switch is operated or device is rotated	CR	Creep Zone Alarm	Creep Zone of sensor Active
SIP-5030	ta	Tamper Ouput Clear	Tamper switch is closed and cleared	FN	Far or Near Zone Alarm	Far or Near Zone of sensor Active
	TR	Trouble Output	Sensor in Mask condition or detector malfunction	XY	Creep and Near Zone Alarm (Combination Code)	Creep and Near Zone of sensor Active
SIP-404/5	tr	Trouble Output Clear	Mask condition restores and clears	YZ	Near and Far Zone Alarm (Combination Code)	Near and Far Zone of sensor Active
SIP-4010/5	DM	Device monitoring "heartbeat"	When received Device is online	XZ	Creep and Far Zone Alarm (Combination Code)	Creep and Far Zone of sensor Active
SIP-3020/5						
SIP-404						
SIP-4010						
SIP-3020				CC	Combination Code	Multiple Zones Active
Tamper/Trouble (Generic connections)	TA	Tamper Output	Tamper output active	DM	Device monitoring "heartbeat"	When received Device is online
	ta	Tamper Ouput Clear	Tamper output restored			
	TR	Trouble Output	Trouble output active			
	tr	Trouble Output Clear	Trouble output Restored			
RBM-60QN	MO	Master Alarm	Beam in alarm	A1	Alarm A1	Zone A1 Active
RBM-100QN	CL	Master Alarm Clear	Beam clear	A2	Alarm A2	Zone A2 Active
RBM-200QN	TA	Tamper Output	Beam Tamper switch open	XY	A1 and A2 Alarm	Both Zone A1 and A2 Active
	ta	Tamper Ouput Clear	Beam tamper restored	CC	Combination Code	Multiple Zones Active
	DM	Device monitoring "heartbeat"	When received Device is online			
RFB Single-ch	MO	Master Alarm	Any zone is in alarm condition	A1	Alarm A1	Zone A1 Active
	CL	Master Alarm Clear	Alarm condition restored	A2	Alarm A2	Zone A2 Active
RFB Dual-ch	TA	Tamper Output	Tamper Switch Active	XY	A1 and A2 Alarm	Both Zone A1 and A2 Active
	ta	Tamper Ouput Clear	Tamper switch Restored	CC	Combination Code	Multiple Zones Active
FD Single-ch	FA	Fault	self diagnostic fault			
	fa	Fault Clear	fault resolved			
FD Dual-ch	DM	Device monitoring "heartbeat"	When received Device is online			

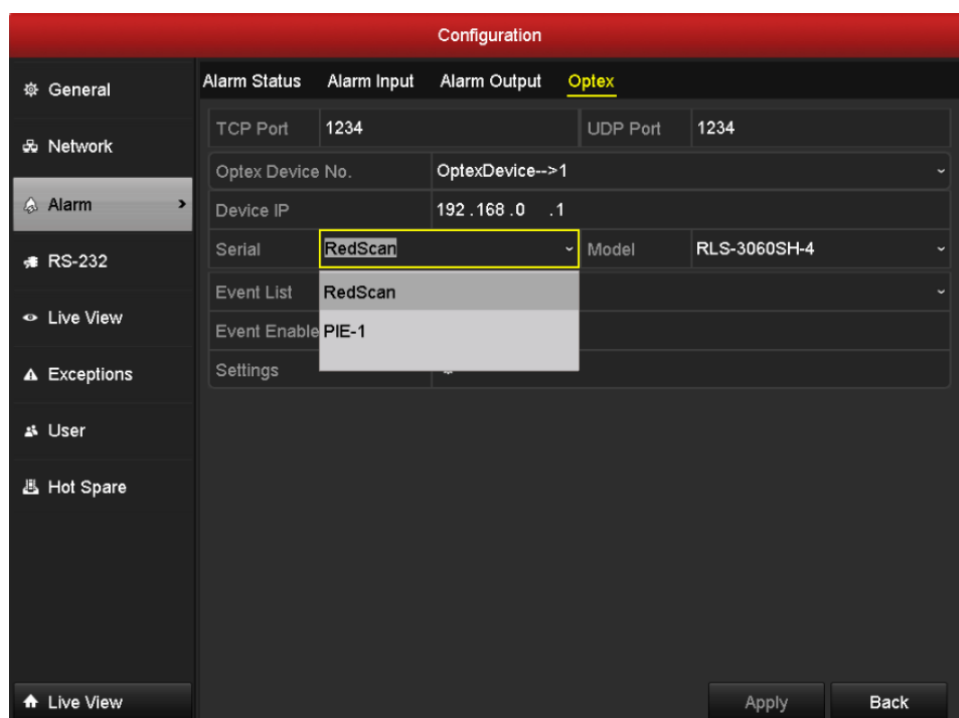


# Hikvision NVR Setup

1. Under menu navigate to **Configuration-> Alarm-> Optex** Select which device number you wish to configure and enter "Device IP" address



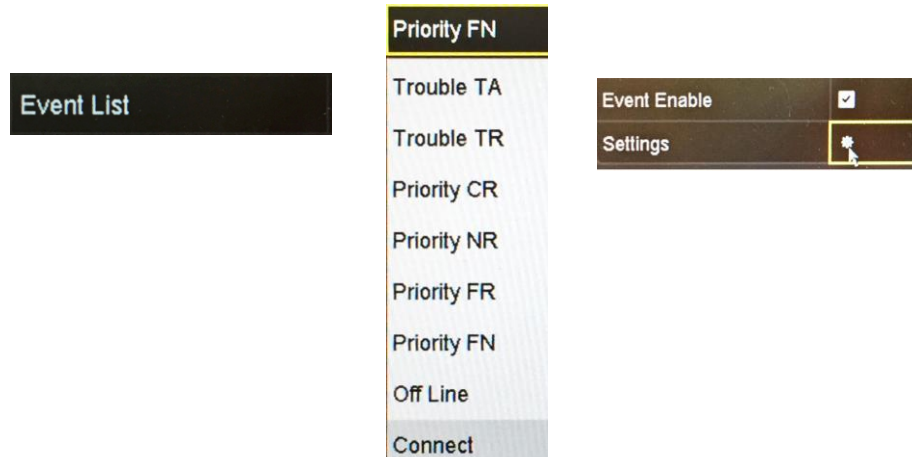
2. Select which Optex product, Series and model are being used.



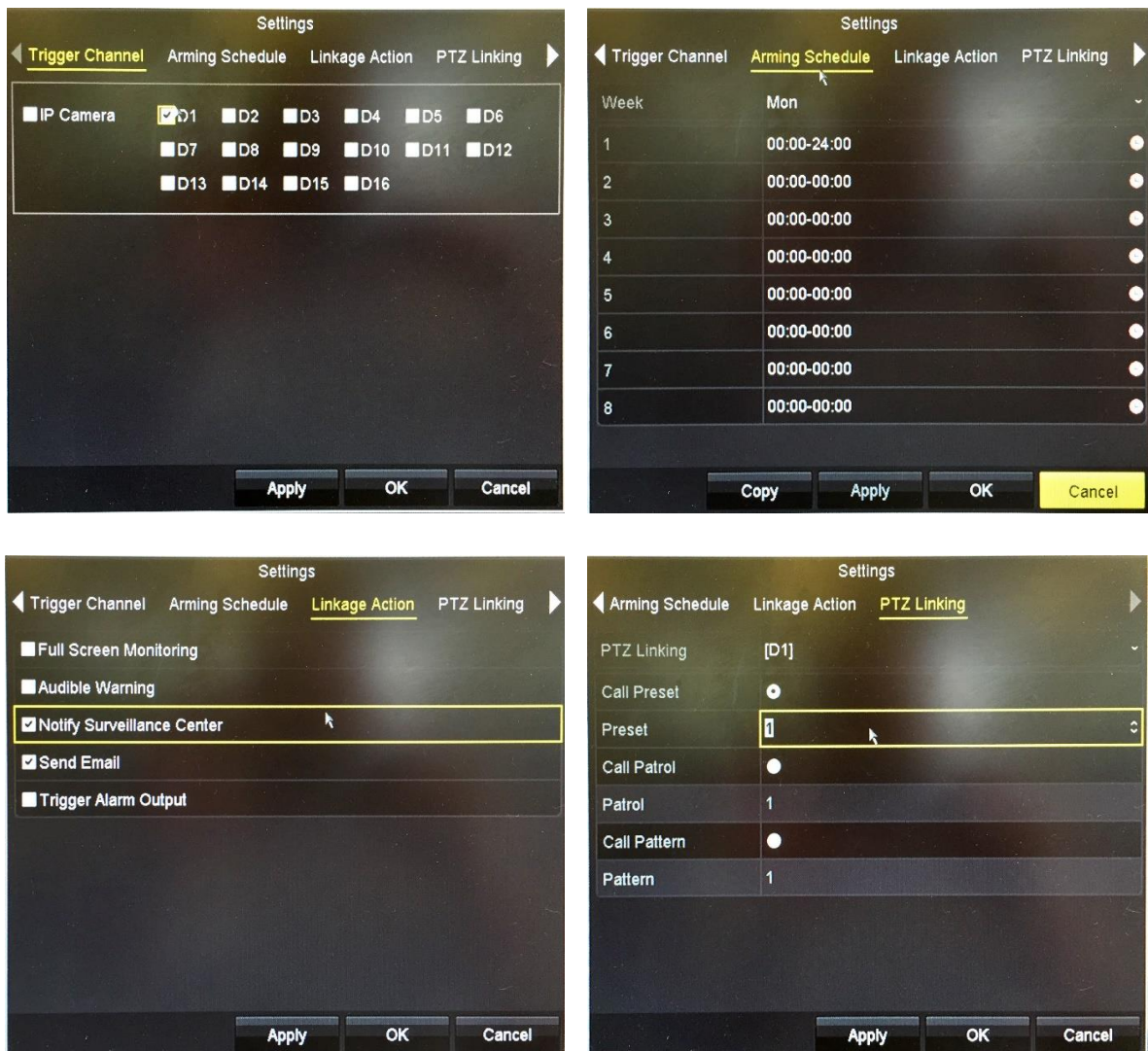
*PIE-1 Series has Models Redwall, Redbeam, Fiber and tamper (refer to PIE-1 Web Page to identify)*

Redscan series has Zones 4 or Zones 8 (refer to Optex Redscan manager software to identify)

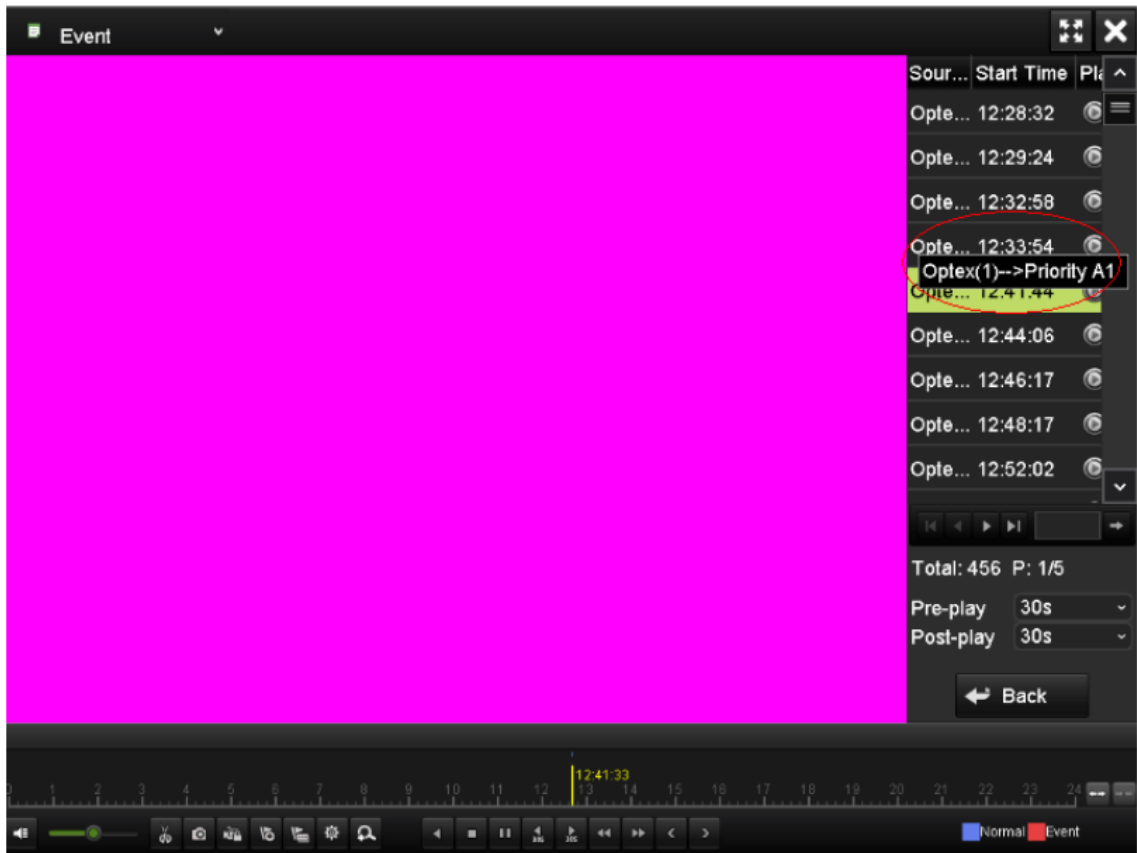
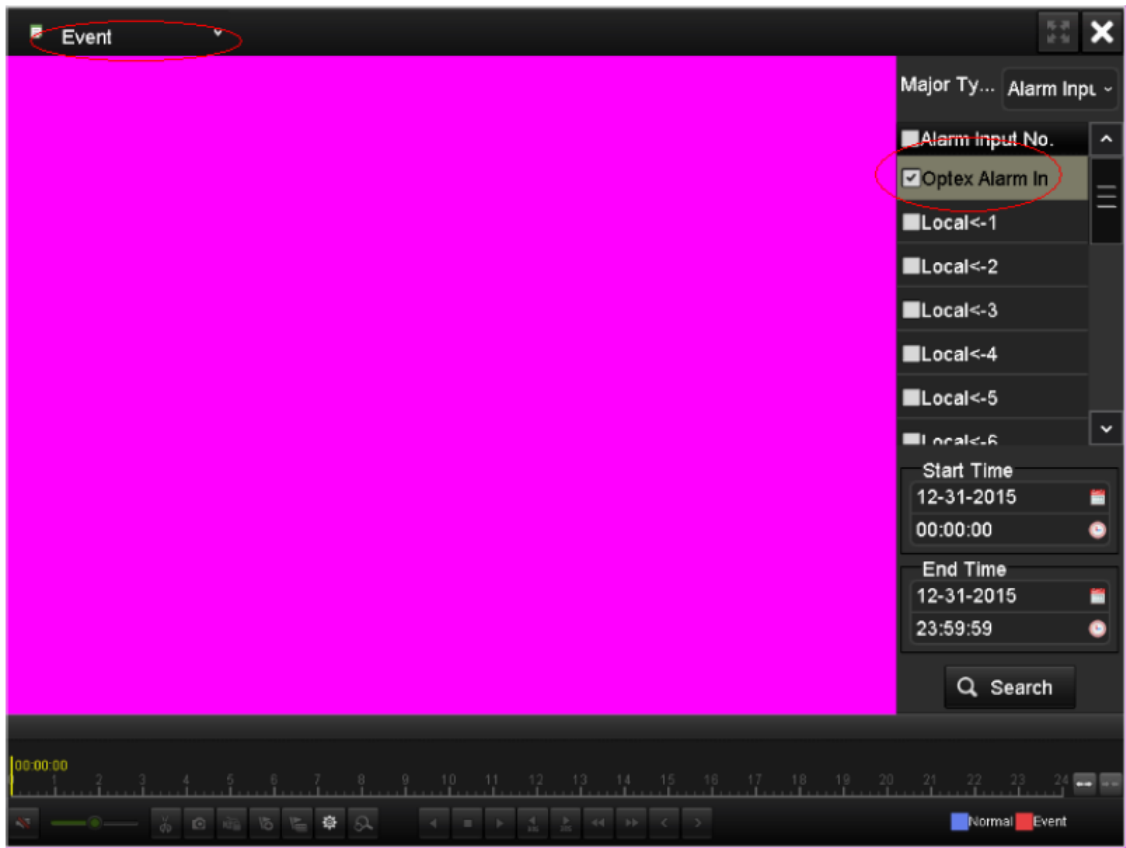
3. Under event list select event then tick event enable and select settings.



4. Under Setting configure Trigger Channel, Arming Schedule, Linkage action and PTZ Linking.



Users can filter recorded events for Optex Alarm in



7. Export events by selecting filter for **Optex Alarm in**



8. Event log

All Optex events can be found under **Maintenance-> Log information** major type **Alarm in**



# Compatibility

Firmware: I-Series

NVR\_K51\_BL\_EN\_STD\_V3.4.62\_160820

DS-7608NI-I2
DS-7616NI-I2/16P
DS-7716NI-I4/16P
DS-9964NI-I8
DS-7616NI-I2
DS-7716NI-I4
DS-7732NI-I4/16P
DS-9632NI-I16
DS-7608NI-I2/8P
DS-7732NI-I4
DS-9632NI-I8
DS-9964NI-I16

Firmware:

NVR\_NETRA\_BL\_EN\_STD\_V3.4.0\_160422

<b>-ST -RT -XT -SP series NVR product list</b>
<b>76xx Series</b> DS-7608NI-SP, DS-7608NI-ST, DS-7616NI-SP, DS-7616NI-ST, DS-7632NI-ST, DS-7632NI-SP, DS-7608HI-ST, DS-7616HI-ST
<b>77xx Series</b> DS-7708NI-SP, DS-7708NI-ST, DS-7716NI-SP, DS-7716NI-ST, DS-7732NI-SP, DS-7732NI-ST, DS-7764NI-ST
<b>85xx Series</b> DS-8508NI-ST, DS-8516NI-ST, DS-8532NI-ST
<b>86xx Series</b> DS-8608NI-ST, DS-8616NI-ST, DS-8632NI-ST, DS-8664NI-ST
<b>95xx Series</b> DS-9508NI-RT, DS-9508NI-ST, DS-9516NI-RT, DS-9516NI-ST, DS-9532NI-RT, DS-9532NI-ST
<b>96xx Series</b> DS-9608NI-RT, DS-9608NI-ST, DS-9616NI-RT, DS-9616NI-ST, DS-9616NI-XT, DS-9632NI-RT, DS-9632NI-ST, DS-9632NI-XT, DS-9664NI-RT, DS-9664NI-ST, DS-9664NI-XT
<b>80xx Series</b> DS-8004HFI-ST, DS-8008HFI-ST, DS-8016HFI-ST, DS-8004HWI-ST, DS-8008HWI-ST, DS-8016HWI-ST
<b>90xx Series</b> DS-9004HFI-ST, DS-9008HFI-ST, DS-9016HFI-ST, DS-9004HFI-RT, DS-9008HFI-RT, DS-9016HFI-RT, DS-9016HFI-XT, DS-9004HWI-ST, DS-9008HWI-ST, DS-9016HWI-ST