INSTRUCTION MANUAL

REVO REMOTE PRO HD

Please read this manual thoroughly before use, and keep it handy for future reference.

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Chapter 1 — Introduction

1.1 Features

REVO Remote Pro HD is a powerful and full-featured surveillance program for use with IP (Internet Protocol) cameras. This guide explains how to install the software as well as how to configure and use.

- 7 monitors for live, playback and status
- 4 live monitors as Live1, Live2, Event and Emap
- Up to 64 splits per live monitor displaying
- Up to 16 splits for playback displaying
- Various layout modes
- Channel and layout sequence mode
- Event channel/layout view
- Multi-layered Emap view
- 64 channels recording
- NVR support
- Unlimited recording disk size and configurable multiple disk and device assignment
- Various recording modes (manual, weekly schedule, special day schedule, event and event-relay recording)
- Various search modes (time lapse, event and favorite searching) and playback controls
- Remote network device configuration
- Easy PTZ (PTZ panel and in-screen PTZ) and alarm controls
- Useful view and toolbars for easy control (Digital zoom, Audio, Freeze, Manual-Recording, Microphone, Split controls and etc.)
- User and authority management
- Keyword searching
- Automatic device discovery
- Easy check system and device status and logs
- Automatic/manual check updating and live update
- Event notification, searching and reporting

1.2 System Requirements

The following are the minimum system requirements for this software

Table 1 System Requirements

Operating System	Microsoft® Windows® XP Professional (32 bit or 64 bit), Windows Vista™ Enterprise/Ultimate (32 bit or 64 bit), Windows 7 Professional/Enterprise/Ultimate (32 bit or 64 bit) (Windows 7 recommended)
CPU	Intel® Core™2 Quad processors or higher (Core™ i7 processor recommended)
RAM	Minimum 1 GB (4 GB or more recommended)
Network	Ethernet (1 Gbit recommended)
Graphics Adaptor	PCI-Express, minimum 1024 x 768, 16 bit colors (256 MB or more isolated VGA memory, 1920 x 1080, 32 bit colors recommended)
Hard Disk Type	E-IDE, PATA, SATA (7200 RPM or faster), Network drives
Hard Disk Space	Minimum 1 GB free disk space available for software Minimum 4 GB free disk space available for each recording disk
Joysticks	USB PC Compatible Joysticks
DirectX	DirectX end-user runtimes (June 2010 and later) http://www.microsoft.com/download/en/details.aspx?id=8109

This software runs as a 32 bit service and application with the 64 bit operating systems.

Chapter 2 — Installation

2.1 Installation

Before installation, shut down and remove any previous installed versions.

Do not install this on a network drives, otherwise the software MAY not work properly.

Procedure

1. Insert the software CD/DVD; then click the installation link.

Alternatively, if you are installing the file version, run the installation file from the location.

Depending on your security settings, you MAY get one or more security warnings. If that is the case, click the Run button.

2. When the installation wizard starts, click ‘next’ to continue.

3. Read and accept the EULA (End User License Agreement), then click ‘next’.

4. Select ‘typical installation’ and follow the instructions.

5. Click Finish to complete the installation.

2.2 Upgrade

With the live updating function, the software may be upgraded at your convenience. The old configuration will be automatically converted to the new format. The previous configuration will be applied to the updated software.

You don’t need to remove the current version of the software manually. The installation of the new version will remove the current version automatically.

Do not use the old version of software with the new configuration. The new configuration MAY not work with the old version of software.

Back up your current configuration

When you install the new version, it will take the configuration from your old version and convert it to the new format of configuration automatically. However, we recommend that you make regular backups of your configuration.

Procedure

1. Create a folder to backup the configuration on a network drive or removable media device.

2. Open ‘My Computer’ with the explorer and C:\ProgramData\NCTitanium\ (case of Windows 7).

3. Copy the files and folders to your backup folder.

Chapter 3 – System Setup

After installation, access the software by double-clicking the ‘REVO Remote PRO HD’ desktop shortcut. Alternatively, use Window’s start menu: Start > All Programs > REVO REMOTE PRO HD > REVO REMOTE PRO HD.

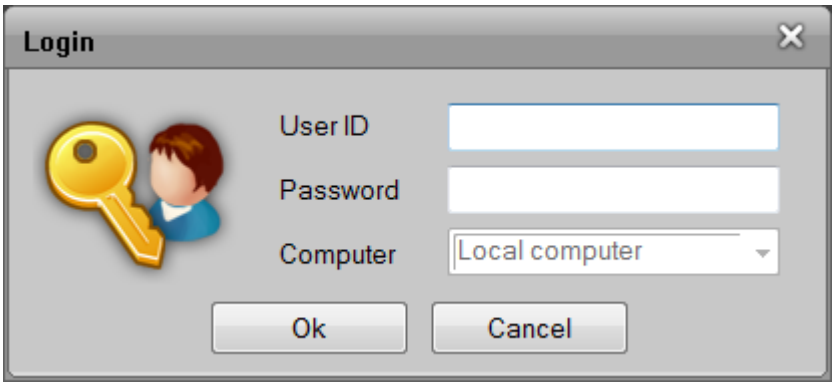


Figure 1 Login

Enter the User ID and Password when prompted by the Login dialog. The default User ID and Password are “admin” and “admin”.

3.1 System Setup

After logging into the software, click the main menu in the title bar and select the System Setup menu.

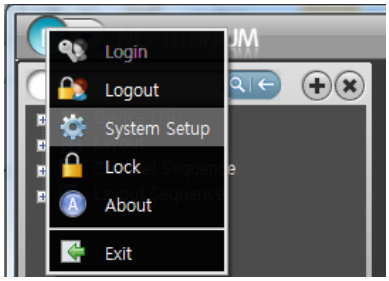


Figure 2 System Setup Menu

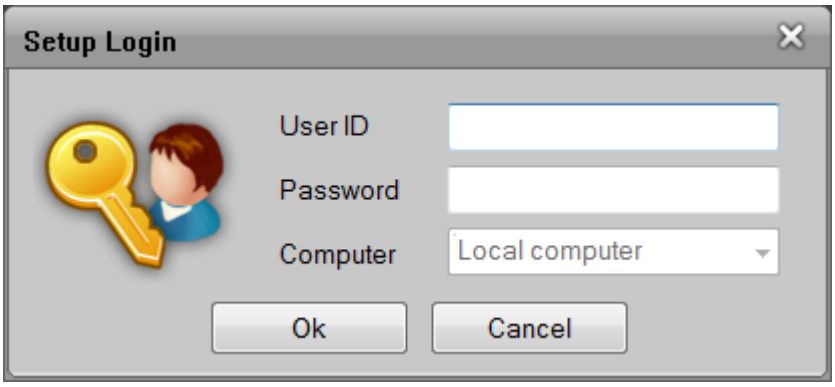


Figure 3 Setup Login

The System Setup requires administrator level authority. Enter the default User ID and Password in the Setup Login dialog after the first installation.

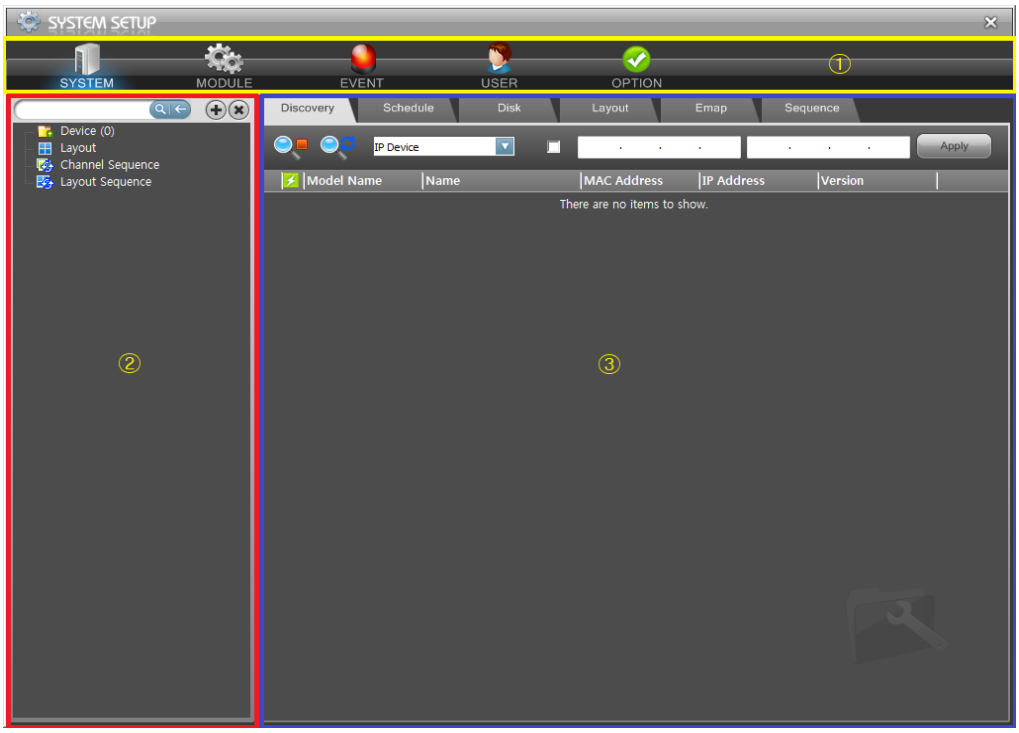


Figure 4 System Setup

There are 5 categories: ① main setup menu (SYSTEM, MODULE, EVENT, USER, and OPTION). The ② device tree is to manage the device group, the device and layout, and the channel and layout sequence. The ③ configuration property tabs contain menus and configurations for the main setup menu.

3.2 System Setup – Device/Layout/Sequence

The System Setup is to configure devices, layouts, channel and layout sequences and recording schedule and policy.

The device tree is to manage the device group, device, layout, channel and layout sequence.

3.2.1 Device Group/Device

1) Add device group

① Select the Device root item from the tree.

② Click the right mouse button.

③ Select the Add Group menu from the popup menu.

④ Enter the group name.

2) Rename device group

① Select the device group from the tree to rename it.

② Click the right mouse button.

③ Select the Rename Group menu from the popup menu.

④ Enter the new group name.

* Press the F2 key to rename the tree item

3) Remove device group

① Select the device group item(s) to remove from the tree.

② Click the right mouse button.

③ Select the Remove Group menu from the popup menu.

④ Confirm removing group from the message.

* When a group is removed, all devices in the group will also be removed. It affects the layout, channel and layout sequence.

* The recording data will remain even if the device is removed from the configuration.

* Press the Delete key to remove the selected item(s) from the tree.

4) Add devices from the Discovery tab

① Create a group to add a device.

② Select devices (streams) in the Discovery tab and drag into a group to add.

5) Add devices manually

① Create or select a group to add device.

② Click the right mouse button.

③ Select Add Device menu.

④ Edit the device properties (name, address, port, user ID, password and others).

⑤ Click the ‘Check Verify’ button.

⑥ If it connected successfully, click the ‘Save’ button.

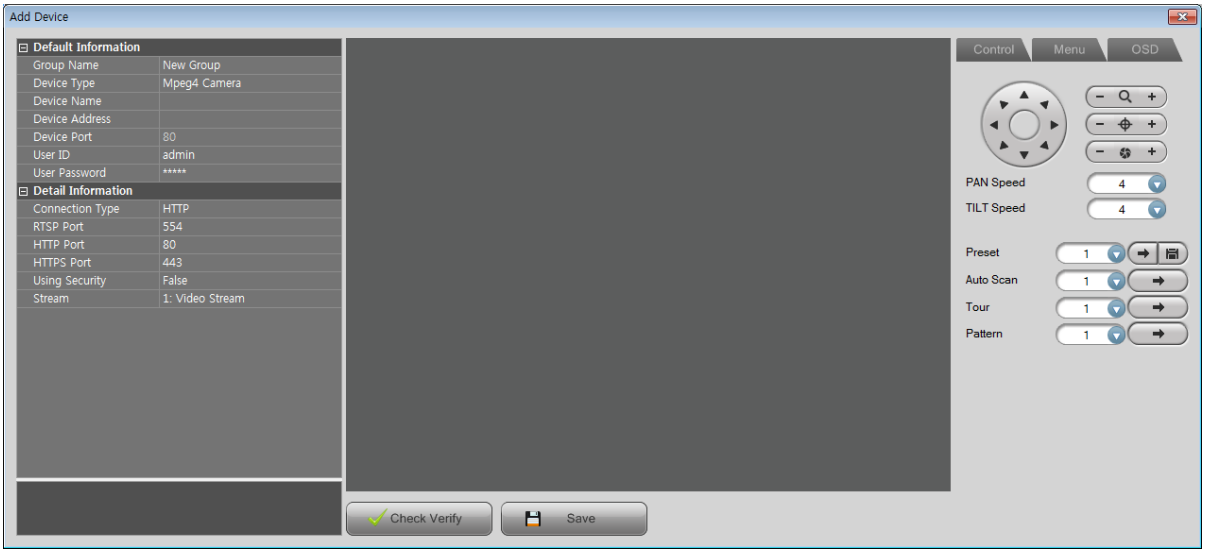


Figure 5 Add Device

3.2.2 Layout

1) Add layout

① Select the Layout root item from the tree.

② Click the right mouse button.

③ Select the Add Layout menu from the popup menu.

④ Enter the layout name and description and select the layout mode in the Add Layout dialog.

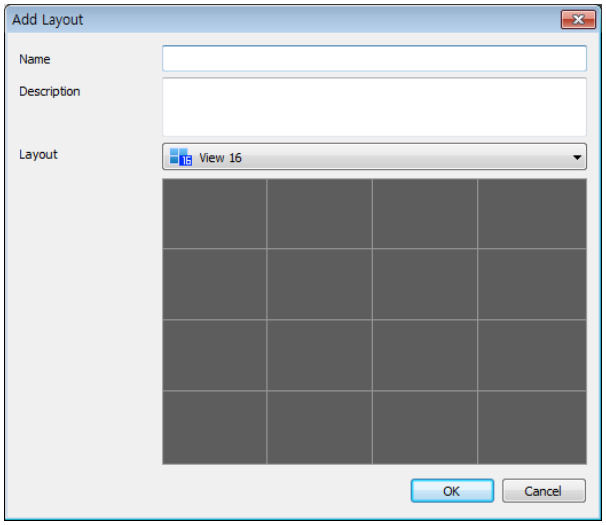


Figure 6 Add Layout

2) Rename layout

① Select the layout item to rename from the tree.

② Click the right mouse button.

③ Select the Rename Layout menu from the popup menu.

④ Enter the new layout name.

* Press the F2 key to rename the tree item.

3) Remove layout

① Select the layout item(s) to remove from the tree.

② Click the right mouse button.

③ Select the Remove Layout menu from the popup menu.

④ Confirm removing layout from the message.

* Press the Delete key to remove the tree item(s).

4) Design layout

① Select the Layout tab and select a layout name in the combo-box.

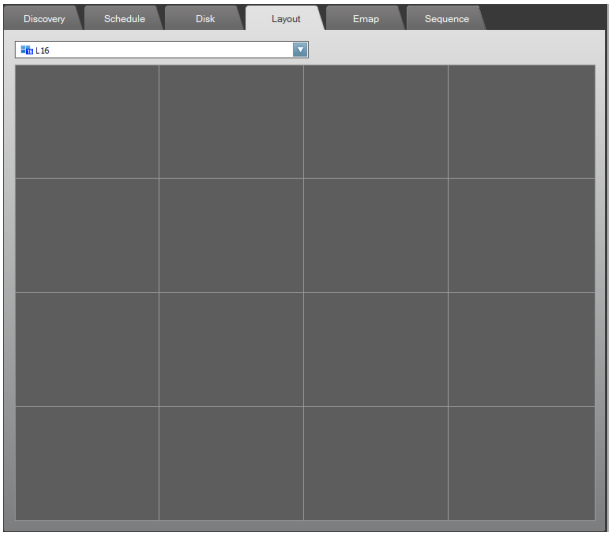


Figure 7 Layout

② Select a group/(a) device(s) from the tree and drag it into the layout position to set up the device name.

③ If you want to delete a device from the layout, select the device from the layout and click the right mouse button.

④ Select the Remove option from the popup menu.

* Press the Delete key to remove the device from the layout in the tree or Layout tab.

3.2.3 Channel/Layout Sequence

1) Add channel/layout sequence

① Select the Channel Sequence / Layout Sequence root item from the tree.

② Click the right mouse button.

③ Select the Add Channel Sequence / Add Layout Sequence menu from the popup menu.

④ Enter the sequence name.

2) Rename channel/layout sequence

① Select the sequence item to rename from the tree.

② Click the right mouse button.

③ Select the Rename Channel Sequence / Rename Layout Sequence menu from the popup menu.

④ Enter the new sequence name.

* Press the F2 key to rename the tree item.

3) Remove channel/layout sequence

① Select the sequence item(s) to remove from the tree.

② Click the right mouse button.

③ Select the Remove Channel Sequence / Remove Layout Sequence menu from the popup menu.

④ Confirm removing sequence from the message.

* Press the Delete key to remove the tree item(s).

4) Design channel / layout sequence

① Select the Sequence tab and select a channel / layout sequence name in the combo-box.

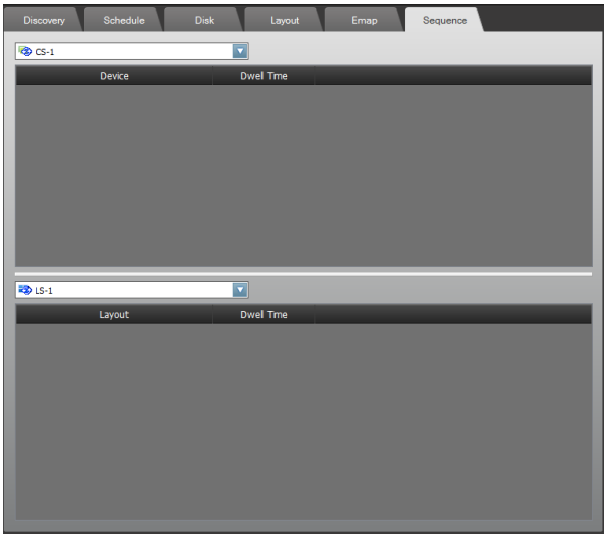


Figure 8 Sequence

② Select a group/(a) device(s)/(a) layout(s) from the tree and drag into the sequence to set up.

③ Set up the dwell time to display device/layout.

④ If you want to delete a device/layout from the sequence, select the device/layout from the sequence and click the right mouse button.

⑤ Select the Remove menu option from the pop-up menu.

3.2.4 Device searching

There is an edit-box which is for searching device item.

Figure 9 Device Searching

It searches and selects the matching device by item name, IP address, MAC address, firmware version, URL, model name, profile name. If a layout item has a description or image path that matches with any searching text, it will automatically be selected.

Table 2 Device Tree Buttons

Device Tree Buttons	Operations
	Searching device
	Clear searching text
	Add user dynamic layout
	Remove user dynamic layout

3.3 System Setup – Discovery

This option supports automatic device discovery and setup.

3.3.1 Discovery

This feature tries to contact the devices which are attached to the network. It MAY take a few minutes to complete.

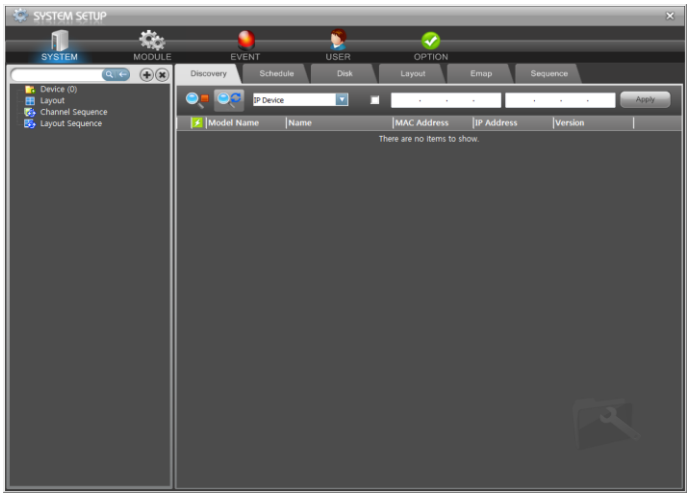


Figure 10 System Setup - Discovery

1) Connection status

The Discovery tab shows the devices which are connected to the network by model name, device name, MAC address, IP address and firmware version. Each icon on the item list displays the results of its connection test.

Table 3 Discovery List Item Icon

Connection Test Results	Results Key
	It's not available to connect
	It's connected
	It's locked and needs ID and password

2) Discovery tools

The device discovering process is able to be controlled by the below buttons.

Table 4 Discovery Tools

Buttons	Operations
	Begin device discovery
	Halt device discovery
	Refresh list and restart device discovery

3) Model name grouping

The Model name grouping check button is to change the list view of devices. If it is checked, the list shows the model groups and devices.

4) IP filtered device discovery

① Check the IP filter enable button.

② Enter the specific IP address ranges to discover the devices in the network.

③ Click the Apply button. Then the devices are discovered in the specified network address ranges.

Figure 11 IP Filtered Device Discovery

3.3.2 Device setup

There are some useful tools to setup the devices.

① Select the device item(s) from the list.

② Click the right mouse button.

③ Select the Remote Setup menu.

④ Setup the device configurations. The remote setup dialogs are different depending on the device model.

* Please refer to the device manual in the setup menu.

* If the Quick View feature is enabled (located in the configuration menu) for the device, you MAY be able to see the image simultaneously while the configuration is being applied.

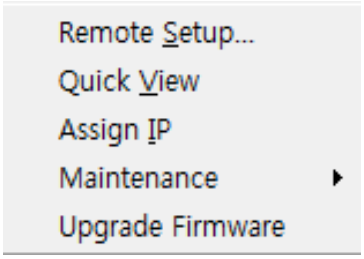


Figure 12 Device Menu

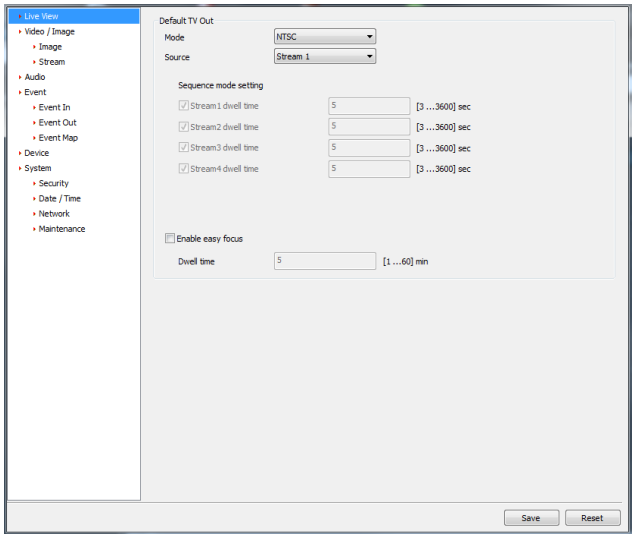


Figure 13 Remote Setup

3.3.3 Quick view

This is to see the video/image stream from the device instantly.

① Select the device item(s) from the list.

② Click the right mouse button.

③ Select the Quick View menu.

④ Select the video/image stream profile and connection type from the combo-boxes.

⑤ The Stop/Play button is to stop and resume the video/image stream.

3.3.4 Assign IP

This is to assign the IP address for the selected device.

① Select the device item(s) from the list.

② Click the right mouse button.

③ Select the Assign IP menu and click the Ok button.

④ The result will automatically assign the selected device with a new IP address.

* After changing the IP address, click the Refresh button. Otherwise, visually, the IP address won't reflect the changes.

3.3.5 Maintenance

There are 3 maintenance functions, Restart, Reset and Factory Default. The Reset function MAY be operated differently depending on the device model.

Table 5 Maintenance

Restart	Restarts the device without any changes
Reset	Resets the configuration except some specific values (ex. network) The client may need to be restarted for the changes to take place.
Factory Default	Resets all configurations to the default factory settings. The client may need to be restarted for the changes to take place.

* After the Factory Default, the device MAY need some time to recalibrate and connect.

3.3.6 Upgrade firmware

① Select the device item(s) from the list to upgrade.

② Click the right mouse button.

③ Select the Upgrade Firmware menu.

④ Select the firmware file from the file open dialog.

⑤ The upgrading progress will be shown and it MAY take time to be updated and restarting the system.

* Please check the image file for the device before upgrading. Upgrading the wrong image file MAY cause the device to malfunction.

3.3.7 Login

This is to set the device login ID and password.

① Select the device item(s) from the list.

② Click the right mouse button.

③ Select the Login menu.

④ Enter the login ID and password.

* The default login ID and password are “admin” and “admin”.

* If the icon of the device shows this symbol, it represents that the login ID and password are not matched with the device settings.

3.3.8 Emergency Firmware Upgrade

In the case of specific failures, for example halting while upgrading firmware or upgrading wrong image file, the device MAY be halted. If the network function of the device works properly, it MAY be updated this way.

① Select the device item(s) from the list.

② Click the right mouse button.

③ Select the Emergency Firmware Upgrade menu.

④ Click the OPEN button and select the correct image file for the device.

⑤ Click the UPDATE button and check the STATUS.

* In the case of specific network device failure, the device MAY not be discovered this way. The Emergency Firmware Upgrade is only useful when the network function of the device works properly.

3.3.9 Check device

This is to check connection status the selected device.

3.4 System Setup – Schedule

The Schedule tab is to configure weekly/specific event based items.

3.4.1 Weekly recording schedule

This is to set up weekly-hour based recording schedule.

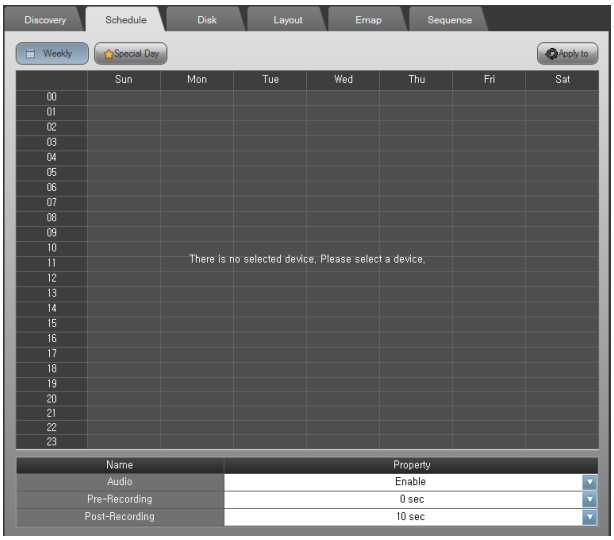


Figure 14 System Setup - Weekly Schedule

① Select the Schedule tab.

② Select a device to set up recording schedule.

③ Click the Weekly button.

④ Select the time table by dragging.

⑤ Click the right mouse button.

⑥ Select the New Time Schedule or New Event Schedule menu.

⑦ If you want to clear the schedule then select the Clear menu

Table 6 Color vs. Meaning in the Time Table

Color of the table	Meaning
	No schedule

	Event recording schedule
	Time recording schedule
	Adaptive Time/Event schedule (Normal : key frame only, Event : full-frame recording)
	Selected time cell

⑧ Set up the recording properties (Audio, Pre/Post-Recording).

⑨ If you want to apply the same schedule to the other devices, click the 'Apply to' button and select the device(s)/group(s).

* The Pre/Post-Recording values are only for the event recording schedule.

* If the streams are from the same device then the recording properties are applied to all streams.

* If the Audio is enabled, the audio stream from the device will be recorded with video.

3.4.2 Special day recording schedule

This is to set up special day hour based recording schedule.

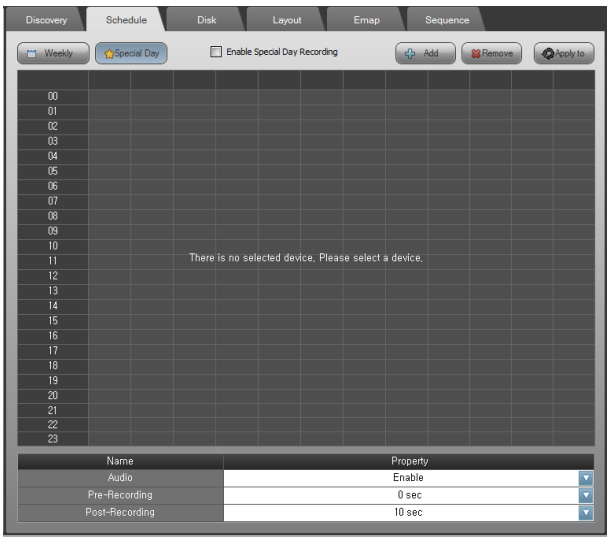


Figure 15 System Setup - Special Day Schedule

① Click the Special Day button.

② Click the Add button to add the special day recording schedule.

③ Double-click the date from the calendar.

④ Set the recording schedule to the desired period.

⑤ If you want to remove the special day schedule, click the Remove button.

⑥ Check the Enable Special Day Recording box to enable it.

⑦ If you want to apply the same schedule to other devices, click the ‘Apply to’ button and select the device(s)/group(s).

⑧ Set up the recording properties (Audio, Pre/Post-Recording)

⑨ If you want to apply the same special day recording schedule to the others, click ‘Apply to’ button and select the device(s)/group(s).

* The special day recording priority is higher than the weekly schedule.

3.4 System Setup – Disk

3.4.1 Disk

The Disk tab is to configure the recording hard disk drives and recording policy.

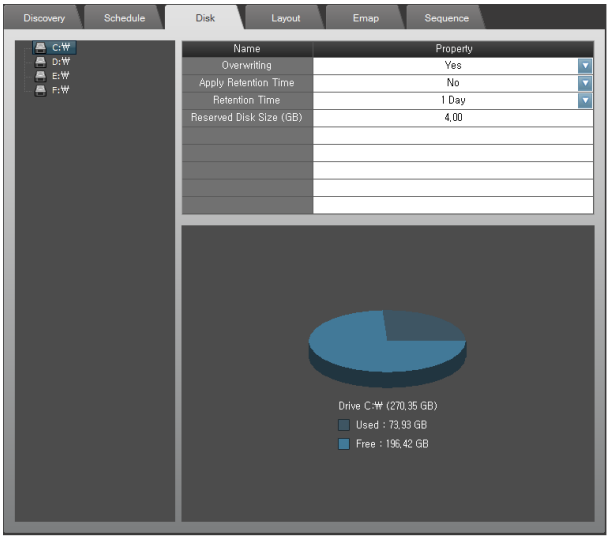


Figure 16 Disk

1) Disk assignment

① Select the Disk tab.

② Select the device(s) from the tree and drag into the disk tree to assign recordings.

③ Set up the recording disk properties.

* The streams which are from the same devices will be assigned automatically to the same disk drives.

* To utilize the disk performance, the streams are assigned to the separate disk drives.

* The Retention Time is to preserve the time of the recording data if the disks are available.

* The Reserved Disk Size is the recording disk size for the selected disk drive.

3.5 System Setup – Layout

This is to design the Layout. The Layout is used to view the layout as well as the Emap. Please refer the ‘3.2.2 Layout for adding, renaming and removing layout’.

3.6 System Setup – Emap

This is to design Emap using the layout.

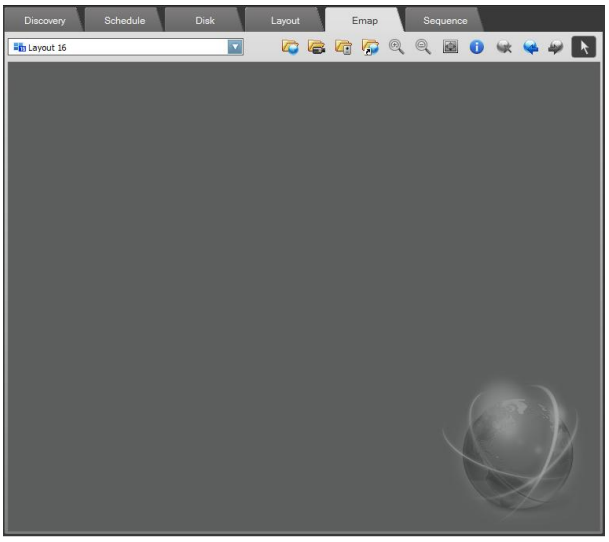


Figure 17 Emap

3.6.1 Load background image

① Click the Emap tab.

② Select the Layout item from the combo-box to design Emap.

③ Click the Load Emap Background Image button ( ) and select the image. Available image formats are JPG, PNG and BMP.

* The recommended Emap background image size is 800 x 600. If the image size is too big, it MAY take a little time to operate with it. If the image size is too small, E-map design and operation MAY not run optimally.

* The loaded images (background image, user device, user sensor and user link images) are copied to the specific directory automatically. If you remove the background images manually from that directory, it MAY lead to problems in operating Emap functions.

3.6.2 Device design

① Select the device(s) and drag it (them) to your target location.

② Select a device and click the right mouse button.

③ The Rename is to set a specific name only for Emap.

④ The Open Live View option serves to open a popup window displaying the live stream.

⑤ The Change Image option serves to change the device icon.

⑥ If you want to use your own device image, click the Load Emap User Device Image button ( ) and select the image file. Available image formats are JPG, PNG and BMP. And the height of image MUST be 84 pixels and the width MUST be multiple of 28 pixels.

The top image represents normal, middle does selected, and the bottom is for event notification.

* Please refer the sample images which are installed.
C:\ProgramData\NCTitanium\MonitoringService\Emap\ (case of Windows 7)

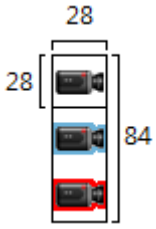


Figure 18 User Image Size

⑦ Select user device image from the Change User Image menu.

3.6.3 Sensor/Link design

① Click right mouse button on the back ground image.

② Select the Insert Sensor/Insert Link menu.

③ Select the device group > device > sensor or manual trigger item.

④ If you want to rename it, click right mouse button and select Rename.

⑤ If you want to the change image, click right mouse button and select Change Image.

⑥ If you want to use your own sensor/link image, click the Load Emap User Sensor Image button ( )/ Load Emap User Link Image ( ). And click right mouse button and select the Change User Image. The user sensor and link images MUST be the same condition of width and height as above.

* Double-click the link, then the Emap changes to the selected link. You can make a layered Emap with the link.

* The Manual Trigger is only available if the device supports it. Before designing the manual trigger, please check the device specification and setup for that operation.

3.6.4 Emap controls

There are some Emap control buttons.

Table 7 Emap Control Buttons

Emap Control Buttons	Operations
	Emap Information
	Delete Emap Background Image
	Move Previous Emap Link
	Move Next Emap Link
	Selection with Dragging Operation

3.7 System Setup – Sequence

This is to set up the channel/layout sequence. Please refer the ‘3.2.3 sequence for adding, renaming and removing sequence’.

Chapter 4 – Event Setup

This is to set up event operations. The device events are dependant on the device model. For example, some devices MAY support only motion and alarm event. And others MAY support manual trigger, on boot, video loss, network loss as well as motion and alarm. Please check the device model and setup before configuring this.

Select the EVENT menu.

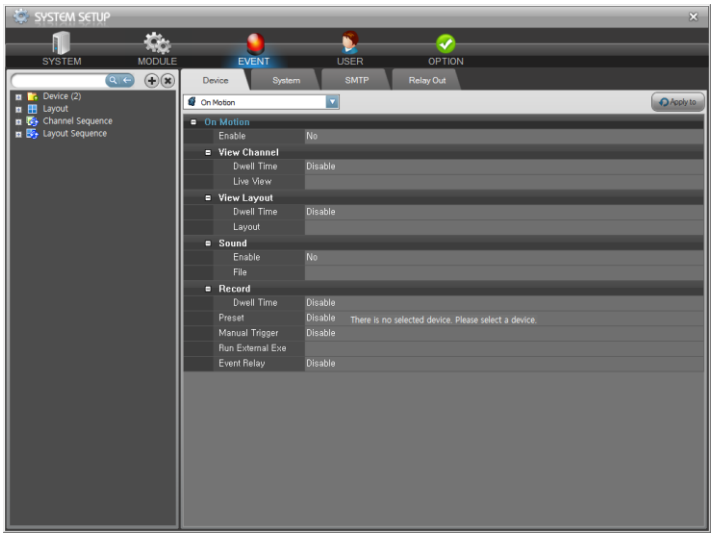


Figure 19 Event Setup

4.1 Event Setup – Device

This is to set up the event operation. When an event happens on the device, the configured operations (view channel/layout, sound, execute external application, and recording, etc.,) would be worked. And the Event Relay is to relay event to other devices.

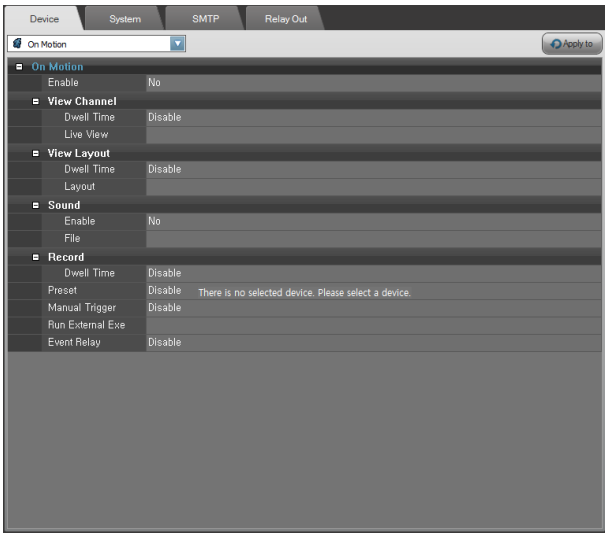


Figure 20 Event Setup - Device

4.1.1 Event operations

① Select the Device tab.

② Select a device from the device tree.

③ Select an event type to set up from the combo-box.

④ Enable/Disable the selected event operation from the list.

⑤ Set up the event operations.

⑥ If you want to apply the same operations to other devices, select the Apply to button and select device(s)/group(s).

Table 8 Device Event Operations

Event Operations	Options	Settings
Enable	Yes/No	Enable/Disable the event operations
View Channel	Dwell Time	Amount of time to display the event channel
	Live View	What view to show the event channel on Live1, Live2, Emap and All.
View Layout	Dwell Time	Amount of time to show the layout
	Layout	What layout to show in the Event view
Sound	Enable	Enable/Disable the sound
	File	Select the sound file, otherwise the default

		sounds will be automatically be initiated
Record	Dwell Time	Event Recording independent on schedule
Preset	Preset ID	In the case of PTZ, move the preset
Manual Trigger	Trigger ID	If it supports manual trigger, it will trigger
Run External Exe	File	Execute an external application
Event Relay	Relay Out List	Select the Relay Out

* The Record operation in the device event list only affects the recording schedule. For example, if there is a device which is configured that there is no recording (time/event) schedule from 9:00 AM to 10:00 AM. If an event which operation is recording, is happened during that time, it would be recorded as configured with above setting value.

* The Relay Out has the similar configurations of the device event. Please do not configure relay chains. (For example, a manual trigger of device A relays a manual trigger of device B. And manual trigger of device B relays manual trigger of device A. It makes relay chain continuously. It MAY cause endless event operations)

* The View Channel option needs event channel setting on the Live1, Live2 and Emap. If there is no event channel setting on them, it will not work.

* The Dwell Time values of the View Channel and View Layout have a minimum time out of 5 sec. If another event occurs, the view channel and layout MAY be preemptive even though the value is over 5 seconds.

4.2 Event Setup – System

This is to set up the system event operations as like Disk Fault, Disk Full and System Update events.

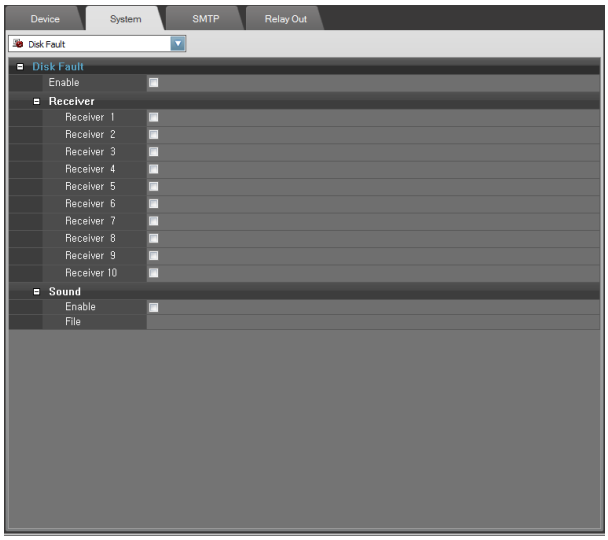


Figure 21 Event Setup - System

4.2.1 System event operations

① Select the System tab.

② Select a system event type to setup from the combo-box.

③ Enable/Disable the selected event operation from the list.

④ Check the SMTP receiver to send the event information mail.

⑤ Enable/Disable the Sound.

⑥ Select the sound file.

* The mail receivers are able to be configured in the SMTP tab. Please refer the '4.3 Event Setup – SMTP'.

4.3 Event Setup – SMTP

This is to set up the SMTP settings. When an event is occurs in the system, this will send emails to the configured instructions.

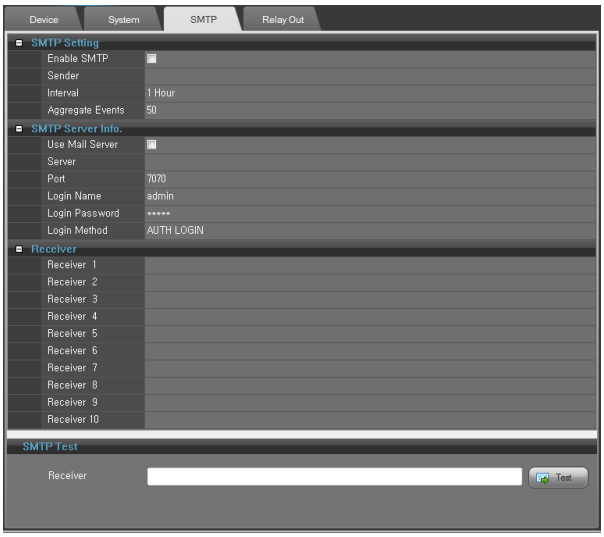


Figure 22 Event Setup - SMTP

4.3.1 SMTP setting

① Select the SMTP tab.

② Check/Uncheck the Enable SMTP.

③ The Sender is the email address of the system administrator.

④ The Interval is the mailing interval. The range is from 1 min to 24 hours.

⑤ The Aggregate Events is the count of the events to send.

* If the Interval is 1 minute, this would check event to send every minute. If the Interval is 24 hours, this would check event to send in a day and send it.

* If the Aggregate Events value is 50, this would not send email until 50 events happened.

* If the Interval is 1 hour and the Aggregate Events value is 50, this would check and send email in every hour. And if the number of events is over 50, this would send an email every hour.

4.3.2 SMTP server information

① Check/Uncheck the Use Mail Server.

② Fill the mail server address and port to the list.

③ Fill the Login Name and Password of the mail server address.

④ Select the Login Method.

* Without SMTP server information, there MAY be a failure in the email transmission.

4.3.3 Receiver and SMTP Test

The maximum mailing list is 10. If you want to test mailing, enter the receiver address and click the Test button.

4.4 Event Setup – Relay Out

This is to set up event relay out. After setting this, each relay out item is selectable in the Device tab. Please refer the '4.1 Event Setup – Device' to assign the event relay out to the device event.

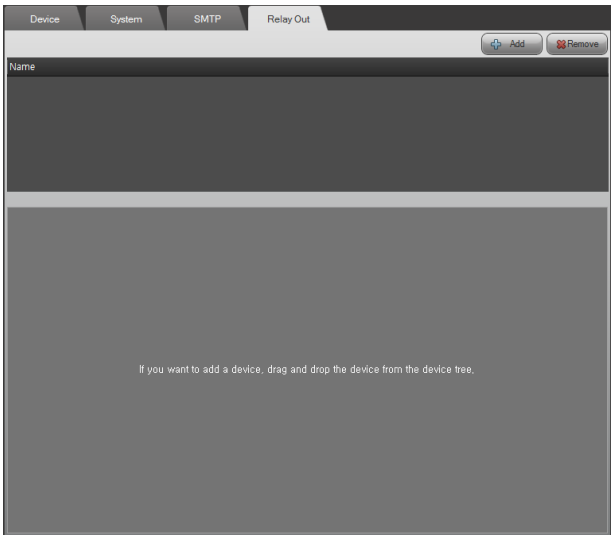


Figure 23 Event Setup - Relay Out

4.4.1 Event relay out

① Select the Relay Out tab.

② Click the Add button and enter the relay out name.

③ Select the device from the device tree and drag it into the below of the list.

④ Set up the Record, Manual Trigger and Preset.

* The Record is the recording dwell time.

* The Manual Trigger is dependant on the device model.

* The Preset is only available for the PTZ device.

* Before setting up the Manual Trigger and Preset, please check the device model and settings.

* If an event is assigned with relay out, the event will occur as it is configured with Manual Triggering and PTZ preset movement.

* Do not create a chained relay out, for instance an event from device A triggers the device B and the event which was triggered by B triggers the device A again and again.

4.4.2 Remove relay out

Select the relay out item from the list. Click the Remove button.

4.4.3 Rename relay out

Double-click the relay out item from the list and enter new name of it.

Chapter 5 – User Setup

This supports multi-users. Each user is able to be assigned the device, layout and sequences. This describes how to configure users and authorities. The default administrator user ID is “admin” and the password is “admin”. After installation, please change the password of the “admin” for safety. The “admin” is not able to be removed.

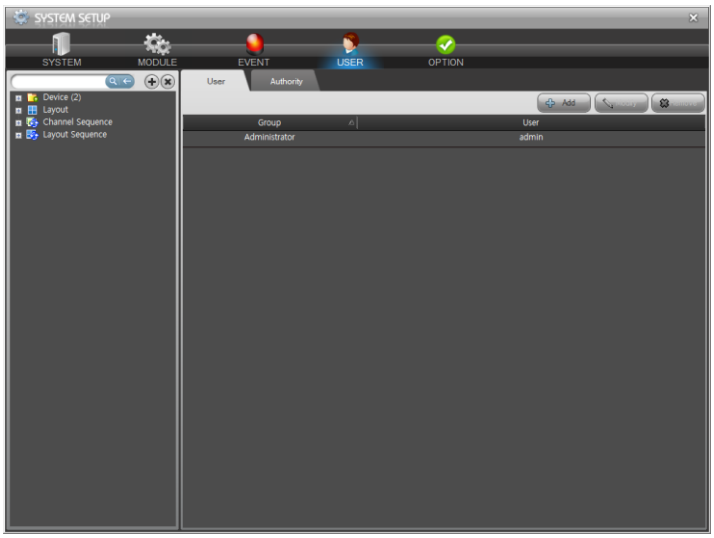


Figure 24 User Setup

Save the configuration otherwise the changes will not be applied. The old configuration would be saved in the specific directory. The old configurations MAY be useful to get technical support. The old configuration saving directory is C:\Program Data\NCTitanium\MonitoringService\Logs, case of Windows 7. This keeps maximum 20 old configurations.

5.1 User Setup – User

Select the User menu.

5.1.1 Add user

① Select the User tab.

② Click the Add button.

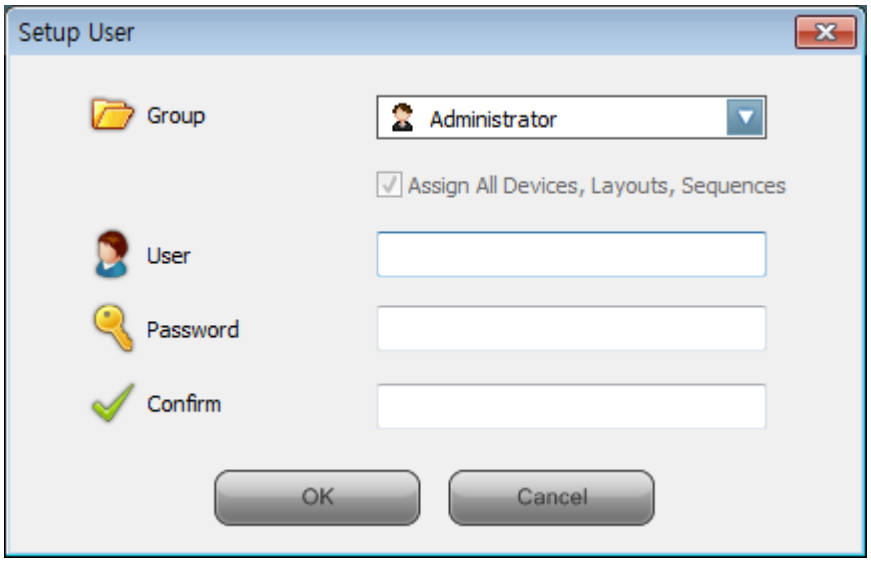


Figure 25 Setup User

③ Select the Group. A member of the Administrator group is capable to setup the system and access all devices, layouts and sequences. A member of the User group is not able to enter the system setup.

④ If you want to add one user, check/uncheck the Assign All Devices, Layouts, Sequences. If it is not checked, an administrator SHOULD reassign devices, layouts and sequences.

⑤ Enter the Password and Confirm password fields. And Click the Ok button.

5.1.2 Modify user

① Select a user to modify from the list.

② Double-click it or click the Modify button.

③ Modify the user information and click OK to save.

5.1.3 Remove user

Select a user(s) to remove from the list and click the Remove button.

5.2 User Setup – Authority

This is to assign the devices, layouts and sequences to users.

5.2.1 Set up authorities

① Select a user from the combo-box.

② Select a device(s) from the device tree and drag it (them) into the Device list.

③ Select a layout(s) from the device tree and drag it (them) into the Layout list.

④ Select a sequence(s) from the device tree and drag it (them) into the Sequence lists.

* If a layout is assigned to a user, all devices which belong to that layout are assigned automatically.

* If a sequence is assigned to a user, all devices which belong to that sequence are assigned automatically.

⑤ If you want to remove a device(s), layout(s) or sequence(s), select and click right mouse button.

⑥ Select the Remove menu.

* If a user is a member of the Administrator group or is already assigned to all devices, layouts and sequences, then the user is not listed in the combo-box.

Chapter 6 – Option Setup

This is to set up various options of system, video and OSD (On Screen Display).
Select the OPTION menu.

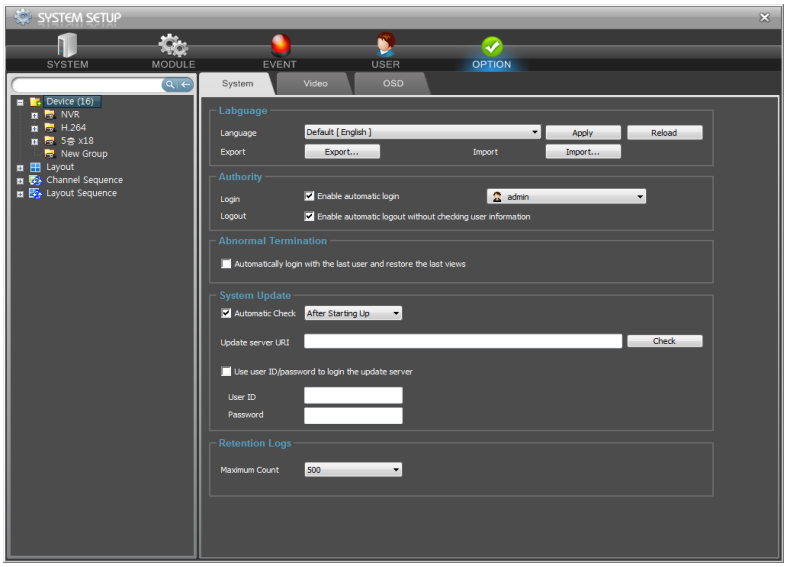


Figure 26 Option Setup

6.1 Option Setup – System

This is to configure language, automatic login/logout mode and system live update checking and logs.
Select the System tab.

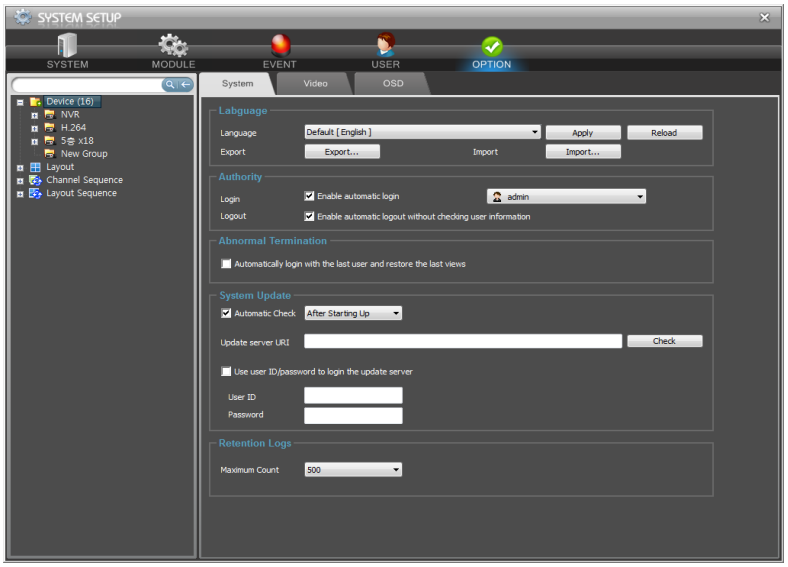


Figure 27 Option Setup - System

6.1.1 Language

This software supports multi-language functions and the language preference is user-configurable.

1) User configurable language

You can export the language items from the software in run-time. After editing the exported language file and place it under the specific directory. Then the language is ready to be used. The procedures are below.

① Select the System tab.

② Click the Export button in the Language.

③ Select the file to export.

④ Open the exported file (.ini) with text editor. (ex, Notepad)

⑤ Edit the right side strings of the equal mark.

* Do not change the number.

```
[StringTable]
100=OLE initialization failed.  Make sure that the OLE libraries are the correct version.
101=Login
102=Logout
[number]=[string]
```

* If the system updated, the language file MAY not be compatible with the updated version.

⑥ Place the user language file in the Languages directory under the system using.

(C:\ProgramData\NCTitanium\MonitroingService\Languages\ - case of Windows 7)

⑦ Click the Reload button.

⑧ Select the language file name from the Language combo-box.

⑨ Click the Apply button. The selected language will be applied.

* Some strings MAY not be matched with the window dialog. In that case, please re-define the strings.

* Some of strings would be applied after restarting the software.

2) Multi-languages

The software MAY include some languages. You can select the language from the combo-box and Click the Apply button. The selected language would be applied.

6.1.2 Authority

This is to set up the automatic login and logout.

1) Automatic login

To login automatically with the specific user, check the Enable automatic login check-box and select the user to be applied. Otherwise, uncheck it.

2) Automatic logout

To logout automatically without asking for user confirmation, check the Enable automatic logout without checking user information. Otherwise, uncheck it.

6.1.3 Abnormal termination

There is a possibility that if the software client is terminated without the correct procedure, the next time you start the client, you MAY receive a message of abnormal termination. If this is checked, even though there is any abnormal termination, the last user who logged in will remain logged in and the last Live1, Live2 views will be restored automatically (without message checking).

6.1.4 System Update

This is an automatic check for software updates. Checking will be done automatically, but updating software needs user confirmation. This is to configure updating server and method.

Check the Automatic Check and select the time.

② Enter the update server URL (for example, http://192.168.0.1/liveupdate/liveupdate.aspx?cid=REVO)

③ If the update server requires a user ID and password for accessing, check the user ID/password to login the update server.

④ Click the Check button to access the server.

Table 9 Live Update Check

After Starting Up	Whenever any administrator level user logs in
Before Closing	Before the software closing
All	After Starting Up and Before Closing

* Please consult the updating server with the network administrator or software installer.

6.1.5 Retention Logs

This option will dictate how many logs will be kept in the system. The default value and maximum is 8000. If you change the maximum value, the oldest logs would be removed. And the removed logs are not recoverable.

6.2 Option Setup – Video

This is to configure video displaying mode and snapshot.

Select the Video tab.

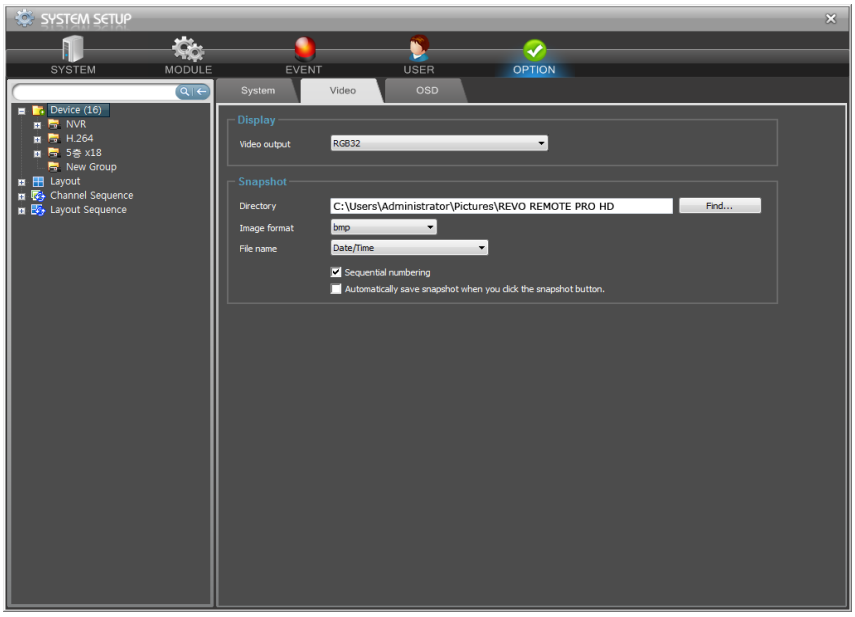


Figure 28 Option Setup - Video

6.2.1 Display

The performance of this software is very dependant on the VGA (video graphic adaptors) which are installed. Some systems use shared memory with VGA and system. In that case, the performance MAY not be better than the isolated memory system. And some VGA don't support specific displaying modes. In that case the default mode is YV12 and faster. Before changing this option, please check the VGA specification which is installed.

6.2.1 Video snapshot

It is to configure automatic snapshot and directory to save the snapshot images.

Click the Find button and select the directory to save snapshot images.

The snapshot image format is one of BMP, JPEG and PNG.

The File name is used to generate the image file name with prefix.

The Sequential numbering is the option when the file is already existed.

If it is checked the [Automatically save snapshot when you click the snapshot button] check-box, the snapshot images would be saved automatically without asking dialog.

6.3 Option Setup – OSD

This is to configure date and time format and screen title text and color.

Select the OSD tab.

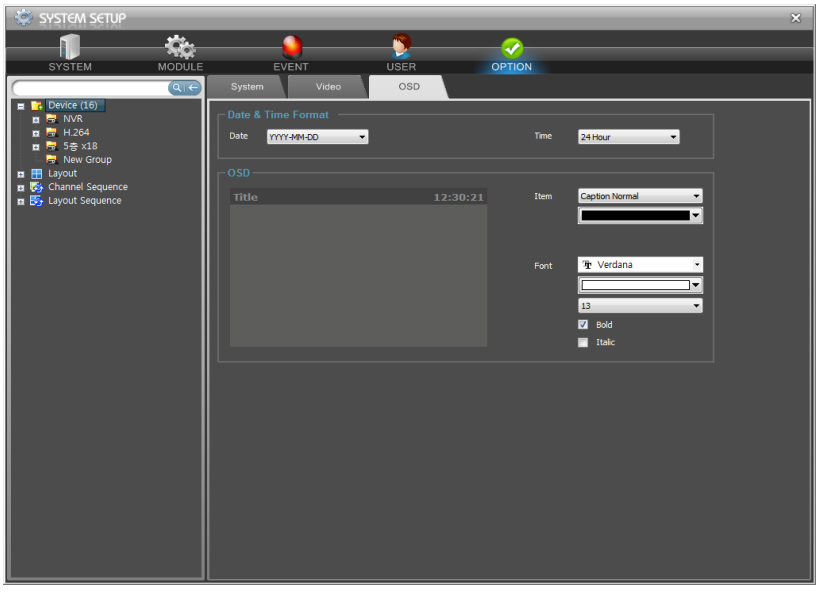


Figure 29 Option - OSD Setup

6.3.1 Date & time format

Select the Date and time format from the combo-boxes.

6.3.2 OSD

Select the Item and the Font option. The screen example shows the selected options at the same time.

Chapter 7 – Main/Sub Menu

After installation, access the software by double-clicking the 'REVO REMOTE RPO HD' desktop shortcut. Alternatively, use Window's start menu: Start > All Programs > REVO REMOTE PRO HD > REVO REMOTE PRO HD.
There is a main menu, sub menu and tray menu.

7.1 Main Menu

The main menu is for login/logout, system setup and others. And the button color shows the service status. Click the Main menu button (,)

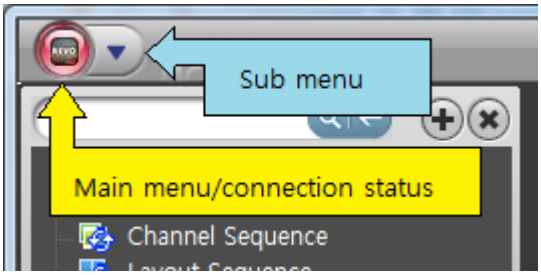


Figure 30 Main Menu/Sub Menu

7.1.1 Login

After starting the program, if the automatic user login is not set, the Login dialog will pop up. Select the computer and enter the user ID and password to login. Click the Main menu and select the Login menu to show the Login dialog.

- Add / Remove computer

  If you want to add/remove the computer, click 'option' button on login dialog.

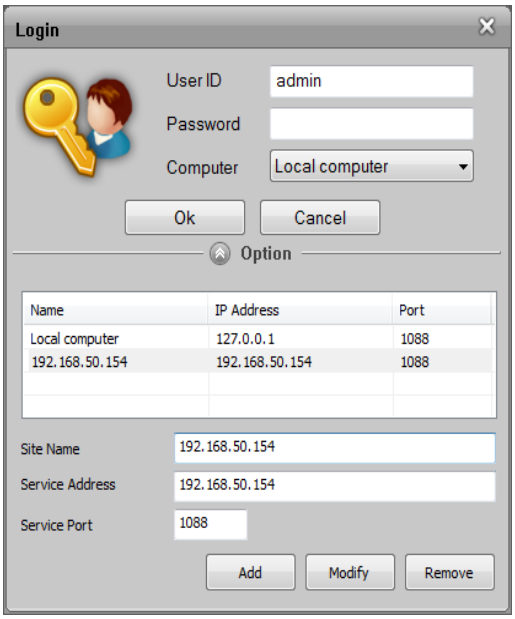


Figure 31 Login dialog - option

* If you want to configure automatic login/logout, please refer the '6.1.2 Authority'.

If the user login is successful, the Main menu will display a connected status icon ( ).

7.1.2 Logout

When you want to log out from the program not closing it, you can select the Logout from the main menu. If the automatic logout is not set, the Logout dialog would be popped up. Enter the user ID and password to logout.

If the user logged out successfully, the Main menu would be changed disconnected status ( ).

7.1.3 System Setup

This is to enter the system setup menu. Entering the system setup menu is available only to the Administrator level users. Click the System Setup menu and enter the user ID and password in the Setup Login dialog.

* Please refer the '3.1 System Setup'.

7.1.4 Lock/Unlock

The Lock is to lock all user access except main/sub menu. To unlock, click the Main menu and select the Unlock and enter the locked user's password in the Unlock dialog.

7.1.5 About

The About is to check the software version and EULA (End User License Agreement) document.

If the Administrator level user is logged in, the Update Check button is available.

To use the Update Check manually, the live update server information MUST be needed.

* If you want to live update, please refer the ‘6.1.4 Update check’.

7.1.6 Exit

If you want to close this program, click the Exit from the Main menu. Or click the close button ( ) in the right side of title bar. Depending on the system configuration, the User Logout dialog MAY be popped up.

7.2 Sub Menu

The Sub menu is to open snapshot directory and manage recording service. Click the Sub menu button ( ).

7.2.1 Open snapshot directory

Click the Open snapshot directory from the Sub menu, windows explorer would open the configured snapshot saving directory.

7.2.2 Open Video Directory

Click the Open video directory from the Sub menu, windows explorer would open the configured clip video saving directory.

7.2.3 Start recording/stop recording

The Start Recording and the Stop Recording are visible only the current user is an administrator level user. The recording service is started or stopped by manually with this. Even if the recording service would be stopped, the relaying live stream would not be stopped.

7.3 Tray Menu

Click the right mouse button on the Tray icon.

7.3.1 Start recording/stop recording

The Start Recording and Stop Recording are available only for the administrator level users. Refer the ‘7.2.2 Start recording/stop recording’.

Chapter 8 – Device Tree

This chapter describes the device tree. The root items of the device tree are the Device, Layout, Channel Sequence and Layout Sequence.

The Device has groups and devices. The Layout has layouts and devices. The Channel Sequence has sequences and devices. The Layout Sequence has sequences and layouts.

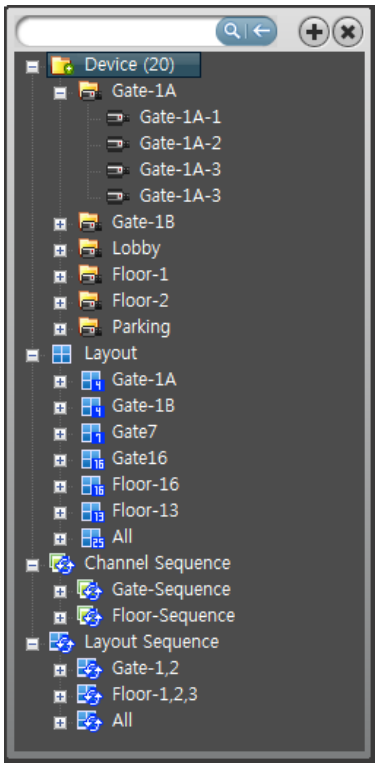


Figure 32 Device Tree

8.1 Device

The Device item shows the number of device items. It has device groups and devices.

8.1.1 Device status

The device icon represents connection, recording and event status.

Table 10 Device Status

Tree Icon	Device Status
	The network between device and the recording service is disconnected.
	The network between device and the recording service is connected.
	Recording.
	An event is happened.
	Recording and an event is happened.

8.1.2 Device menu

Select a device under the device group. Click the right mouse button.

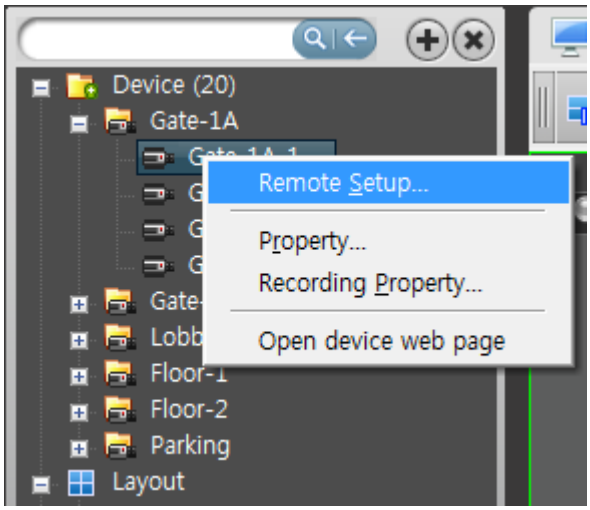


Figure 33 Device Menu

1) Remote setup

Select the Remote Setup menu. Then the remote setup menu window would be popped. It is the same with the '3.3.2 Device Setup'.

2) Property

Select the Property menu. Then the Device Properties window would be popped up.

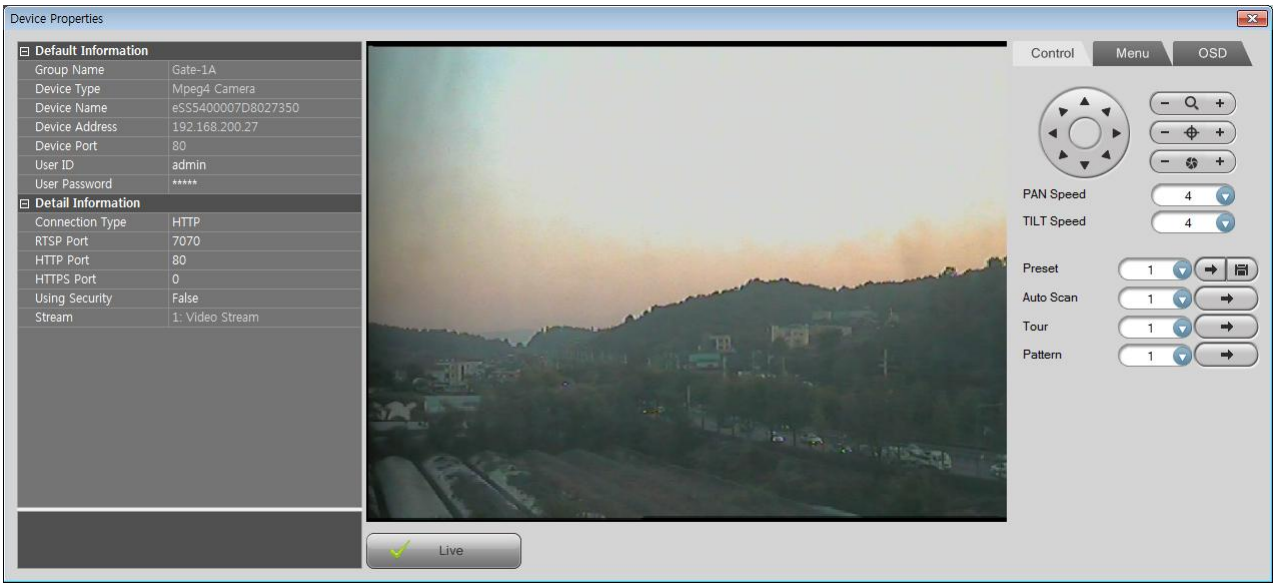


Figure 34 Device Properties

It shows the device information (Group Name, Device Type, Name, Address, Port, and User ID/Password) and connection information (Type, RTSP configuration and others).

Click the Live button and then you can control PTZ, Menu and OSD control.

* If there is limitation of the connections in the device, it MAY not be connected.

3) Recording property

Select the Recording property menu. Then the recording property window would be popped up. You can check the recording schedule. For more information of the recording schedule, please refer the '3.4 System Setup – Schedule'.

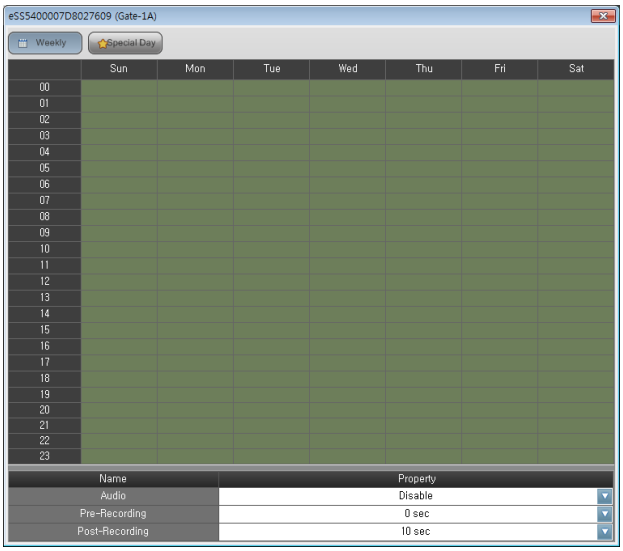


Figure 35 Recording Property

4) Open device web page

Select the Open device web page menu. Then internet web page of the device would be opened.

8.1.3 Multi-select devices

The device tree supports multi-select with Ctrl and Shift keys. The multi-selection supports only the same level items, for example devices in the same group.

8.2.1 NVR Device menu

Select a NVR device under the device group. Click the right mouse button.

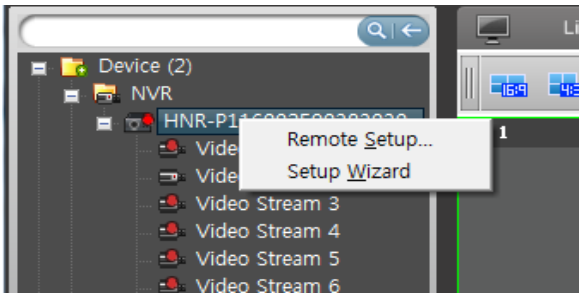


Figure 36 NVR Device Menu

1) Remote Setup

   Select the ‘Remote Setup’ menu. Then the NVR remote setup window would be popped. Please refer to the NVR manual.

2) Setup Wizard

   Select the ‘Setup Wizard’ menu. Then the NVR setup wizard window would be popped. Please refer to the NVR manual

8.2 Layout

The Layout item icon represents the split mode (number of screens).

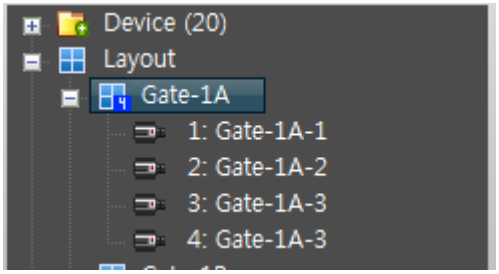


Figure 37 Layout Item

The Layout item has device items and each item shows the screen id.

8.3 Channel Sequence

The channel sequence item has device items. And the order of the devices is the sequence order.

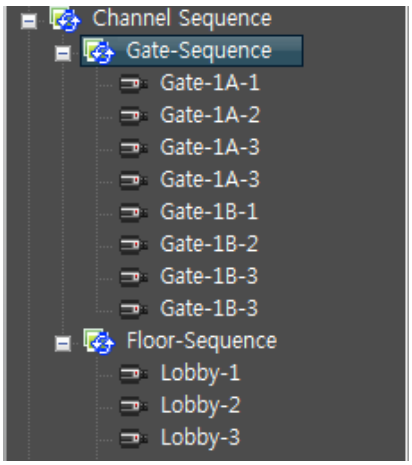


Figure 38 Channel Sequence Item

8.4 Layout Sequence

The layout sequence item has layout items. And the order of the layouts is the sequence order.

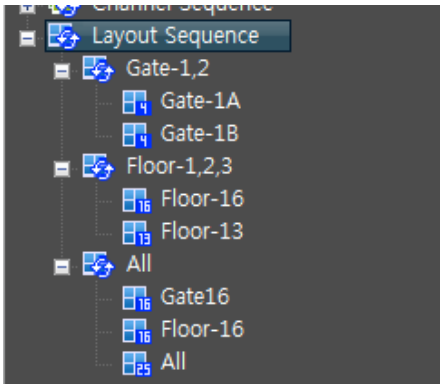


Figure 39 Layout Sequence Item

Chapter 9 – Live View

This chapter describes how to operate the live view mode. There are 4 live view modes (Live1, Live2, Emap and Event).

The main user interface consists of ① Device tree panel, ② PTZ and Event control panel and ③ View tabs (Live1, Live2, Playback, Emap, Event and Status)

If you click the left mouse button on the screen tab and drag it into the other monitor, the screen view would be shown as full screen mode.

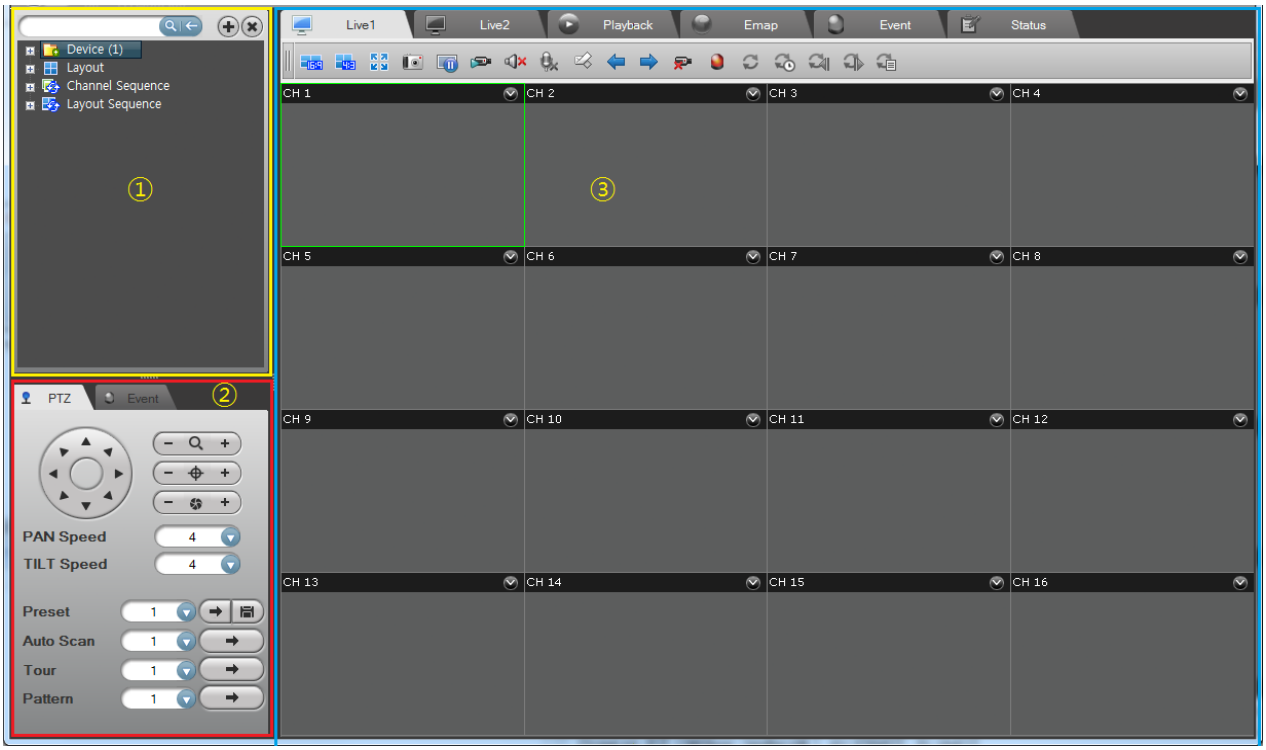


Figure 40 Main

9.1 Live View

There are 4 live view modes (Live1, Live2, Emap and Event). This describes briefly about the live1 and live2. Each view mode supports a maximum of 36 channels.

9.1.1 Live view by device/group/layout

① Select a Live view tab.

② Select a device/group/layout item in the device tree.

③ Drag it into the view screen. If you drag a layout, then the split mode will be changed automatically as it is configured.

9.1.2 Channel/Layout sequence view

① Select a Live view tab

② Select a channel/layout sequence item in the device tree.

③ Drag it into the view screen.

④ The remaining dwell time of view will be displayed in the title bar. And the sequence tools are enabled in the toolbar of the view.

Table 11 Sequence Control Tools and Operations

Sequence Control Tools	Operations
	Enable/Disable sequence mode status. Click it, disable sequence mode.
	Continuous sequence timer status. Click it; the sequence timer will pause.
	Pause sequence timer status. Click it, the sequence timer will continue.
	Change to the previous sequence view point.
	Change to the next sequence view point
	Show the sequence view point list. Select a view point from the list, change to the selected view point.

9.1.3 Event view

① Select a Live view tab.

② Select a screen and click the Set/Reset Event Channel. If an event is occurred and the event operation of that is configured that the Channel View is enabled, the channel would be shown in the Event Channel.

③ The channel screen is set as the Event Channel, then the background of the screen is highlighted.

④ The Event channel is to be set only one per screen view (Live1, Live2, Emap).

* Please refer the ‘4.1 Event Setup-Device’ to setup event channel view.

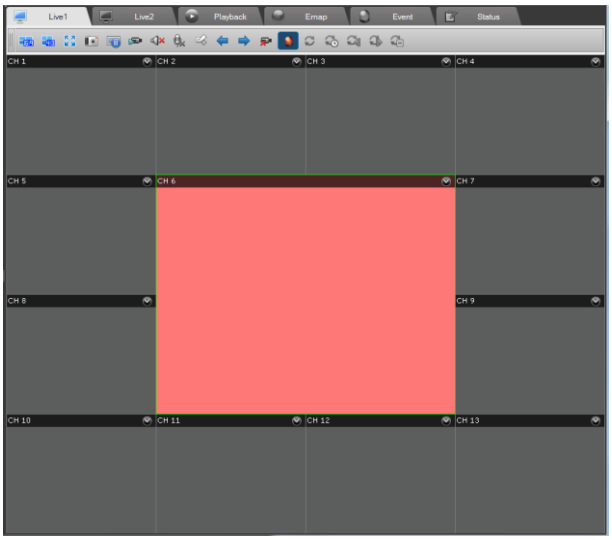


Figure 41 Set Event Channel

9.2 PTZ Control

This supports 3-ways PTZ control, by the PTZ panel, PTZ in Screen and Joystick.

The PTZ control is only for the live views.

9.2.1 PTZ control with PTZ panel

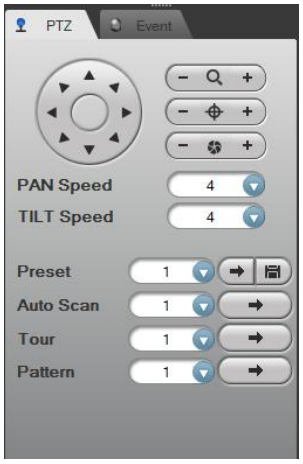


Figure 42 PTZ Control Panel

① Select a Live view tab.

② Select a screen to control PTZ in the view.

③ Click the PTZ panel and click the operation button.

9.2.2 PTZ in screen

The PTZ in screen supports simple operations, panning, tilting and zoom.

① Select a Live view tab.

② Select a screen to control PTZ.

③ Click in the screen and drag to move.

④ Zoom is controlled by the mouse wheel operation.

* The length of the dragging line is the control speed.

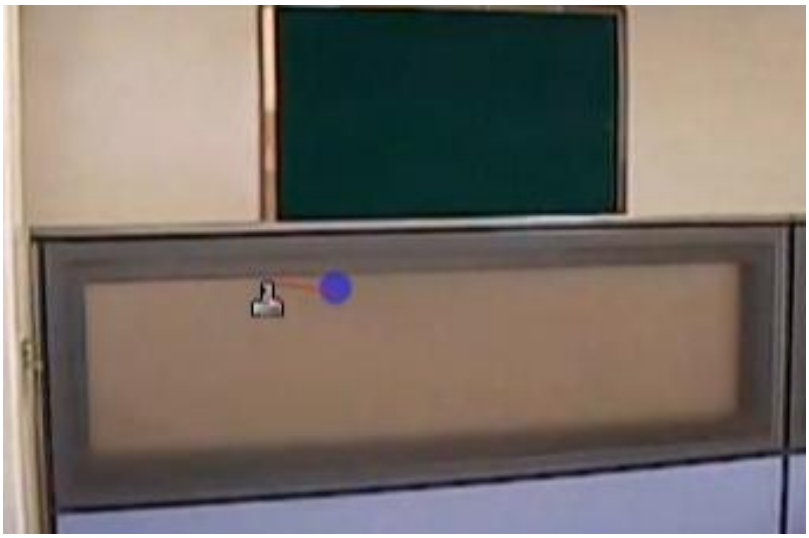


Figure 43 PTZ in Screen

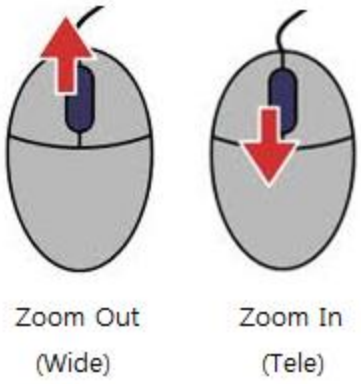


Figure 44 Zoom Control of PTZ in Screen

9.2.3 PTZ control with joysticks

* Connect the PC-compatible USB Joystick to the system. Some USB joystick devices need restarting the system to use.

① Select a Live view tab.

② Select a screen to control PTZ.

③ Move the stick.

④ There are predefined function buttons for control zoom, focus, iris and others.

Table 12 Joystick Buttons and PTZ Operations

Buttons	Operations
1	Zoom Out (Wide)
2	Zoom In (Tele)
3	Focus Out (Far)
4	Focus In (Near)
5	Iris Out (Close)
6	Iris In (Open)

9.3 Live Toolbar

Each view has view toolbar.

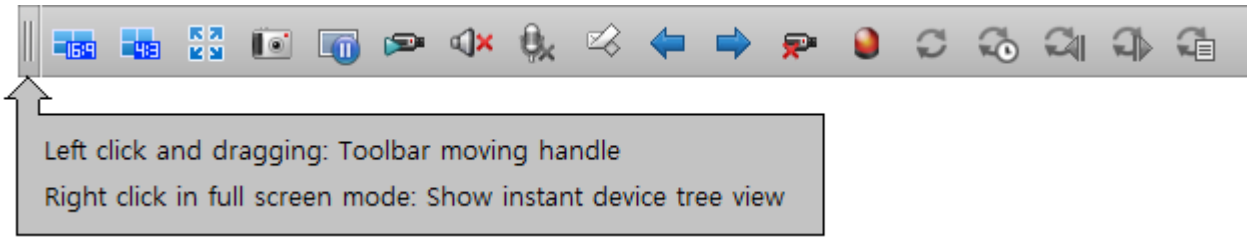


Figure 45 Live View Toolbar

9.3.1 View toolbar

The functions of each button in the toolbar are explained in ‘Appendix B - Toolbars’.

Click the Full screen button ( ), then the View mode would be changed as full screen mode. And if it is clicked in full screen mode, the toolbar would be disappeared. To show the toolbar in that mode, press the ‘ESC’ key. Then the toolbar is positioned on the top of the view. If you want to change the normal view mode as initial mode, close the full view screen by clicking the close button in the title bar or pressing Alt+F4 keys.

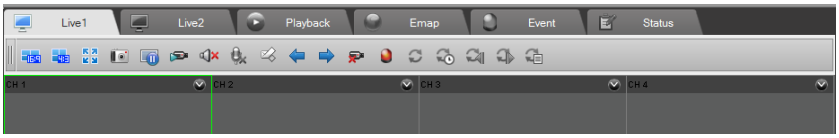
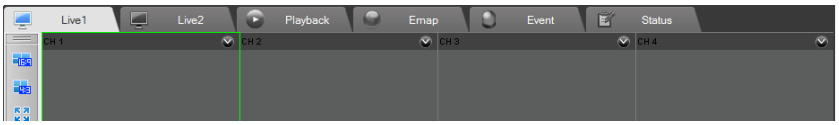
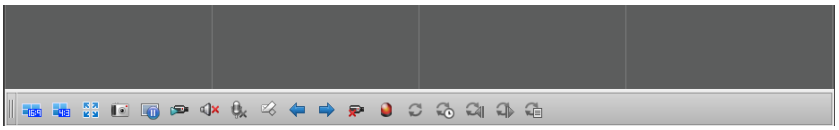
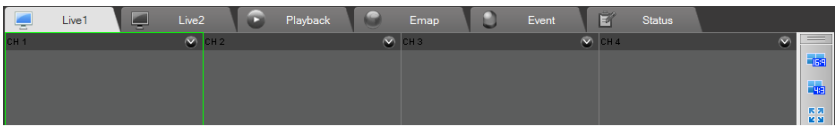
Table 13 View Toolbar

Current view mode	Keys, Button	Transition mode
Normal(Initial) view mode	Left Ctrl+Enter,	Full view mode
Full view mode	Left Ctrl+Enter,	Full view without toolbar
Full view mode	Left Alt+F4,	Normal view mode
Full view without toolbar	ESC	Full view mode
Full view without toolbar	Left Alt+F4,	Normal view mode

9.3.2 Position

The toolbar is movable (top, left, right, bottom). Left click on the moving handle and dragging it.

Table 14 Toolbar Position

Top	
Left	
Bottom	
Right	

9.3.3 Screen title and toolbar

Each screen has the screen title. The title shows the channel name and current time.

An event is occurred, the background color of the title is blinked.

The channel/layout sequence mode the time displays with remaining dwell time.

The functions of each screen toolbar button are explained in the ‘Appendix B-Toolbars’.

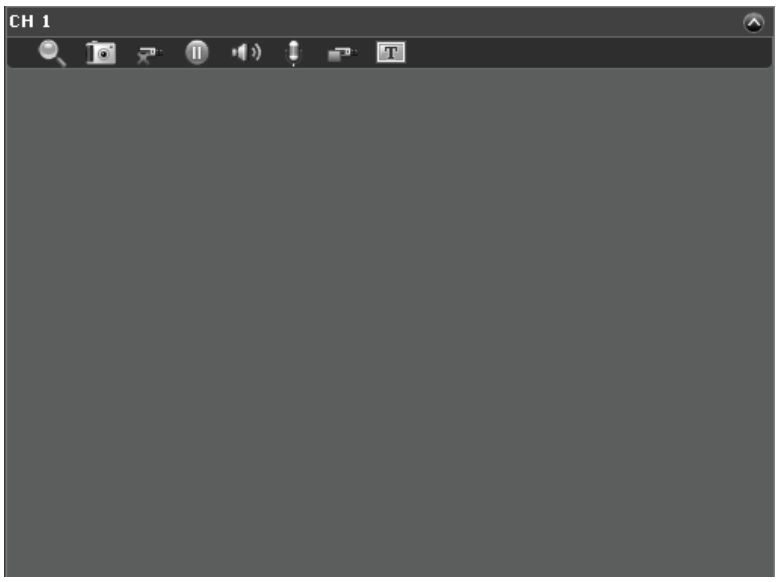


Figure 46 Live Screen Title and Toolbar

1) Show and hide screen toolbar

Click the Show toolbar button ( ) in the screen title. Then it would be changed to extended mode ( ) and screen toolbar would be appeared.

If it is clicked with Left Shift Key pressing, all screen toolbars would be shown and hidden together.

2) Digital zoom control ( )

Select the region to zoom by left mouse button clicking and dragging. The original screen would be shown in the right-bottom with PIP mode. And the zoom position is moving the region in the original screen. The zoom level is controlled by mouse wheel operation as the same way of PTZ in screen.

3) Snapshot ( )

The snapshot button is to save the screen image with original size. If the automatic snapshot is enabled, the image file would be saved the configured directory. Otherwise, the file save dialog would be opened to select the file and directory. After saving the snapshot image file, the tooltip would be shown the filename.

If it is clicked with Left shift Key pressing, all channels are saved automatically with original size.

4) Disconnect ( )

This is to close the screen. It is not the network disconnection but disconnection video/audio streams with the screen channel.

5) Freeze on/off ( )

This is to stop the video and audio streams.

6) Speaker on/off ( )

This is select audio stream.

* Please refer the device settings of audio. It is available only the case of that the device supports the audio transmission.

7) Microphone on/off ( )

This is to transmit the audio stream to the device.

* Please refer the device settings of audio. It is available only the case of that the device supports bi-directional audio stream (audio-back channel).

8) Manual recording on/off ( )

This is to start and stop recording manually. When a channel is not recording and the schedule for the device is not configured as recording time, if this is clicked, the video/audio streams would be recorded.

9) Show and hide text message ( )

This is to show and hide text message. When it is set, device and user text messages would be displayed.

9.3.4 Screen exchange

Click the left mouse button in the screen title and drag it into other screen. Then the screens would be exchanged the position. If the exchanging channel is a sequence, then the sequence would be initialized. The exchanging screen is available with any live views (Live1, Live2, Emap and Event).

9.4 Event List

Click the Event tab beside of PTZ.

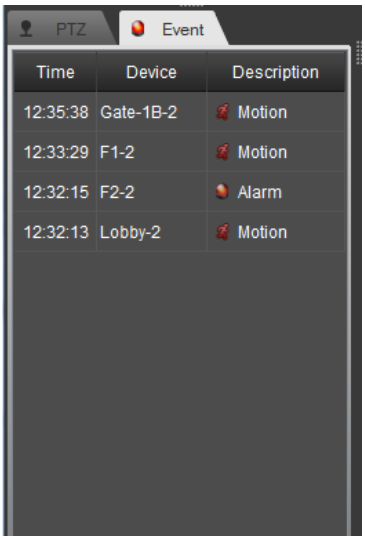


Figure 47 Event List

9.4.1 Event list

The Event list shows the real-time event information. If an event happened, it is listed with time, device name and event description and it would be highlighted.

Double-click the event item in the list or click the right mouse button and select the Open Live View from the menu. Then a window would be popped up and show the live video stream.

* The information in the Event list is not permanent.

* If the configuration is changed, the event information will be cleared.

* If the user logged out, the event list will be cleared.

* If the recording service is disconnected, the event list will be cleared.

* If the recording service records the data, the event information would be saved with video/audio. And the recorded events are able to be searched by the Event search in the playback.

Chapter 10 – Playback View

This describes how to search and replay the recorded data. It supports various searching and replaying functions.

10.1 Date and Time Search

The playback view supports a maximum of 16 channels.

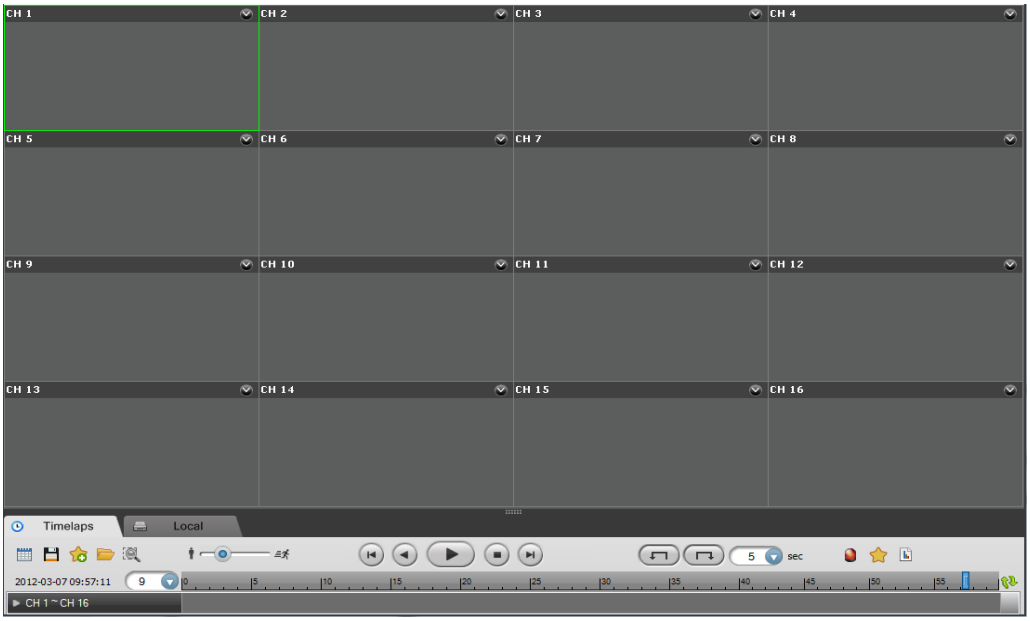


Figure 48 Playback View

10.1.1 Date and time search

① Select the Playback tab and select the ‘Time lapse’ tab from the playback control tab.

② Select a device/group/layout item from the device tree.

③ Drag it into the view screen. If you drag a layout, then split mode will revert automatically as it is configured.

④ Select the date from the calendar. If there is any recorded data, the date will be highlighted in red

⑤ Select an hour item from the list. If there is any recording date, the number will be highlighted in red.

⑥ If the date and time is selected to replay, the time table will be shown with the recorded data information from each channel.

⑦ Select the time (minutes) to replay.

10.1.2 Device group and multiple devices

If a group is dragged into a screen in the playback view then the screens would be set as the order of the devices in that group.

For example, the group has 4 devices and the dragged screen number is CH 5, then the screen 5, 6, 7 and 8 would be set as the order of the devices in the group.

For example, the group has 4 devices and the dragged screen number is CH 15, then a menu would be popped up to select which devices are to be set CH 15 ~ CH 16.

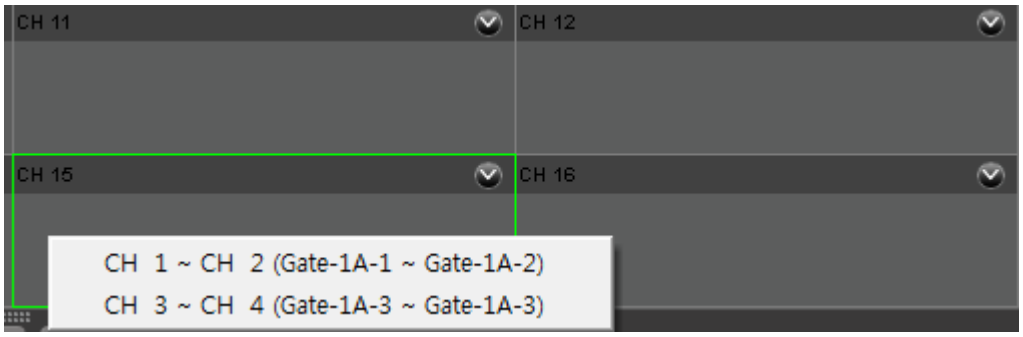


Figure 49 Device Group Playback Example

If multiple devices are dragged into a screen in playback view, then the screens would be set with the devices.

If 4 devices are selected and the dragged screen number is CH 15, then 2 devices are set in CH 15 and 16 and the others would be set in CH 1 and 2.

10.1.3 Layout

If a layout is dragged into a screen in the playback view then the screens would be set as the order of the devices in that layout. And the view would be changed as that layout.

If the layout which is dragged has more than 16 channels view, then a menu would be popped up to select which devices are to be set the screens. In that case the layout would be set as 16 channels view.

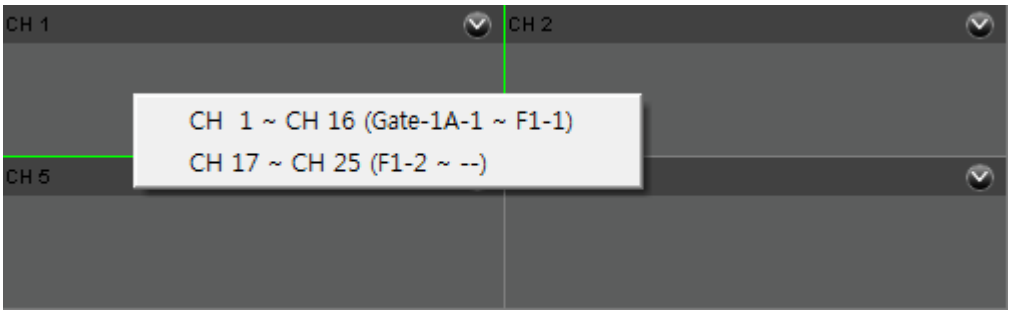


Figure 50 Layout Playback Example

10.2 Playback Controls

There are playback controls in the Timelaps tab.

10.2.1 Calendar and time combo-box

1) Calendar control

The calendar button ( ) is to select the date. The calendar window shows the dates which have the recorded data or not as red.

Double click a date which has recorded data.

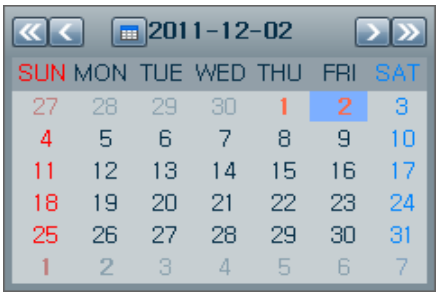


Figure 51 Playback Calendar Control

Table 15 Calendar Controls

	Previous Year		Next Month
	Previous Month		Next Year
	Today		

2) Time combo-box

Click the time combo-box. It shows 24 hours and the red color time means there is recorded data in that time. Select a time.

Figure 52 Time Combo-box

10.2.2 Export clip

Click the Export button ( ) which is to save the footage as self-executable file. Select the date and time to be exported and format.

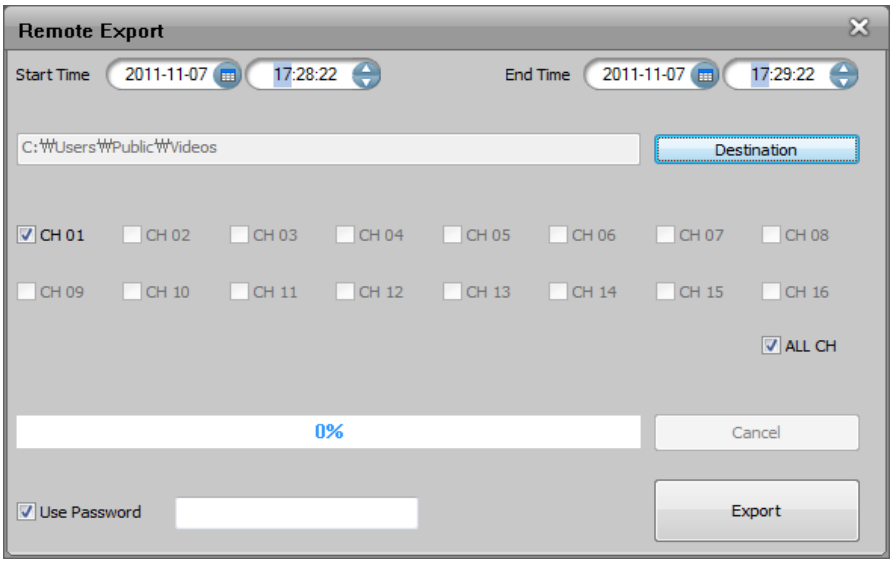


Figure 53 Remote Export

If you want to play clip-exe file before use password, check the “Use Password’ and input the password.

10.2.3 Add favorite

Click the Add Favorite button ( ) which is to add current playback time into favorite list.

And enter the favorite description.

The appended favorite is to be searched with the Favorite tab.

10.2.4 Local file open

This button ( ) is to open local HRA or REC file. Those files are made by this or recorded by the camera. The REC file MAY be made by a camera. And it MAY be exported the camera.

Click this button, then Local tab would be selected and a file open dialog would be popped up. Select a file to play (REC or HRA format).

10.2.5 Smart search

The Smart search button ( ) is to search and replay for some specific region which there is a motion object.

① Select a playback screen to do smart search. And click the Smart search button ( ).

② If you want to change the channel, select channel from the Smart search dialog.

③ Select the region to search motion object by clicking right mouse button and dragging.

④ Select the time range to search.

⑤ Select the sensitivity value. Higher sensitivity value is to detect smaller motion object. Lower value is to detect bigger motion object.

⑥ Select the replaying time and click Ok button.

⑦ The system searches recorded data which have motion object in that region and replays and produces date time list.

⑧ You can select the date and time from the list. Double click the date time.

10.2.6 Playback controls

1) Play speed control

This is to control the replaying speed. This speed control is applied only the Playing state.

The range is from x0.5 to x5.0. The speed is dependant on the system performance and load. The speed value x5.0 is not the meaning of accurate 5 times high-speed replaying.

Figure 54 Play Speed Control

2) Play controls

These are to control the playing mode. The backward playing controls show only key frames. The video encoding formats (MPEG4 and H.264) have Intra (key) frames. The image encoding format (MJPEG) has only Intra (key) frames. Thus in the case of backward playing of MJPEG, it shows all frames. But the others MAY be skipped.

The speed control is available only for the Forward playing mode.

The audio playing is available only for the Forward playing and x1.0 speed mode.

Table 16 Play Controls

Buttons	Controls
	Step backward playing with key frames
	Backward playing with key frames
	Forward playing with the speed control
	Stop playing
	Step forward playing

3) Time jump

These are to jump with the specified time combo-box value. The available time jump range is from 5 to 30 seconds. Select the time from the combo-box and click the Time jump button. The playing mode (direction and state) would be kept. And the select time would be showed.

Table 17 Time Jump

Buttons	Controls
	Jump backward as the specified time
	Jump forward as the specified time

10.2.7 Time-overlapped playing

When the system time is changed, the recording system date and time MAY be overlapped. The time table shows which time is overlapped or not. And you can select the time overlapped recorded data.

The overlapped time period would be highlighted. Click the time, you can select the time id from the combo-box.

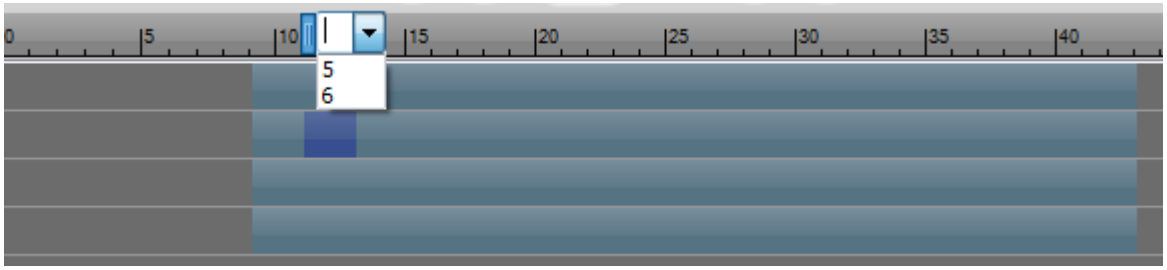


Figure 55 Time Overlapped Playing

10.3 Event Search

This is to search event data from the recording service and replay it.

Click the Event search button ( ). You can see the event search window.

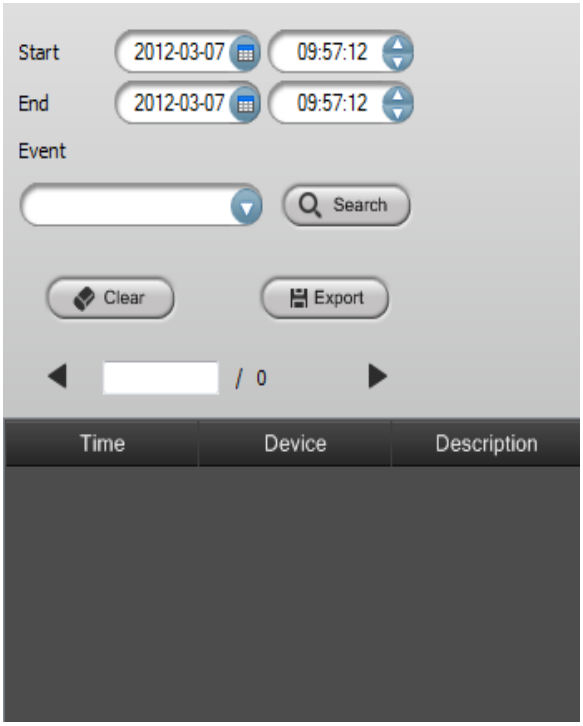


Figure 56 Event Search

10.3.1 Event search

① Click the event search button from the playback control window.

② Select a device/group/layout item in the device tree.

③ Drag it into the view screen. If you drag a layout, then split mode will revert automatically as it is configured.

④ Select the search range using the start, end, date and time.

⑤ Select the event type to search from the event list. (If it isn't selected anything, all events are searched.)

* The number of selected event items affects the length of the search time.

⑥ The result of the search event(s) will be displayed on the results page.

⑦ Select the event item to replay from the list and double-click it.

10.3.2 Export

This is to export event search result as CSV file format. The CSV file format is able to be opened with Microsoft Excel.

10.4 Favorite Search (Bookmark)

This is to search user favorite data.

Click the Event search button ( ). You can see the favorite search window.

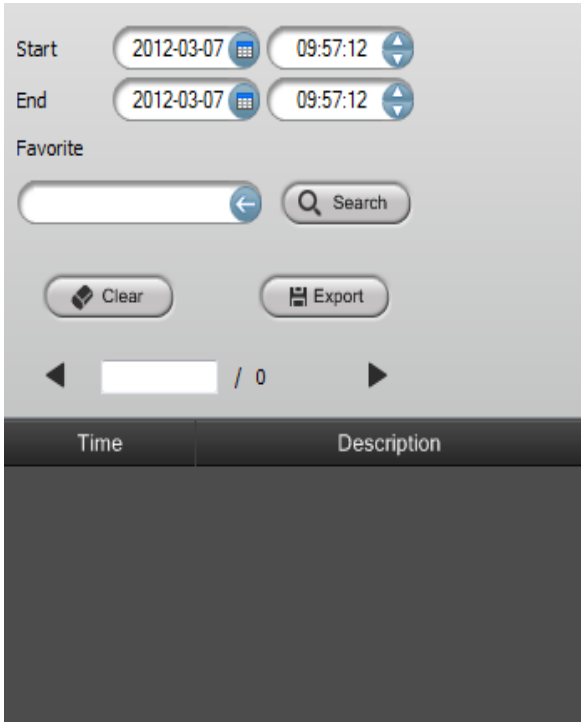


Figure 57 Favorite Search

10.4.1 Favorite search

When you replay the recorded data in the Timelaps tab, you can add favorite by clicking the Add favorite button ( ).

① Click the favorite button from the playback control window.

② Select the search range using the start, end, date and time.

③ Enter the favorite text and click the search button.

④ The result of the favorite will be displayed on the results page.

⑤ Select the favorite item to replay from the list and double-click it.

10.4.2 Remove favorites

① Select the favorite item to modify.

② Click right mouse button and select the Remove menu.

10.4.3 Export favorites

This is to export favorite search result as CSV file format. The CSV file format is able to be opened with Microsoft Excel.

10.5 Event Report

This is to make the event report.

Click the Event Report button ( ). You can see the event search window.

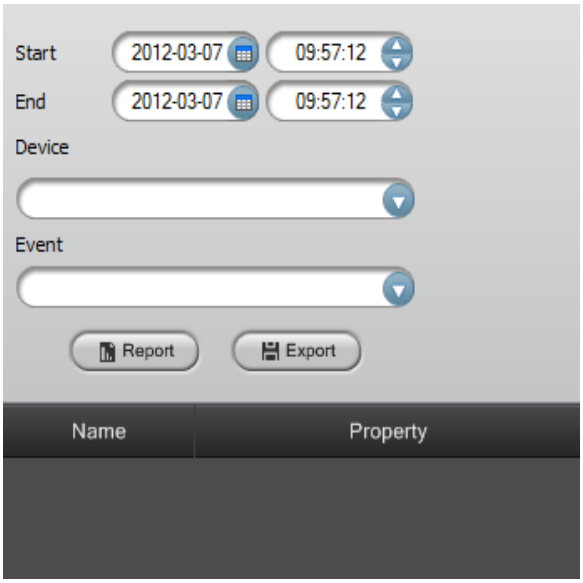


Figure 58 Event Report

10.5.1 Make event report

① Click the event report button.

② Select the search range using the start, end, date and time.

③ Check the devices to make report from the Device combo-box.

④ Check the event types from the Event combo-box.

⑤ Click the Report button. The report result would be displayed as above.

The report shows how many times happened in that period with total event count.

10.5.2 Export event report

Click the Export button to export the Event report as CSV file format. This event report based the recorded data. If a stream was not recorded, then there is no event data to be reported.

10.6 Local File Playback

This is to replay the HRA and REC file which are stored in the local HDD.

Click the Local tab.

Figure 59 Local File Playback

10.6.1 Local file open

Click the File open button ( ). This is to open HRA or REC file format.

If there is any problem while opening the file, the message would be shown. While opening that file, it checks which has any file error or not.

The REC file is exported file from the network camera or device.

10.6.2 Export clip

This is to export clip from the original file.

Click the Export button ( ) which is to save the footage as self-executable file or AVI format. Select the date and time to be exported and format.

10.6.3 Smart search

Please refer the ‘10.2.5 Smart search’.

10.6.4 Play controls

Please refer the ’10.2.6 Play controls’.

10.6.3 Event search

Please refer the ’10.3.1 Event search’.

10.7 Playback Toolbar

The Playback view has view toolbar. It’s similar with the ‘9.3 Live Toolbar’.

10.7.1 View toolbar

The functions of each button in the toolbar are explained in ‘Appendix B - Toolbars’.

And the full screen mode is the same with ‘9.3.1 View toolbar’.

10.7.2 Position

Please refer the ‘9.3.2 Position’.

The split bar of the Playback view is for resizing the view. Click the right mouse button and dragging, the playback view controls would be resized. Double click it, it would be minimized or restored the position.

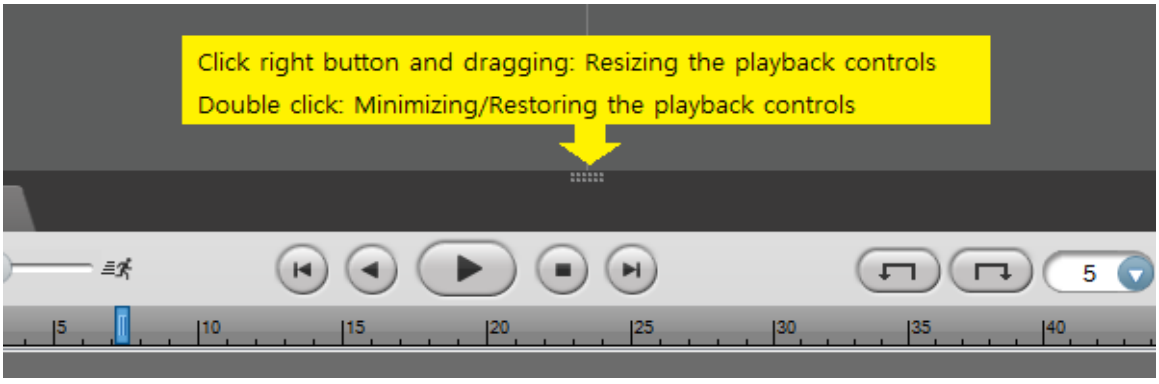


Figure 60 Playback View Split Control

10.7.3 Screen title and toolbar

Please refer the ‘9.3.3 Screen title and toolbar’. The title shows the channel name and replaying time.

If an event was recorded in the replaying time, the background color of the title would be blinked. (This works only x0.5, x1.0, x2.0 playing speed and forward playing mode.)

The functions of each screen toolbar button are explained in the ‘Appendix B-Toolbars’.

Figure 61 Playback Screen Title and Toolbar

1) Show and hide screen toolbar

Click the Show toolbar button ( ) in the screen title. Then it would be changed to extended mode ( ) and screen toolbar would be appeared.

If it is clicked with Left Shift Key pressing, all screen toolbars would be shown and hidden together.

2) Digital zoom control ( )

Select the region to zoom by left mouse button clicking and dragging. The original screen would be shown in the right-bottom with PIP mode. And the zoom position is moving the region in the original screen. The zoom level is controlled by mouse wheel operation as the same way of PTZ in screen.

3) Snapshot ( )

The snapshot button is to save the screen image with original size. If the automatic snapshot is enabled, the image file would be saved the configured directory. Otherwise, the file save dialog would be opened to select the file and directory. After saving the snapshot image file, the tooltip would be shown the filename.

If it is clicked with Left shift Key pressing, all channels are saved automatically with original size.

4) Disconnect ( )

This is to remove the screen channel from the replaying mode. It’s only available for recording service replaying mode.

5) Speaker on/off ( )

This is to enable audio decoding and sound if there is audio data. This works only x0.5 playing speed and forward playing mode.

Chapter 11 – Device Playback

This describes how to search and replay the recorded data from External NVR/DVR devices.

11.1 Date and Time Search

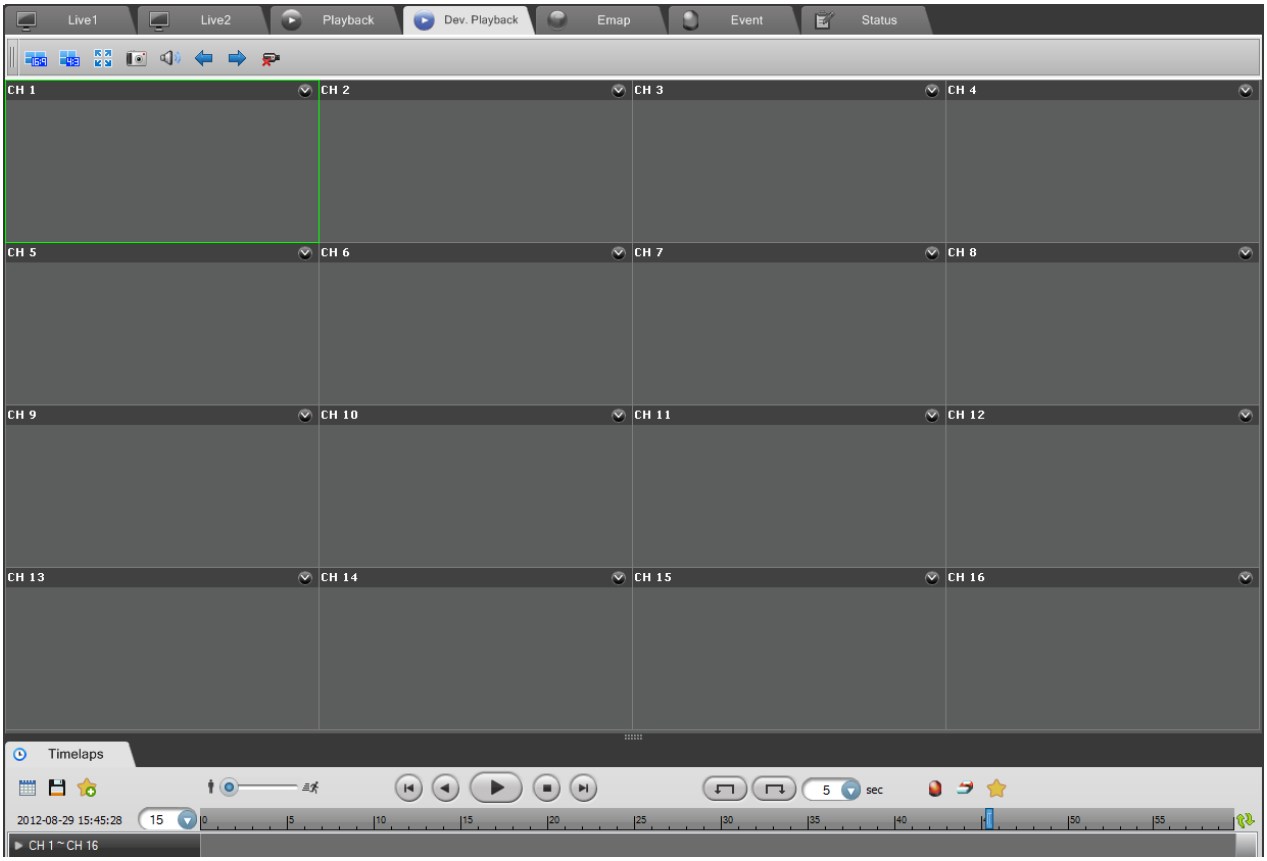


Figure 62 Device Playback

The playback view support a maximum of 16 channels.
Device Playback support the External NVR/DVR devices only.

11.1.1 Date and time search.

NVR playback date and time search is same to ‘Playback View’ date and time search. Please refer the ‘10.1.1 – Date and time search’.

11.2 Playback Controls

There are NVR playback controls in the Timelaps tab.

‘Calendar control’ and ‘Export clip’ control is same to ‘Chapter 10. Playback view’ .

Please refer the ’10.2.1 – Calendar and time combo-box’ and ’10.2.2 – Export clip’.

11.3 Event Search

This is to search event data from the recording service and replay it.

‘Event search’ is same to ‘Chapter 10. Playback View’

Please refer the ’10.3 – Event Search’.

11.4 Text-In Search

Click the Show Text-In button ( ). You can see the Text-In search window.

The NVR maintains a log of each time the text-in data is detected. The Text-In Search screen displays this list. You can select the event for which you would like to see video.

You can search video from the first to last recorded images, or you can set the start and stop times and dates.

Inactivating the First and Last box will allow the user to manually change the time to be searched.

Once you set your desired search conditions, click the (Search) button to display the search results. Refer to “Appendix 5.6 Text-In Search” for more information.

Clicking an event list for which you would like to see video. The NVR will

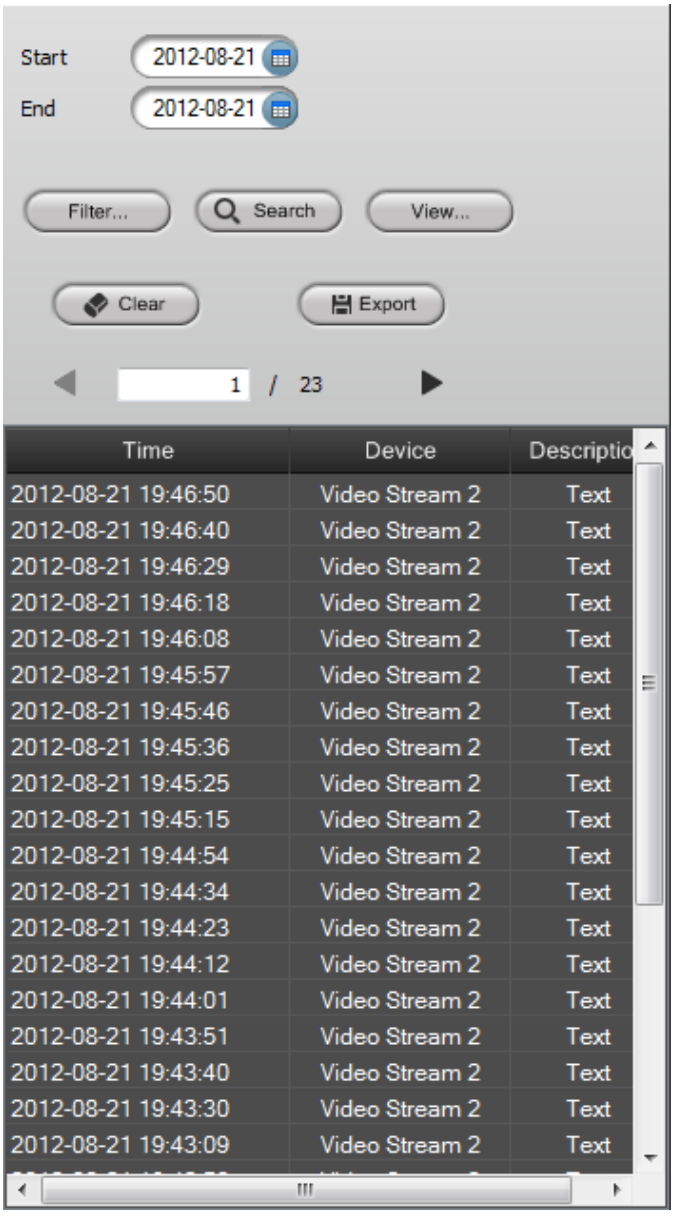


Figure 63 Text-In Search

extract the event video and display the first image of the event. Pressing the PLAY, ▶ button will start playing the “text-in” video segment.

You can see the detail text-in data by clicking (View...) button to show pop-up window.

Figure 64 Text-In View

And also, you can click the

(Filter...) button to show the Filter Window.

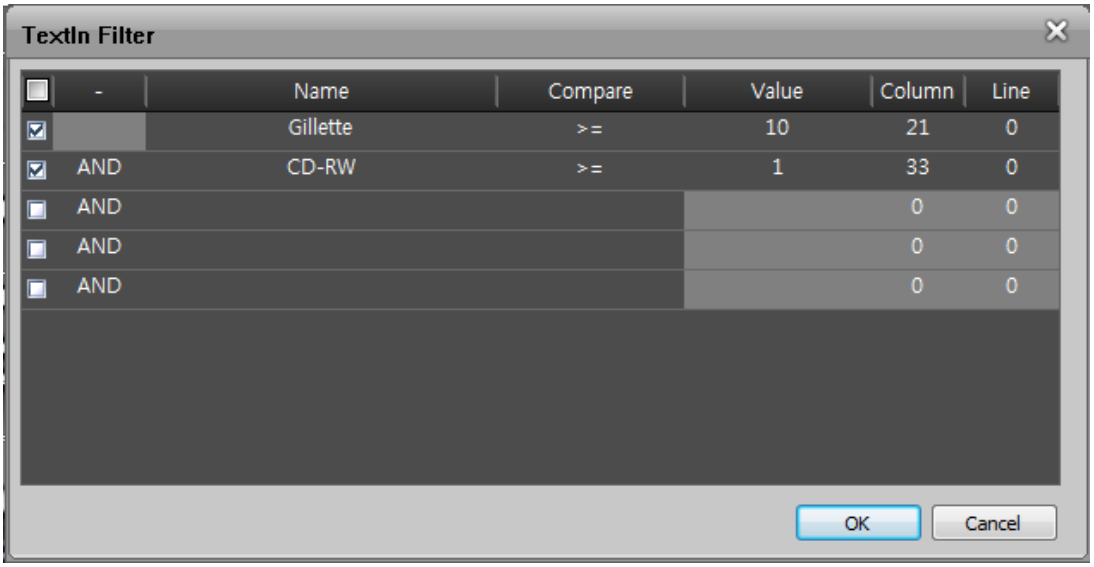


Figure 65 Text-In Filter

```
12345678901234567890123456789012345678901234567890123456789012345678901234567890

   Item                    Price           Qty             amount
-------------------------------------------------------------------------
Gillette Foamy     | $       10.1 |        1 | $             10.1
CD-RW              | $        5.1 |        1 | $              5.1
Coke               | $        2.2 |        2 | $              4.4
```

In the above text-in data, you can find that the comparison value is located at 21th (Price), 33th(Qty), and 45th(amount) characters (including spaces) from the left. In this case, you can enter "21", "33" and "45" in each column box. For example, if you want to search for Gillete with a Price over $10 and CD-RW with an Qty of more than 1, the following search condition can be set.

Chapter 12 – Emap View

This describes how to operate the Emap view and functions. It supports multi-layered Emap view. 36 maps are able to be loaded in the Emap View at the same time. Each map MAY have link(s) of other map(s) and sensor(s).

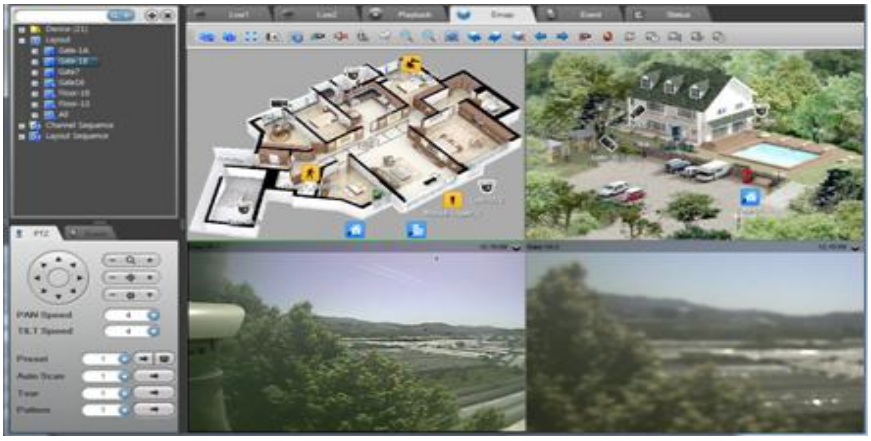


Figure 66 Emap View

12.1 Emap View

To design Emap, please refer the '3.6 System Setup – Emap'.

Click the Emap tab. The Emap view has all functions of Live1 except layout view. The layout view shows the Emap.

12.1.1 Emap and live view

1) Emap view

① Select a layout from the device tree.

② Click left mouse button and drag it into a screen in the Emap view.

③ If the map was designed for that layout, then the map would be shown. Otherwise, it shows default map background and devices.

2) Live view from map

① Select a device from the map.

② Click left mouse button and drag it into a screen in the Live1, Live2 and Emap view.

③ The screen would be set with the device and live stream would be shown.

④ You can select multiple devices by Left shift pressing and clicking the devices or dragging area in the map. The selected item would be highlighted.

12.1.2 Popup view

① Select a device or sensor from the map.

② Click right mouse button, select the Open Live View from the menu.

③ A window would be popped up and shows the live stream.

12.1.3 Manual trigger

① Select a sensor from the map.

② Click right mouse button. If it was designed as the Manual trigger button, select the Trigger from the menu.

③ You MAY check the operation from the Event tab or list.

12.1.4 Open link

① Select a link from the map.

② Double click it.

③ The map would be changed to the selected link.

④ Select a link from the map. Click left mouse button and drag it into a screen in the Emap view.

⑤ The map would be shown at the screen.

12.1.5 Event notification on a map

When an event is occurred, the device and sensor item would be blinked. And a layout link which includes that device or sensor would be blinked, too.

12.2 Emap Toolbar

The Emap view has view toolbar. It’s similar with the ‘9.3 Live Toolbar’.

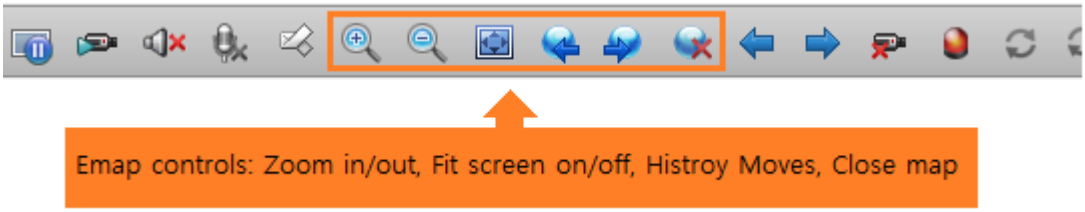


Figure 67 Emap Toolbar

12.2.1 View toolbar

The functions of each button in the toolbar are explained in ‘Appendix B - Toolbars’.

And the full screen mode is the same with ‘9.3.1 View toolbar’.

12.2.2 Position

Please refer the ‘9.3.2 Position’.

12.2.3 Map controls

Map controls are available in the popup menu of a map. Click right mouse button on the background of a map. You can select menu from the popup menu.

1) Zoom

The background image would be zoomed in and out with these controls.

Table 18 Emap Zoom Controls

Buttons	Controls
	Zoom in
	Zoom out
	Fit screen on/off

2) History of the links

You may open a link from the map. These are to move the history of the links in a map.

Table 19 Emap Zoom Controls

Button	Control	Button	Control
	Previous map		Next map

3) Close

Select a map to close from the Emap view. Click the Close Emap button ( ). If you click this with Left Ctrl key pressing, then all maps would be closed.

4) Mouse move mode

Click right mouse button on the background of a map. Select the Mouse Move Mode from the popup menu.

This is to select mouse operation. If it is checked, mouse dragging is to move the map. Otherwise, it is to select the devices in the map.

Chapter 13 – Event View

This describes the Event view. The Event view has similar functions of the Live view. The different thing is that the event layout would be popped up automatically if the event is set. Please refer the ‘4.1 Event Setup – Device’.

Click the Event tab.

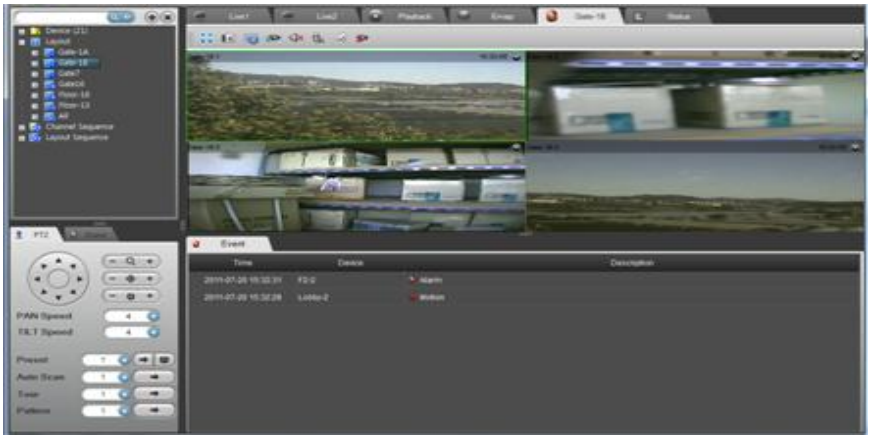


Figure 68 Event View

13.1 Event View

The Event view has the event screens and the event list. The event screens have similar functions of the Live except sequence controls, split controls and event channel setting.

You can drag devices, layout and sequences. The split mode is able to be controlled by the key pressing. Please refer the ‘Appendix D-Keys’.

If value of the event displaying dwell time is the Infinite, then the event layout would be shown continuously. But if the other event is occurred and it was set to show the other layout, then it would be switched. Even though the other event is occurred, if the displaying layout time is not over 5 seconds, it would not be switched. In that case, the event would be listed.

12.1.1 Toolbar control

Please refer the ‘9.3.1 View toolbar’ and ‘10.7.2 Position’.

12.1.2 Screen title and toolbar

Please refer the ‘9.3.3 Screen title and toolbar’.

13.2 Event Toolbar

There is no split mode and sequence controls in the Event view toolbar. The other functions are same with the Live view toolbar. Please refer the ‘9.3 Live toolbar’.

13.3 Event List

Please refer the ‘9.4 Event List’. This is the same with the Event list beside of the PTZ tab’. It shows event date and time, device and description.

Chapter 14 – Status View

The Status tab is to show device and system status and to get system/event log of devices.

Click the Status tab.

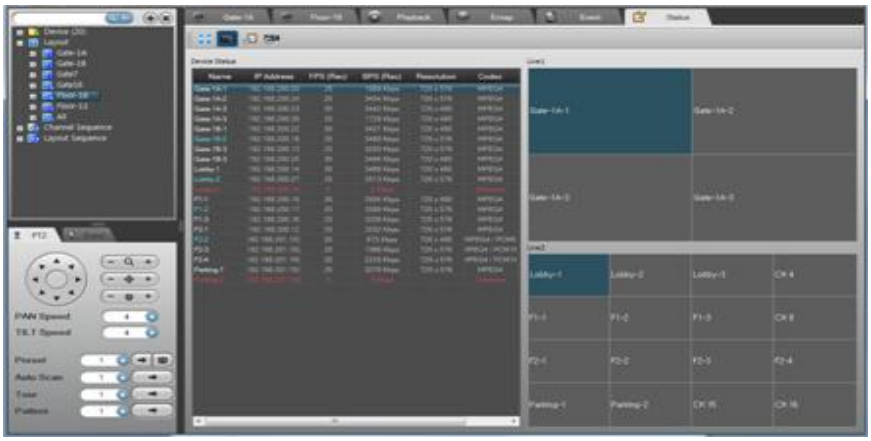


Figure 69 Status View

14.1 Status Toolbar

The status toolbar is to select status view mode.

Figure 70 Status Toolbar

There are view selection buttons and a full screen mode button.

This view doesn't support the full screen mode without toolbar.

Table 20 Status Toolbar Buttons

Buttons	Controls
	Full Screen

	Device Status and Live1, Live2 Layout
	System Status and Monitoring/Recording Service Logs
	Device System/Event Log View

14.2 Device Status

The device status is to show the device connection, video and audio information and recording status. The Live1 and Live2 is to show what device is located in the view.

14.2.1 Device status table

Click the Device Status button ( ) in the toolbar.

The Device status table shows the device status information. The device status would be updated in a few seconds. The updating period is dependant on the system performance. Thus it MAY be not correct in some time.

The frame rate and bit rate information is calculated by the recording service. It MAY be differ from the monitoring service.

Double click the device in the table, a window would be popped up and shows live stream.

Table 21 Device Status Table

Column	Description
Name	Device Name and Connection Status
IP Address	Device IP Address
FPS (Rec)	FPS which recording service is receiving
BPS (Rec)	BPS which recording service is receiving
Resolution	Video Resolution (width x height)
Codec	Video and Audio codec
Recording	Recording Status

Each row of device status table shows the connection status by the text color.

Table 22 Device Status Table Text Colors

Field	Color	Description
Name	White	Connected
	Blue	Event
	Red	Disconnected
Others	White	Recording
	Gray	Not Recording
	Red	Disconnected

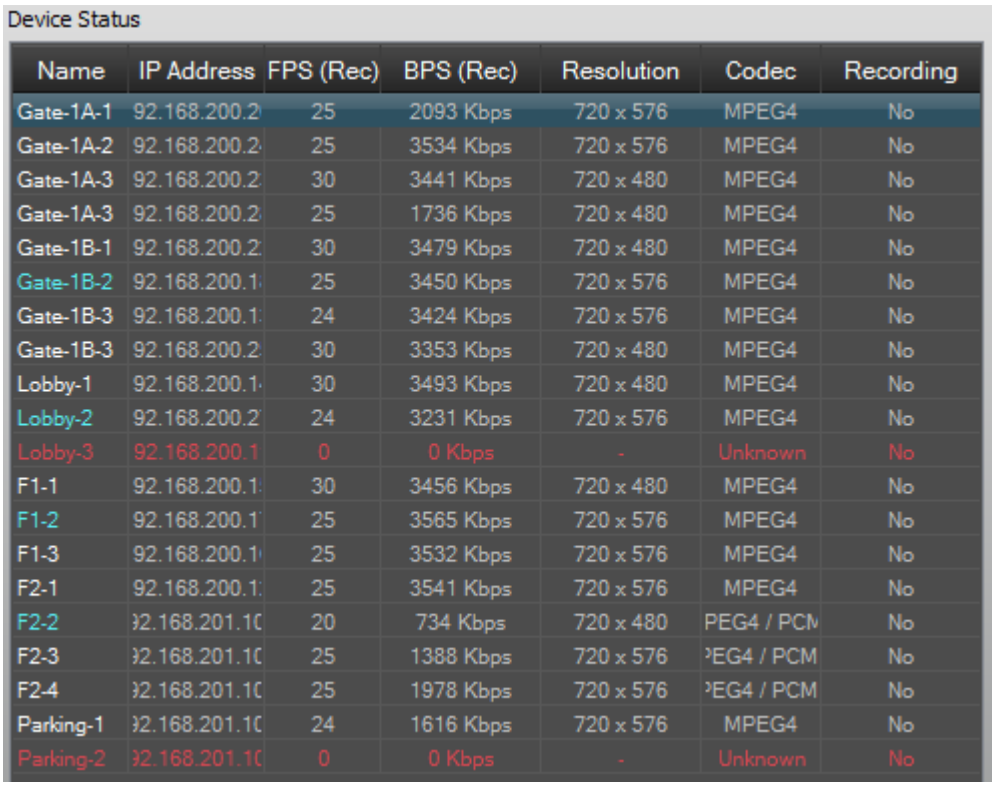


Figure 71 Device Status Table

14.2.2 Live1, Live2 split modes

The Device status view shows the split modes of Live1 and Live2 with assigned device name.

If you click the channel in the Live1 and Live2, the selected channel would be marked in split mode of the device status view.

If you click the channel in the split mode of the device status view, the channel would be selected in Live1 and Live2. And the channel would be highlighted in the status table.

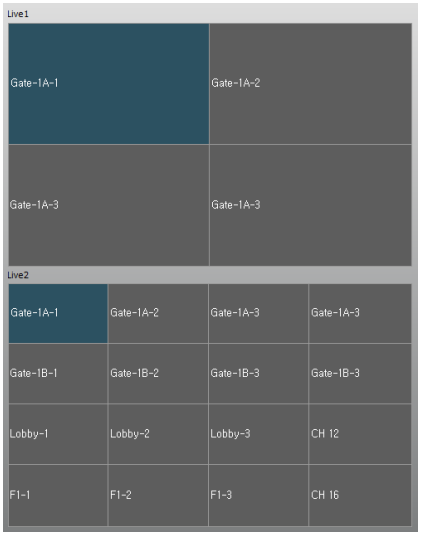


Figure 72 Split Status

Double click the channel in the split status, then a window would be popped up and shows a live stream.

14.3 System Status

Click the System Status button ( ) in the status toolbar.

It shows usages of the system resources and system logs.

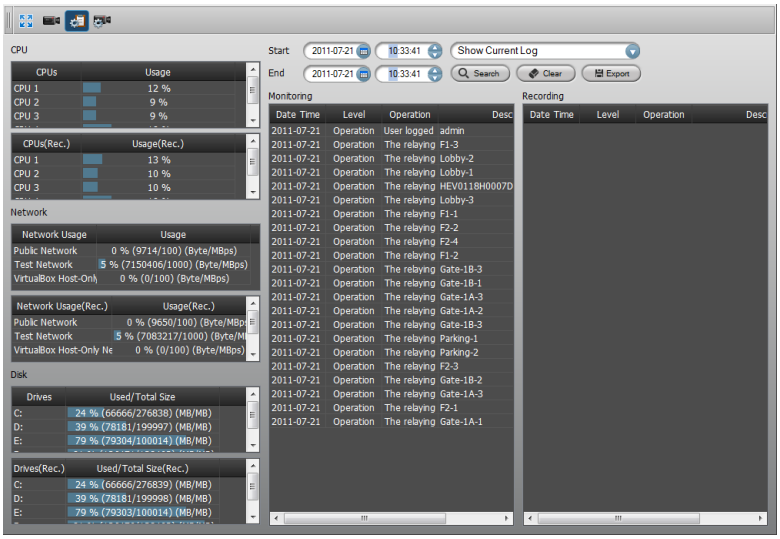


Figure 73 System Status

14.3.1 Usages

The CPU, Network and Disk usages show the total CPU usages of the system which monitoring and recording services are running.

14.3.2 Monitoring and recording service logs

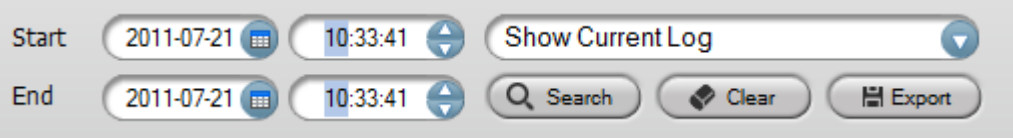


Figure 74 System Log Filter

1) Show current log

Select the Show Current Log from the combo-box.

It would clear the search results and shows system logs.

2) Log search

① Select the searching range with start and end.

② Select the Log type from the combo-box.

③ Click the Search button.

④ The logs would be searched and displayed. If the logs are more than 500, a page combo-box would be displayed to select.

The color of the log shows the log level, Operation, Critical, Warning and Error.

Click the column header (Date and time, Level, Operation, and Description), then the result would be sorted.

3) Export

Click the Export button to export current displayed log as CSV file format.

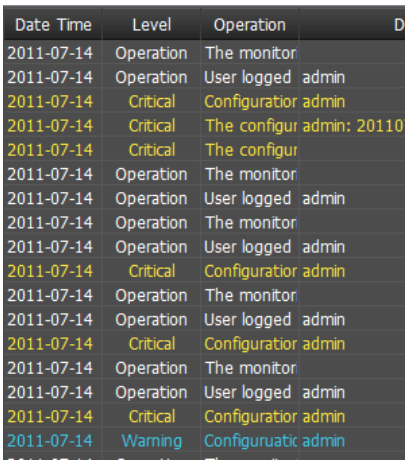


Figure 75 Log Search Result

14.4 Device System/Event Logs

Click the Device System/Event Log button ( ) in the toolbar.

This is to get and export device system and event logs.

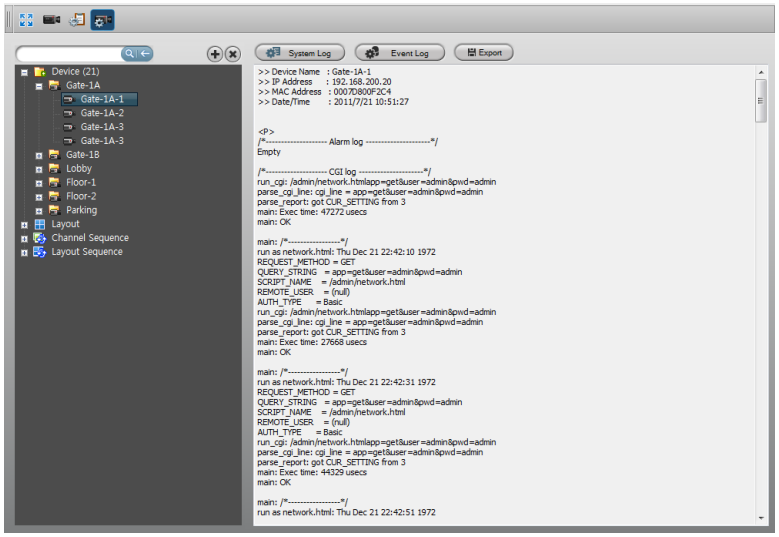


Figure 76 Device System/Event Log

① Select a device from the device tree which MUST be connected.

② Click the System Log button or Event Log button.

③ The log from the device would be displayed in the viewer.

④ Click the Export button, it would be saved as TXT file format.

Appendix A-Specification

Application/Version	REVO REMOTE PRO HD/1.0.0.0
Recording	
Number of Channels	64
Total Recording Bitrate	128Mbps (32 x 4Mbps)
Resolution	1080p, 720p, XGA, D1, VGA, QCIF, QVGA
Modes	Weekly Schedule, Special Day Schedule, Manual, Event-Relay
Special Day	12
Pre/Post-Recording	60 sec/ 180 sec
Retention Time	1 day ~ 1 Year
HDD	Internal/External HDD
Overwriting	Yes
Video/Audio	Yes (H264, MPEG4, MJPEG/G.711, G.726, PCM, AAC)
Live View	
View Modes	Live1, Live2, Emap, Event, Popup
Split Modes	4:3 mode,16:9 mode
Digital Zoom	Yes
PTZ	PTZ Panel, USB Joystick, PTZ in Screen
Audio	Yes (Multi-Selective Audio)
Channel/Layout Sequence	Yes (Unlimited)
Event View	Channel/Layout Popup and List View
Screen Exchange	Yes
Snapshot Mode	Automatic, Manual Save
Snapshot Format	BMP, JPEG, PNG
Aspect Ratio	Yes
Event Notification	Yes
Playback View	
Channel	16
Date Time Search	Yes
Event Search	Yes
Text-In Search(Device Playback)	Yes
Time Jump	5 ~ 30 sec
Play Speed	x0.5, x1.0, x2.0, x3.0, x4.0, x5.0
Step Playing	Forward/Backward
Event Report	Bar Chart by Event Type
Split Modes	4:3 mode(1, 4, 7, 9, 13, 16), 16:9 mode (12)
Event Notification	Yes
Local File Playback	Yes
Export Footage	Yes (Self-Executable/AVI)
Emap View	
Configuration	Include (Camera/Sensor/Manual Trigger/Link)
Event Notification	Yes
Popup View	Yes
Multiple Emap	Yes (maximum 64 Emap on a screen)
Emap Control	Zoom/History List/Fit Screen
User Emap Image	Yes (Camera/Sensor/Manual Trigger/Link)
Event View	
Device Event Actions	Recording/PTZ Move/Manual Trigger/Sound/ Run External Application/SMTP/Event Relay
Real-time Event Notification	Yes
Popup Live View	Channel/Layout with Dwell Time (5 sec ~ Unlimited)
Status View	

Status Modes	Device Status/System Status/Device Log
Device Status	Live1/Live2 Layout mapped Status, Recording/Connection/Event Status
System Status	CPU/Network/Disk Usage, Real-time System Log, Log Search
System Log Search	Monitoring Service/Recording Service Log
Device Log	Yes
Log Export Format	Excel (csv), Text (txt)
Functions	
Live Update	Yes
System Lock/Unlock	Yes
Automatic Login	Yes
Restoration	Yes
OSD Control	Yes
User Management	Yes
Authority Level	Administrator/User
User Assignment	Yes
Language	Export/Import
Video Output Mode	YV12/YUY2/RGB32/RGB565/RGB555
Device Remote Setup	Yes
System Remote Setup	Yes
Device Searching Query	Yes
Device Discovery	Yes
Full Screen Mode	2 Stages (Full Screen with/without Toolbar)
Hot keys	Split mode control/Split group control/Snapshot

* Specifications are subject to change without notice

Appendix B-Toolbars

Application/Version	REVO REMOTE PRO HD /1.0.0.0
Live1/Live2 View	
	Wide 16:9 Split Mode (12, 20, 24)
	Standard 4:3 Split Mode (1, 4, 7, 9, 13, 16, 21, 25, 33, 36)
	Full Screen
	Snapshot
	Freeze
	Manual Record Off/On
	Speaker Mute On/Off
	Microphone Mute On/Off
	Disconnect All Devices
	Previous Split Group
	Next Split Group
	Text Message Input
	Set/Reset Event Channel
	Sequence Mode Status/Off
	Sequence Timer On/Off
	Previous Sequence View Point
	Next Sequence View Point
	Sequence View Point List
Playback View	
	Wide 16:9 Split Mode (12)
	Standard 4:3 Split Mode (1, 4, 7, 9, 13, 16)
	Full Screen
	Snapshot
	Speaker Mute On/Off
	Delete All Playback Devices
Emap View	
	Wide 16:9 Split Mode (12, 20, 24)
	Standard 4:3 Split Mode (1, 4, 7, 9, 13, 16, 21, 25, 33, 36)

	Full Screen
	Snapshot
	Freeze
	Manual Record Off/On
	Speaker Mute On/Off
	Microphone Mute On/Off
	Disconnect All Devices
	Previous Split Group
	Next Split Group
	Text Message Input
	Emap Zoom In
	Emap Zoom Out
	Emap Fit Screen
	Previous Emap in History
	Next Emap in History
	Close Emap
	Set/Reset Event Channel
	Sequence Mode Status/Off
	Sequence Timer On/Off
	Previous Sequence View Point
	Next Sequence View Point
	Sequence View Point List
Event View	
	Full Screen
	Snapshot
	Freeze
	Manual Record Off/On
	Speaker Mute On/Off
	Microphone Mute On/Off
	Disconnect All Devices
	Text Message Input

Status View	
	Full Screen
	Device Status
	System Status
	Device System/Event Log
Screen Toolbar	
	Show/Hide Screen Toolbar
	Move Left/Right Screen Toolbar
	Digital Zoom
	Screen Snapshot
	Disconnect Channel
	Freeze On/Off
	Audio On/Off
	Speaker On/Off
	Manual Recording On/Off
	Show/Hide Screen Text

Appendix C-Directories

C:\ProgramData\NCTitanium (Windows 7)	
MonitoringService	Service configurations
Emap	Emap images and samples
Languages	Language ini files
Logs	Monitoring service logs and old configurations
Recording Service	Service configurations
Logs	Recording service logs
RecordingIndex	Recording data index
Users	User configurations
Shared	Common information
C:\Users\{User Name}\My Pictures	
REVO REMOTE PRO HD	Default snapshot directory

Appendix D-Keys

Live1, Live2, Event, Playback, Emap	
Page Up	Split Mode Changing (Decreasing Mode)
Page Down	Split Mode Changing (Increasing Mode)
Home	Split Group Changing (Circular Decreasing Mode)
End	Split Group Changing (Circular Increasing Mode)
Left Ctrl + Enter	Full Screen/Full Screen Without Toolbar
ESC	Full Screen Without Toolbar -> Full Screen with Toolbar
Left Alt + F4	Close Full Screen Mode
Print Screen	Select Screen Snapshot
Left Shift + Print Screen	All Screens Snapshot
Left Ctrl + Emap Close Button	Close All Maps

Appendix E-Messages and Logs

Messages	How to do
OLE initialization failed. Make sure that the OLE libraries are the correct version.	Install Microsoft .Net framework
Windows sockets initialization failure.	Check and reinstall network device driver
Please check the storage space of the recording service.	Increase disk size in the system setup. Please refer the '3.4 System Setup – Disk' - Overwriting failure or disk full.
The recording service is disconnected by another remote setup. Otherwise the service might be stopped.	The setup may be changed by the other system, it would be tried to reconnect automatically. Please check the service status in the system.
Please enter the user password.	User password is needed
The relaying stream is connected successfully	Recording service starts to relay live stream to monitoring system
No registered channel sequence group. Please add a channel sequence group.	Please add a channel sequence group. Please refer the '3.7 System Setup – Sequence'.
No registered layout sequence group. Please add a layout sequence group.	Please add a layout sequence group. Please refer the '3.7 System Setup – Sequence'.
Please enter a user ID.	Enter user ID
This user is already registered.	Try other user ID
Relay connection is failed.	Recording service fails to relay live stream.
There is no selected device. Please select a device.	Select a device from the device tree.
The updating version information file may have problem. It's not available.	The updating server is not accessible. Or the information file is not accessible. Please contact system administrator or installer
An error is occurred while getting the updating information file from the server.	Live updating information file is not accessible. Please contact system administrator or installer.
An error is occurred while getting and reading the version information file from the server.	Live updating version information file is not accessible. Please contact system administrator or installer.
An error is occurred while creating the updating file in the local disk drive.	File creation is failed. Please check the user authority and disk space.
An error is occurred while getting revision history file from the updating server.	Live updating revision history file is not accessible. Please contact system administrator or installer.
An error is occurred while getting the updating file from the server. Or it may be aborted.	The server might be disconnected while updating. Otherwise it was aborted. Try it again. And check the site.
No configuration server	Configuration may be corrupted. Otherwise check the recording service which is running or not.
There is no registered recording server.	Check the recording service which is running or not. Otherwise, the network firewall might be blocked to access. Please check the firewall of the system.
The monitoring service is being closed.	The monitoring service is being closed. Please wait until closed.
Deleting device playback information...	Please wait while handshaking of playback data and channel with the recording service.
This was terminated abnormally at the last time. Do you want to restore the last connection?	The last time the monitoring service was aborted or corrupted.
This file is not able to open. An error was occurred while opening this file.	Please try with other files.
An error is occurred while getting recording data. There may be no recorded data of the selected device(s).	Please check the recording status and recording disk drive and recording database.
Please set the correct searching time.	Check the searching time range.

The searching end time must be later than the start time.	
There is no selected event. Please select (an) event(s) from the list.	Check the event type from the combo-box.
An error was occurred while reading the Emap user image file. Please check the file and size. The image width must be multiply of 28 and the height must be 84.	Please refer the '3.6 System Setup – Emap'.
The CPU usage is more than 95%. The system may not work properly.	The CPU usage of monitoring system is more than 95%. The system may not work properly. Please check monitoring and playback devices and disconnect some of them.