

Versatile H.264 DVR

OSD Setup Manual

Version 1.4

Table of Contents

Menu System Overview	6
< Username and Password >.....	6
< Key Usage >	7
Key Usage in OSD Menu	7
Key Usage in Virtual Keyboard.....	7
System Setup	9
< System/Version Info >	9
Model Name	9
Video System	9
Hardware.....	9
Software	9
MAC Address 1	10
Software Upgrade Via Local Device	10
Software Upgrade Via Internet	10
< Language >	11
< Date/Time >	11
Date / Time	11
Time Zone	12
Date/Time Display	12
Date Display Mode	12
Time Display Mode.....	12
Date/Time Order.....	13
Daylight Saving Time Setup	13
- Daylight Saving Time	13
- DST Start / End	13
- DST Bias	13
Network Time Protocol Setup.....	13
- NTP Server	14
- Automatically Time Sync	14
- Manually Time Sync.....	14
< Unit Name >	14
< User Management >	15
Password Protection	15
Account Setup.....	15
Authority Setup.....	16
Load Default Setting.....	16
< Network Setup >	17
LAN Select	17

LAN Setup	17
- DHCP	18
- IP	18
- Netmask	18
- Gateway	18
- DNS	19
- PPPoE Account	19
- PPPoE Password	20
- PPPoE Max Idle	20
- Connect At Booting	20
- Network Restart	20
Trigger Port	20
Email Address	20
SMTP Setup	21
- Email Via SMTP	21
- SMTP Server	21
- SMTP Port	22
- SMTP Account	22
- SMTP Password	22
DDNS Setup	22
- Enable DDNS	23
- Host Name	23
- DDNS Port	23
- Submit/Update	24
- ezDDNS	24
< RS485 Setup >	24
Unit ID	24
Baud Rate	24
Bits	25
Stop	25
Parity	25
< Audio Output/Key Beep >	25
Audio Output	25
Key Beep	25
Split Mode Audio	25
<IP Camera Support>	26
Monitor Setup	27
< Show Camera Title >	27
< Screen Center Adjust >	27
< VGA Resolution >	27

< Show Color Bar >	27
Camera Setup	28
< Analog Camera >	28
Analog Camera Select	28
Dome Protocol.....	28
Dome ID	28
Camera Title	28
Covert.....	29
Brightness	29
Contrast.....	29
Saturation.....	29
Hue.....	29
<IP Camera>.....	30
IP Camera Select	30
IP Camera Title.....	30
Hostname/IP.....	31
Model	31
Connection Setup.....	31
- Account.....	31
- Password	31
- Management Port	31
- Streaming Format	31
- Advance Streaming Options.....	31
- Streaming Port	32
- Streaming Protocol.....	32
- IP Dome Protocol.....	32
Device Setup	32
- Product ID.....	33
- Image Resolution/ FPS/ Compression/ Quality	33
- Sharpness/ Brightness/ Contrast/ Saturation/ Hue.....	33
- Apply	33
Activated.....	34
Status	34
Record Setup	35
< Record Mode Setup >	35
Record Resolution.....	35
Record Format	35
Max Rec. PPS.....	36
CBR/VBR	36
< Schedule Setup >	36

Day / Night Time Start / End	36
Weekend Schedule	37
Weekend Start / End.....	37
< Preset Record Configuration >.....	37
< Per Camera Config >	38
Camera Select.....	38
Normal PPS.....	38
Normal Qlty	38
Event Max PPS	38
Event Qlty.....	39
Event Active.....	39
< ezRecord Setup >	39
< Data Lifetime >.....	40
< Circular Recording >	40
< Audio Recording >.....	40
< Purge Data >.....	41
Purge All Data	41
Purge All Event Data	41
Purge Event Before	41
Start To Purge.....	41
Sequence Setup	42
< Main / Call Monitor Dwell >	42
< Main / Call Monitor Schedule >	42
Event Setup	43
< Internal Buzzer >	43
< Event Icon >	43
< Email Notice >	43
< Email Attachment >	44
< Event Full Screen >.....	44
< Event Duration >	44
< Per Channel Config >.....	44
Channel Select	44
Video Loss Detect	45
Motion Detect	45
Motion Detect Indicator	45
Detection Config.....	45
- Detected Area Setup.....	45
- Sensitivity.....	46
- Block Threshold	46
Alarm In.....	46

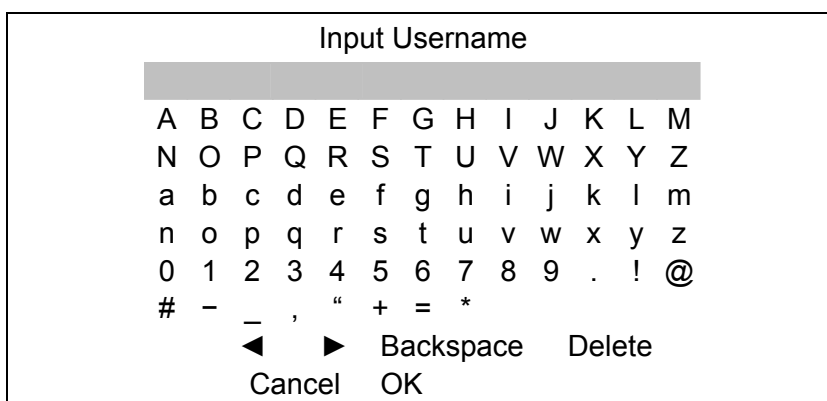
Alarm Out	46
Database Setup	47
< Total / Free Size >	47
< Avail. Rec Time >	47
< Internal Disks >	47
Configuration	49
< Load Factory Default >	49
< Import Config >	49
< Export Config >	50
Copy Destination	50
Config Name	50
Begin Export	50
Shutdown	51
< Power Off >	51
< Reboot >	51
Appendix A: ezRecord Diagram Samples	52
Appendix B: Record Duration	55
Appendix C: DVRPlayer	58
Appendix D: Operating USB Mouse on the DVR	63
Appendix E: HDD Copy Tool (EXT2IFS)	64

Menu System Overview

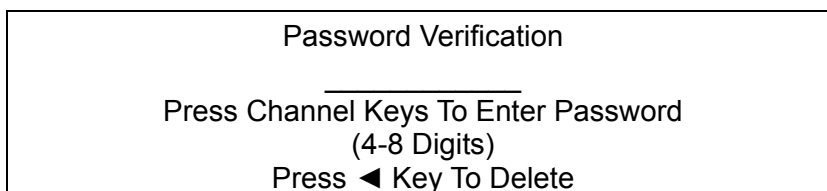
The detailed functions and settings of **Versatile H.264 DVR** can be set by entering the intuitive Graphical User Interface (GUI) OSD setup menu. Collaborating with a USB mouse, setting up the DVR can be easy as operating on a PC. This chapter particularizes the items and options in the OSD setup menu.


< Username and Password >

Press MENU and input a valid username. There are two preset accounts: “admin” and “user”. The default username “admin” can be inputted via pressing the hot key MENU, while “user” can be inputted via pressing the hot key SEARCH. Move to <OK> and press ENTER to proceed.



The next step is to enter a corresponding password. The preset password for “admin” is “1234”, and the password “4321” is for “user”.



 **NOTE:** It is strongly suggested to change the preset password to prevent unauthorized access to the DVR.

An icon displayed at the upper-right corner of the screen will show the authority level of the account. Under logout condition, the icon will show “N”. When an account is logged in, its authority level number (1~8) will be shown.

Before completely logout, other functions can also be accessed without having to login again. There are two ways to logout: manually logout by pressing ESC key at Live mode, or auto logout after 5 minutes idle time at Live/ Menu mode.

< Key Usage >

The key usage differs under the OSD menu and in the Virtual keyboard. The difference can be seen while setting some items, such as DVR Name and IP Address.

■ *Key Usage in OSD Menu*

The following introduce some keys used frequently to setup the DVR via the OSD menu.

<Direction Keys>

In the OSD menu, Direction Keys are used to move the cursor to previous or next fields. UP / DOWN are used to change the value in the selected field.

<ENTER>

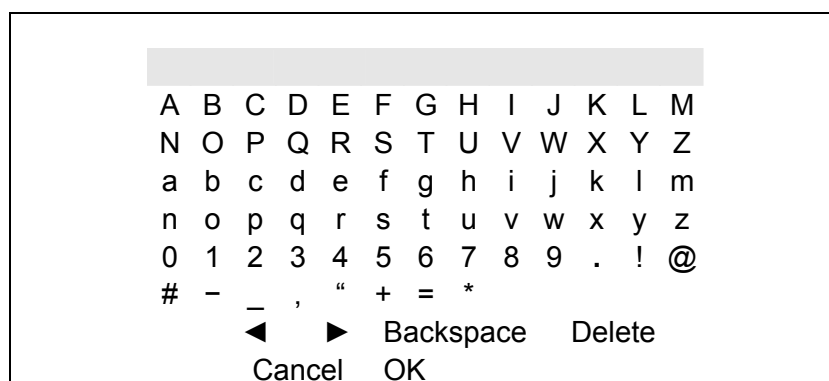
In OSD menu or selection interface, press the key to make selection or save settings.

<ESC>

Press to cancel or exit from certain OSD menu without saving any changes.

■ *Key Usage in Virtual Keyboard*

A virtual keyboard shows up while editing settings such as camera title, DVR name, etc. The virtual keyboard displays as follows.



<To input characters>

Move the cursor by pressing Direction keys and press ENTER to select characters. Alternatively, press channel keys 1~9 to directly enter number 1~9, press channel key 10 to directly enter number 0, or press "CALL" key to directly enter a period mark ".". The hot keys are for speeding up inputs of IP addresses or etc.

<To move the cursor in entry field>

Select <◀> / <▶> and press ENTER to move the cursor to left / right in the entry field.

<To delete previous character>

Select <Backspace> and press ENTER, or press DOME.

<To delete current character>

Select <Delete> and press ENTER..

<To exit the virtual keyboard>

Select <OK> and press ENTER to save the settings and exit, otherwise press ESC or select <Cancel> and press ENTER to exit without saving changes.

System Setup

Select <System Setup> from the Main Menu and press ENTER to enter the System Setup menu. The items in the System Setup menu are described in the following sections.

System Setup	
System/Version Info	
Language	English
Date/Time	
DVR Name	DVR
User Management	
Network Setup	
RS485 Setup	
Audio Output/Key Beep	
IP Camera Support	0

< System/Version Info >

The System/Version Info menu allows users to view system information such as hardware and software version. From the System Setup menu, select <System/Version Info> and press ENTER. The following menu is displayed. The first five items are “read only”, thus CANNOT be changed. The items in this menu are described in the following subsections.

System/Version Info	
Model Name	****
Video System	NTSC
Hardware	**_**_**
Software	****_****_****_****
MAC Address 1	**.*.*.*.*.*.*.*.*
Software Upgrade Via Local Device	
Software Upgrade Via Internet	

■ **Model Name**

This item shows the model name of the DVR.

■ **Video System**

This item shows the current video system of the DVR.

■ **Hardware**

This item shows the hardware version of the DVR.

■ **Software**

This item shows the software version installed on the DVR.

■ **MAC Address 1**

This item identifies the first Media Access Control (MAC) address of the DVR.


■ **Software Upgrade Via Local Device**


This item is used for updating software of the **Versatile H.264 DVR** via local device. The menu is displayed as follows.

Software Upgrade via Local Device	
Upgrade Version	Select
XXXX-XXXX-XXXX-XXXX	No

Connect an USB storage device containing upgrade software to the DVR; the available upgrade files will be listed in the menu. To update the system, select a file and use UP / DOWN keys to choose <Yes>. Press ENTER to confirm the selection and start the upgrade process. The **Versatile H.264 DVR** will download the software, update the system files, and reboot automatically.


The upgrade may take several minutes to save the changes in the memory of the system. After the DVR is rebooted, please check the software version again.

 **NOTE:** Power interruption is **NOT** allowed during the software update. Ensure that no power interruption can occur until the DVR is completely rebooted.

 **NOTE:** Do not remove the external USB ThumbDrive / DVD+RW before the DVR has completely shutdown (hard drive and fan are off). Removing the external USB ThumbDrive / DVD+RW before shutdown can cause the system to update improperly.

■ **Software Upgrade Via Internet**

The item is used to upgrade the unit's software via the internet. Select one of the listed software versions and choose <Yes>. The **Versatile H.264 DVR** will download the software, update the system files, and reboot automatically.

 **NOTE:** This menu item is only available in **8CH** and **16CH** models.

< Language >

The Language item allows users to select the language for the OSD menu and screen messages. Language selection takes effect immediately when the selection is made. Press UP / DOWN to select from listed languages and press ENTER to confirm.

< Date/Time >

Users can set the current date, time and other OSD parameters in this menu. Login using account with proper privilege to enter the submenu. In System Setup menu, select <Date/Time> and press ENTER. The Date/Time menu displays as follows.

Date/Time	
Date	2008/02/21
Time	PM10:39:26
Time Zone	OFF
Date/Time Display	1 Row
Date Display Mode	Y/M/D
Time Display Mode	12 HR
Date/Time Order	Date First
Daylight Saving Time Setup	
Network Time Protocol Setup	



NOTE: The reset of date / time setting only applies to new video. The date and time of previously recorded video will not be changed.



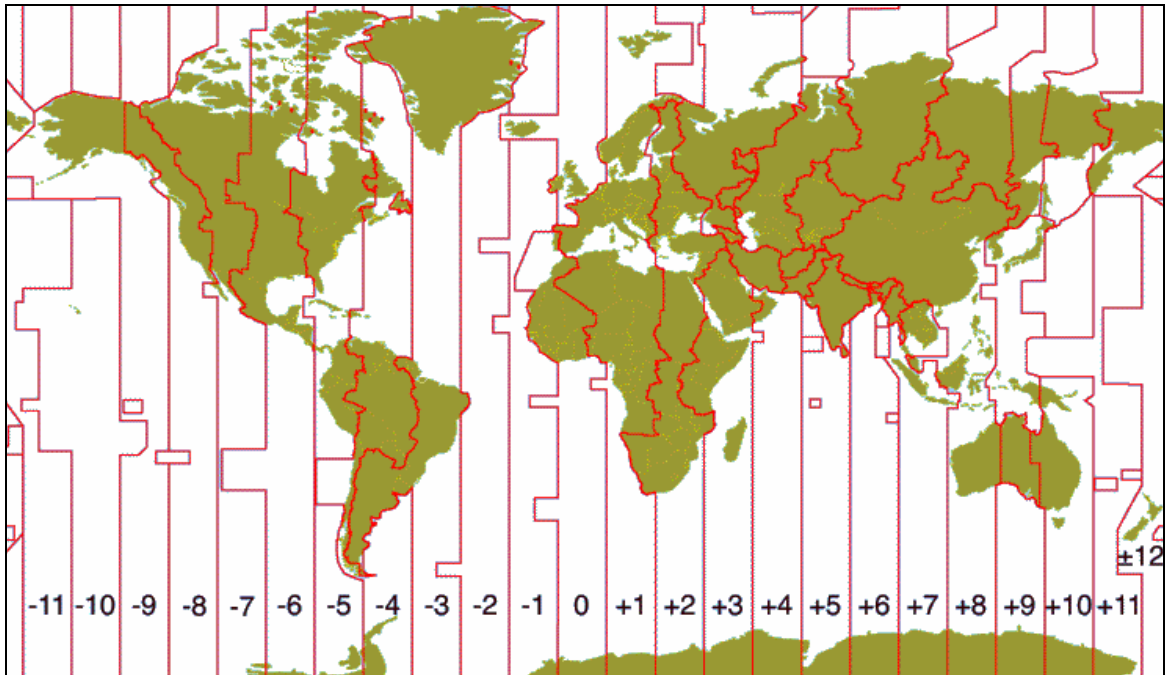
NOTE: To avoid database corruption, formatting the database is recommended after changing Date/Time setting.

■ **Date / Time**

Select <Date> or <Time> and press ENTER to adjust the settings. LEFT / RIGHT keys are used to move the cursor to previous or next field, ENTER is for selecting, and UP / DOWN are used to change the value in the selected field.

■ **Time Zone**

Press ENTER to set users' local time zone. Please refer to the following figure or visit www.greenwichmeantime.com to find out users' local time zone.



NOTE: <Time Zone> must be set to users' local time zone or the <Network Time Protocol Setup> will not be accessible.

■ **Date/Time Display**

The date/time display can be set to be shown in 1 row, 2 rows, or not shown. Use the UP / DOWN keys to change the setting.

■ **Date Display Mode**

This menu allows users to set the display type of the date. Three options are provided: <Y/M/D>, <M/D/Y> or <D/M/Y>. “Y” represents “Year”, “M” represents “Month” and “D” represents “Day”. Use UP / DOWN keys to change the setting.

■ **Time Display Mode**

Users can set the time format to <12 hour> or <24 hour>. Use the UP / DOWN keys to change the format.

■ **Date/Time Order**

This item is used to set the order of Date/Time display to <Date First> or <Time First>. Select this item and press UP / DOWN keys to change the setting.

■ **Daylight Saving Time Setup**

This function is for people who live in certain regions to observe Daylight Saving Time. The menu displays as follows:

Daylight Saving Time Setup	
Daylight Saving Time	OFF
DST Start	Apr. 1 st Sun, 02:00
DST End	Oct. Last Sun, 02:00
DST Bias	60 Min

- **Daylight Saving Time**

Select <ON> to enable, or <OFF> to disable the function. If the function is disabled, the DST Start / End time and DST Bias will be grayed out and cannot be accessed. If this function is enabled, the date/time information will be shown on the screen with a DST icon when playing back recorded video or searching video in the event list. “S” indicates summer time and “W” indicates winter time.

- **DST Start / End**

These items are used to set duration of daylight saving time. Use LEFT / RIGHT to move the cursor to the previous or next field, UP / DOWN to change the settings.

- **DST Bias**

This item allows users to set the amount of time to move forward from the standard time for daylight saving time. Available options are <30>, <60>, <90> and <120> minutes.

■ **Network Time Protocol Setup**

After time zone is set, the <Network Time Protocol Setup> option will be available.

Network Time Protocol Setup	
NTP Server	time.nist.gov
Automatically Time Sync	ON
Manually Time Sync	No

- **NTP Server**

Enter this item to setup a feasible time server. The default time server is time.nist.gov. Users can change it to any other time server if desired. IP addresses of other time servers are listed below for reference.

129.6.15.28	129.6.15.29	132.163.4.101
132.163.4.102	132.163.4.103	128.138.140.44
192.43.244.18	131.107.1.10	69.25.96.13
206.246.118.250	208.184.49.9	64.125.78.85
207.200.81.113	64.236.96.53	68.216.79.113

- **Automatically Time Sync**

Select <ON> and the time will be synced once an hour.

- **Manually Time Sync**

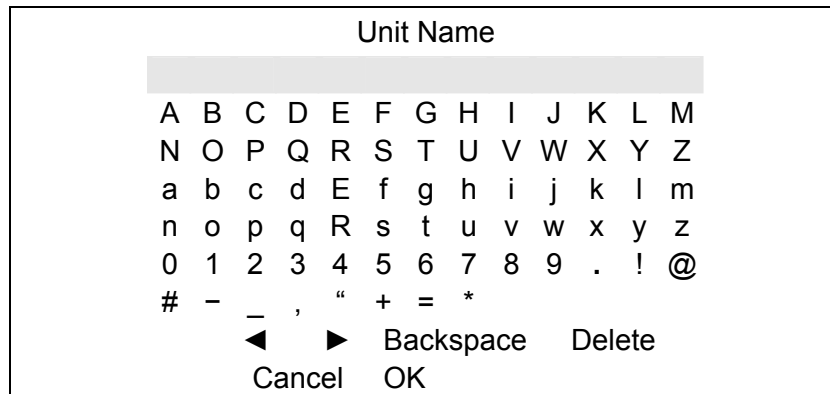
Select <Yes> to sync the time immediately.

< Unit Name >

Users are allowed to assign a unit name, up to 11 characters, to the **Versatile H.264 DVR**.

Follow the steps below to edit the unit name.

- Select <Unit Name> from System Setup menu and press ENTER. A virtual keyboard displays as below.



- Use Direction keys to move the cursor to the wanted character.
- Press ENTER to add the character to the entry field (up to 11 characters).
- When the unit name is entered, move the cursor to <OK> and press ENTER to save the settings and exit.

< User Management >

The DVR provides the option to create up to seven sets of usernames and passwords with customized authority, excluding the preset “admin” account. The menu is as the following.

User Management	
Password Protection	ON
Account Setup	
Authority Setup	
Load Default Setting	No

■ Password Protection

Select <ON> to request for username and password for accessing functions listed in Authority Setup menu, or select <OFF> to allow free access.

■ Account Setup

Setup customized username, password, and authority level in this menu. Press Direction keys and ENTER to select items. The username(ID) is case sensitive. The authority level ranks from level 1~8, and level 8 has highest authority. Alternatively, select <Disable> to stop using the account.

Account Setup			
Account	ID	PWD	Authority
admin	Edit	Edit	Level 8
user	Edit	Edit	Level 4
user2	Edit	Edit	Level 4
user3	Edit	Edit	Level 4
user4	Edit	Edit	Level 4
user5	Edit	Edit	Level 4
user6	Edit	Edit	Level 4
user7	Edit	Edit	Level 4



NOTE: The username and authority level of the preset “admin” account cannot be changed.

■ **Authority Setup**

Setup permitted authority level for accessing the functions listed in this menu. The functions include: Playback/Search, Dome Control, Call Control, Export Data, Menu Access, System Setup, Monitor Setup, Camera Setup, Record Setup, Sequence Setup, Event Setup, Database Setup, Configuration and Shutdown. Press Direction keys and ENTER to select from items. The authority level ranks from level 1~8, and level 8 has highest authority. Alternatively, select <Disable> to allow free access.

Authority Setup	
FIRST PAGE	
Item	Authority
Playback/Search	Level 4
Dome Control	Level 4
Call Control	Level 4
Export Data	Level 4
Menu Access	Level 4
System Setup	Level 4
Monitor Setup	Level 4
Camera Setup	Level 4
Record Setup	Level 4



NOTE: The “Menu Access” cannot be set to <Disable>.

When the account does not have authority to access certain functions, an error message will be displayed on the screen.

■ **Load Default Setting**

This item is for restoring the default settings. Select <Yes> to load default setting or select <No> to exit.

< Network Setup >

The Network Setup menu allows users with proper privilege to configure the network by specifying the network related settings, such as IP address and Netmask, etc. Check with the network administrator and/or network service provider for more specific information. The menu is as the following. Items in this menu are described in the following sections.

Network Setup	
LAN Select	LAN
LAN Setup	
Trigger Port	80
Email Address	
SMTP Setup	
DDNS Setup	

■ LAN Select

This item allows users to select the network type among <LAN>, <PPPoE>, and <None>. If the internet connection is a local area network communication, please select <LAN>. If the internet connection is a broadband medium, such as DSL Line or cable modem, please select <PPPoE>.

PPPoE stands for Point-to-Point Protocol over Ethernet. It is a specification for connecting the users on an Ethernet to the Internet through a common broadband medium.

If <None> is selected, then there is no need to set further LAN or PPPoE settings. Therefore, the second item <LAN Setup> will be inaccessible.

■ LAN Setup

The network related settings in the LAN Setup menu should be associated with the network service type. Select <LAN Setup> in Network Setup menu and press ENTER to set the parameters. The menu displays as follows.

LAN Setup	
DHCP	OFF
IP	192.168.1.150
Netmask	255.255.255.0
Gateway	192.168.1.1
DNS	0.0.0.0
PPPoE Account	
PPPoE Password	
PPPoE Max Idle	35min
Connect At Booting	Yes
Network Restart	No

- **DHCP**

This item allows users to obtain a dynamic IP address from DHCP (Dynamic Host Configuration Protocol) server when the DVR boots up. When using DHCP, the settings are dynamic and will change every time the DVR power on or off, depending on the network's setup.

If the item is enabled (ON), a dynamic IP will be assigned to **Versatile H.264 DVR**. In this case, users do not need to set a static IP and the Ethernet settings, including IP address, Netmask, Gateway, and DNS settings will be read-only.

If the DVR is using a permanent address, disable DHCP (OFF) to manually set IP Address, Netmask, Gateway, and DNS. See the network system administrators or IT personnel for appropriate values.

- **IP**

This item is used to configure the IP (Internet Protocol) address of the DVR. The IP address is the identifier for the DVR on a TCP/IP LAN. Please note that to set a static IP address, DHCP must be set to <OFF>.

- **Netmask**

A netmask is a 32-bit mask used to divide an IP address into subnets and specify the networks available hosts. Its value is defined by the network administrator. It takes the form as *****.***.***.*****, for example, 255.255.255.255.

This item allows users to enter the value of the Netmask for the DVR. Please note that to configure this item, DHCP must be set to <OFF>.

- **Gateway**

Gateway is a node on a network that serves as an entrance to another network. Users are allowed to specify the IP address of the gateway or router associated with this DVR. To configure this item, DHCP must be set to <OFF>.

- **PPPoE Password**

The item allows users to setup the PPPoE password. Follow these steps to setup the login password.

- Select <PPPoE Password> from LAN Setup menu and press ENTER. A virtual keyboard displays.
- Use Direction keys to select from characters.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the setting and exit.

- **PPPoE Max Idle**

The item indicates the duration that the modem connection remains active if there is no acknowledgement from the remote PC. Users can select the idle time from 0 to 600 minutes.

- **Connect At Booting**

The DVR is allowed to automatically connect to the internet when booting up. Select <Yes> to connect at booting, otherwise select <No>.

- **Network Restart**

Network restart is required after network settings are changed. Select <Yes> to restart the network connection.

■ **Trigger Port**

To avoid the default service port (port 80) being jammed, this item enables users to change port 80 to another port.

To change the trigger port, move the cursor over <Trigger Port> and press ENTER, then adjust the setting by UP / DOWN keys.

■ **Email Address**

This item is used to edit the e-mail address where alarm event information will be sent. Follow these steps to setup the e-mail address.

- Select <Email Address> from Network Setup menu and press ENTER. A virtual keyboard displays.
- Use Direction keys to move the cursor for selecting from characters.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

■ SMTP Setup

Simple Mail Transfer Protocol (SMTP), a protocol for sending e-mail messages between servers. SMTP is a relatively simple, text-based protocol that one or more recipients of a message are specified and the message text is transferred.

Select < SMTP Setup> from Network Setup menu and press ENTER; the menu displays as follows.

SMTP Setup	
Email Via SMTP	ON
SMTP Server	
SMTP Port	25
SMTP Account	
SMTP Password	

- Email Via SMTP

The item enables users to determine if the DVR sends e-mail via SMTP. Select <ON> to send e-mail via SMTP using direction keys; if not, select <OFF>.

- SMTP Server

This item enables users to set the SMTP server. Contact the network service provider for more specific information.

Follow the steps to setup the SMTP Server.

- Select <SMTP Server> from SMTP Setup menu and press ENTER. A virtual keyboard displays.

SMTP Server													
A	B	C	D	E	F	G	H	I	J	K	L	M	
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	
a	b	c	d	e	f	g	h	i	j	k	l	m	
n	o	p	q	r	s	t	u	v	w	x	y	z	
0	1	2	3	4	5	6	7	8	9	.	!	@	
#	-	_	,	"	+	=	*						
◀		▶		Backspace				Delete					
Cancel				OK									

- Use Direction keys to move the cursor to the desired character.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

- **SMTP Port**

The item is used to change SMTP port to another port, if necessary. SMTP usually is implemented to operate over Internet port 25.

To change the SMTP port, move the cursor to <SMTP Port> in SMTP Setup menu and press ENTER. Use UP / DOWN keys to change the values.

- **SMTP Account**

The item allows users to setup the SMTP username. Follow these steps to setup the login username.

- Select <SMTP Account> from SMTP Setup menu and press ENTER. A virtual keyboard displays.
- Use Direction keys to move the cursor for selecting from characters.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

- **SMTP Password**

The item allows users to setup the SMTP password. Follow these steps to setup the password.

- Select <SMTP password> from SMTP Setup menu and press ENTER. A virtual keyboard displays.
- Use Direction keys to move the cursor for selecting from characters.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

■ **DDNS Setup**

Dynamic Domain Name System (DDNS) allows a DNS name to be constantly synchronized with a dynamic IP address. In other words, it allows those using a dynamic IP address to be associated to a static domain name so others can connect to it by the domain name.

Once the setting is completed, the DDNS address will be:

<http://hostname.ddns.iview-ddns.com>

Fore example, if the chosen host name is "H264DVR", then the address will be:

<http://H264DVR.ddns.iview-ddns.com>

Select <DDNS Setup> from Network Setup and press ENTER. The menu displays as below.

DDNS Setup	
Enable DDNS	ON
Host Name	XXXX_XXXXXX
DDNS Port	80
Submit/Update	No
ezDDNS	No

- Enable DDNS

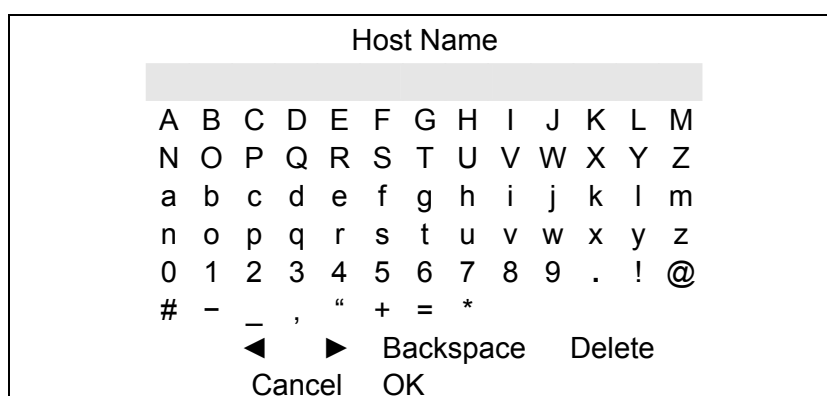
The item is used to enable or disable the Dynamic Domain Name Service. Select <ON> to enable the service, or <OFF> to disable.

- Host Name

The item allows users to setup a domain name, which is used for entering the **Versatile H.264 DVR** through internet on the remote PC.

To setup the host name of the DVR, follow the steps.

- Select <Host Name> from DDNS Setup menu and press ENTER. A virtual keyboard displays as below.



- Use Direction keys to select character.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.



NOTE: Each **Versatile H.264 DVR** should have a unique host name.

- DDNS Port

The item allows users to setup the port for DDNS. Press UP / DOWN Direction keys to change the port.

- **Submit/Update**

When the settings are finished, move the cursor to this item and select <Yes> to submit the settings.



NOTE: If more than one **Versatile H.264 DVR** has the same domain name, only the first one will be submitted successfully.

- **ezDDNS**

ezDDNS enables the users to register for host name automatically. Press ENTER and select <Yes>. The following screen will be displayed:

ezDDNS Submit/update ok!
Host name is XXXX_XXXXXX
Press any key to return



NOTE: The DVR must be connected to the *Real IP address, or be assigned a specific port using **Port Forwarding technique.

*A "**Real IP**" is an IP address that is assigned to users by the ISP.

A "Virtual IP**" is an IP address assigned either manually or through DHCP. When users are assigned a Virtual IP, users must use **Port Forwarding** technique to assign a specific port to DVR.

< RS485 Setup >

This menu allows users to setup the parameters of the DVR's RS-485 communication port. From System Setup, select <RS485 Setup> and press ENTER. The following menu is displayed.

RS485 Setup	
Unit ID	224
Baud Rate	9600
Bits	8
Stop	1
Parity	None

■ **Unit ID**

This item is used to change the RS-485 ID address of the DVR. The ID is in the range of <1> to <255>.

■ **Baud Rate**

The Baud rate options for associated with the protocol are <2400>, <4800>, <9600>, <19200>, <38400> and <57600>.

■ **Bits**

Users can specify the bits in a word associated with this protocol. The available options are <6>, <7> and <8> bits.

■ **Stop**

Users can specify the stop bit associated with this protocol. Options are <1> and <2> stop bits.

■ **Parity**

This item is used to specify the parity associated with this protocol. Options are <ODD>, <EVEN> and <None>.

< Audio Output/Key Beep >

Enter this menu to setup the audio output or key beep.

Audio Output/Key Beep	
Audio Output	OFF
Key Beep	ON
Split Mode Audio	OFF

■ **Audio Output**

This item is for setting the audio output mode. The audio will be outputted when the monitor shows a chosen channel in full screen. The available options are as below.

<Live/PB>: Select this option to play the recording sounds of live image in live mode, and sounds of recorded video in playback mode respectively.

<Always Live>: Select this option to play live sounds in both live mode and playback mode.

<OFF>: Select this option to disable the audio output function.

■ **Key Beep**

This item is used to enable or disable the key tone. Select <ON> to enable the key tone, or <OFF> to disable.

■ **Split Mode Audio**

This item allows users to select and output the audio of the selected channel while viewing multiple channels. Select <CH1> through <CH16> to output the preferred audio, or select <OFF> to disable audio output in multiple window viewing modes.

<IP Camera Support>

Enter this item to add IP cameras to the DVR. Setting this item to <0> will make DVR act as a traditional analog DVR. Select any other number to allow the corresponding connection of IP cameras to the DVR.

After a number is selected, the following message will be displayed. Press ENTER to apply the changes, or ESC to exit.

Notice!!

DVR must be reboot to apply the change

ENTER: Yes ESC: No



NOTE:

1. The existing database will **NOT** be re-formatted after switching on this function.
2. Alarm I/O, Motion detection function, and audio of the IP camera are currently **NOT supported**.

Monitor Setup

The Monitor Setup menu allows users to adjust the quality of the displayed image. Select <Monitor Setup> from the Main menu and press ENTER. The following menu is displayed.

Monitor Setup	
Show Camera Title	Yes
Screen Center Adjust	
VGA Resolution	800×600
Show Color Bar	Execute

< Show Camera Title >

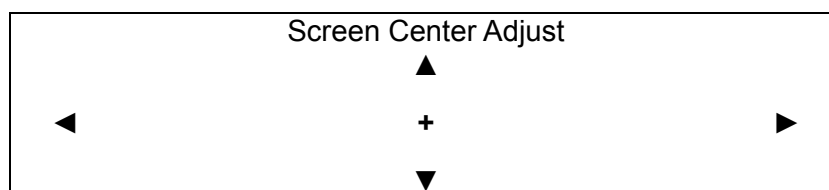
This item allows users to choose whether to display the camera title on the screen or not. The default is <Yes>, which displays the camera titles with the video.

< Screen Center Adjust >

This item is used to adjust the screen center of the main monitor display area.

Follow the steps to set the center point.

- Select <Screen Center Adjust> from the Monitor Setup menu and press ENTER. The adjusting screen is as follows.



- Position the screen center position using the Direction keys.
- Press ENTER to exit when finished.

< VGA Resolution >

This item allows users to select appropriate VGA resolution for the VGA monitor connected to the DVR. The options are <800×600> (default), <1024×768> and <1280×1024>.



NOTE: If the selected VGA resolution is too high that the monitor cannot support, the message “No Signal” will be shown on screen. Then please press ESC on the front panel to restore the original setting.

< Show Color Bar >

Choose this item to display color bar pattern on the screen. The color bar helps to adjust the monitor hue, saturation, text color, and display options. Press ESC to exit the color bar pattern display and return to the OSD menu.

Camera Setup

The items in the Camera Setup menu enable users to set camera parameters, including camera title, dome protocol and ID for each connected camera. There will be separate menus for analog cameras and IP cameras. Please refer to <Analog Camera> section if the connected camera is an analog camera, or refer to <IP Camera> section when the connected camera is an IP camera.

< Analog Camera >

If the connected camera is an analog camera, please continue with this section. Items in this menu are described in the following subsections.

Analog Camera	
Analog Camera Select	CH1
Dome Protocol	None
Dome ID	0
Camera Title	CH1
Covert	No
Brightness	0
Contrast	0
Saturation	0
Hue	0

■ **Analog Camera Select**

This item is used to select a camera for setting the parameters. The related settings will follow the selected camera, such as dome protocol and camera title. Move the cursor to <Analog Camera Select> and press ENTER, then select a channel using UP / DOWN keys.

■ **Dome Protocol**

If the connected camera is a dome camera, select the communication protocol associated with the dome camera using ENTER and Direction keys. The default is set to <None>.

■ **Dome ID**

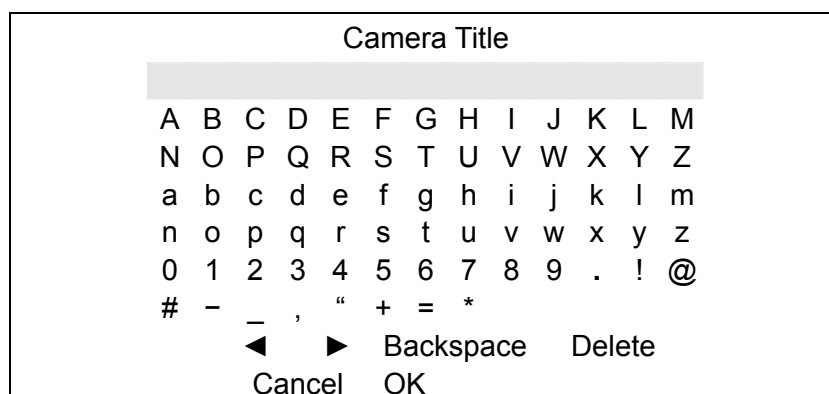
This item is used to assign an ID number to the selected dome camera. Note that ID number must match the ID address set by the dome camera.

■ **Camera Title**

This item allows the users to change the title of each connected camera. By default, the titles of cameras are numbered from 1 through 16 respectively. The title will be displayed on the screen after the changes of the titles are set.

Follow these steps to enter a new title for a camera.

- Move the cursor to <Camera Title> and press ENTER. A virtual keyboard with alphanumeric characters is displayed as below.



- Use Direction keys to select character.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

■ **Covert**

This function allows users to set the specific camera to be covert while the DVR continues to record video. Choosing <Yes> means to cover the selected camera; and <No> to remain the specific camera non-covert.

■ **Brightness**

Select this item to adjust the brightness of the camera. Use UP / DOWN keys to adjust the numeric value. The range of brightness values is from <-128> to <127>.

■ **Contrast**

Select this item to adjust the contrast of the camera. Use UP / DOWN keys to adjust the value. The range of contrast values is from <-128> to <127>.

■ **Saturation**

Select this item to adjust the color saturation of the camera using UP / DOWN keys. This value will be ignored on monochrome monitors. The range of saturation values is <-128> to <127>.

■ **Hue**

Select this item to adjust the hue of the camera. Use UP / DOWN keys to adjust the value. The range of hue values is from <-128> to <127>

<IP Camera>

If the connected camera is an IP camera, please continue with this section. After the <IP Camera Support> in System Setup menu is set to any number greater than 0 and the DVR is rebooted, users will be able to setup the IP camera. Items in this menu are described in the following subsections.

IP Camera	
IP Camera Select	CH16
IP Camera Title	CH16
Hostname/IP	X.X.X.X
Model	
Connection Setup	
Device Setup	
Activated	No
Status	

■ IP Camera Select

Select the corresponding channels. If <IP Camera Support> is set to <1>, then last channel will be the corresponding channel for IP camera. When <IP Camera Support> is set to <2>, the last two channels can be used to setup the IP cameras, and so on.

■ IP Camera Title

This item allows the users to change the title of each connected camera. By default, the titles of cameras are numbered from 1 through 16 respectively. The title will be displayed on the screen after the changes of the titles are set.

Follow these steps to enter a new title for a camera.

- Move the cursor to <Camera Title> and press ENTER. A virtual keyboard with alphanumeric characters is displayed as below.

IP Camera Title	
A B C D E F G H I J K L M	
N O P Q R S T U V W X Y Z	
a b c d e f g h i j k l m	
n o p q r s t u v w x y z	
0 1 2 3 4 5 6 7 8 9 . ! @	
# - _ , " + = *	
◀ ▶ Backspace Delete	
Cancel OK	

- Use Direction keys to select character.
- Press ENTER to add the selected character to the entry field.
- When it's done, move the cursor to <OK> and press ENTER to save the settings and exit.

■ **Hostname/IP**

This item allows users to enter the hostname or IP address of the IP camera (e.g. 192.168.1.123).

■ **Model**

Enter this item to select matching model of the IP camera. The DVR supports the following IP camera models: <NH Series>, <D7521>, <ViVoTek 7000>, <AXIS 200>, <SONY SNC> and <ACTi Series>.

■ **Connection Setup**

This item allows users to setup the connection of the IP camera. Enter this item and the following menu will be displayed.

Connection Setup	
Account	****
Password	****
Management Port	80
Streaming Format	MPEG4
Advance Streaming Options	OFF
Streaming Port	8090
Streaming Protocol	RTP+RTSP
IP Dome Protocol	None

- **Account**

Enter the login account name of the IP camera.

- **Password**

Enter the login password of the IP camera.

- **Management Port**

The management port is the default port of the IP camera. Different IP cameras may have different management ports.

- **Streaming Format**

Enter this item to select the streaming format of the IP camera. The DVR supports three types of streaming format: <MPEG4>, <H264> and <MJPEG>.

- **Advance Streaming Options**

Select <OFF> and the Streaming Port and Streaming Protocol will be set automatically according to the camera model selected. Alternatively, select <ON> to manually set the Streaming Port and Streaming Protocol.

- **Streaming Port**

Streaming port is used for transmitting video and related commands.

- **Streaming Protocol**

Enter this item to select the streaming protocol of the IP camera. The DVR supports the following streaming protocols: <RTP+RTSP>, <RTP/RTSP>, <RTP/RTSP/HTTP> and <HTTP>.



NOTE: Please contact the manufacturer of the IP camera for assistance if the IP camera's Management Port/ Streaming Port/ Streaming Format/ Streaming Protocol are unknown.

- **IP Dome Protocol**

If the connected device is an IP Dome Camera, then select an appropriate IP Dome Protocol from the provided options.

- **Device Setup**

Enter this item to setup the basic settings of the IP camera. Upon entering this item, the following message will be displayed.

Collecting data
Please wait!

If the connection cannot be detected, the following message will be displayed. Please check the <Hostname/IP>, <Model> and <Connection Setup> again to make sure the settings are correct.

Cannot get config from the IP device

When the connection is detected, the following menu will be displayed.

Device Setup	
Product ID	****
Image Resolution	CIF
FPS	15
Compression	40
Quality	Best
Sharpness	0
Brightness	20
Contrast	50
Saturation	30
Hue	40
Apply	No



NOTE: The contents of the Device Setup menu differ from camera model to camera model. For instance, when IP Camera Brand A is connected, all items may be available. However, when IP Camera Brand B is connected, the menu may contain only 8 items. Refer to the following comparing table for example.

<IP Camera Brand A>		<IP Camera Brand B>	
Device Setup		Device Setup	
Product ID	****	Product ID	****
Image Resolution	CIF	Image Resolution	CIF
FPS	15	FPS	15
Compression	40	Quality	Best
Quality	Best	Sharpness	0
Sharpness	0	Contrast	20
Brightness	20	Saturation	50
Contrast	50	Apply	No
Saturation	30		
Hue	40		
Apply	No		

- **Product ID**
This item will display the product name of the IP camera.
- **Image Resolution/ FPS/ Compression/ Quality**
These can be used to setup the Image Resolution/ FPS (Frames Per Second)/ Compression/ Quality of the IP camera.
- **Sharpness/ Brightness/ Contrast/ Saturation/ Hue**
Move the cursor to the items and press ENTER to adjust the Sharpness/ Brightness/ Contrast/ Saturation/ Hue of the camera. Use UP / DOWN keys to adjust the numeric value.
- **Apply**
Select <Yes> to apply the above settings, and the following message will be displayed.

<p>Re-collecting data</p> <p>Please wait!</p>

When the settings cannot be applied, the following message will be displayed. Try to reduce the resolution or FPS of the IP camera. Note that the login account of the IP camera should have administrator authority.

Cannot set the IP device

Otherwise, the <Device Setup> setting is completed.



NOTE: After changing any item under Device Setup menu, users **MUST** set <Apply> to <Yes> to apply the changes, or the settings will remain unchanged.

■ **Activated**

Access this item and select <Yes> to activate the connection to the IP camera. To deactivate the connection, select <No>



NOTE: Once the connection to the IP camera is activated, menu items <Hostname/IP>, <Model>, <Connection Setup> will be grayed out and cannot be accessed.

■ **Status**

After the connection to the IP camera is activated, users can check the connection status. The menu will be shown as below.

	Status	
Model		****
Streaming Format		MJPEG
Resolution		720*480
PPS		10
Bandwidth		20 KB/Sec
Pkg. lost rate		0.1%

The information shown on the monitor is “ready only”.

Record Setup

The total record time of **Versatile H.264 DVR** will be effected by **HDD capacity**, **recording rate (Picture per Second)**, **image quality settings** and **event settings**.

The greater the recording rate and the higher the quality setting, the shorter the recording duration. Most of the related factors can be set here in this submenu.

The Record Setup menu allows users to set recording quality, recording schedules, and other recording parameters. Login using account with proper privilege to access Record Setup menu. In the Main menu, move the cursor to <Record Setup> and press ENTER. The following menu is displayed.

Record Setup	
Record Mode Setup	
Schedule Setup	
Preset Config	Best Quality
Per Camera Config	
ezRecord Setup	
Data Lifetime	0 Days
Circular Recording	ON
Audio Recording	ON
Purge Data	

< Record Mode Setup >

Enter this menu to setup record resolution. The relative record settings, such as preset configuration, will follow the record mode setting. The menu is displayed as the following.

Record Mode Setup	
Record Resolution	720*240
Record Format	H264
Max Rec. PPS	60
CBR/VBR	CBR

■ **Record Resolution**

Select resolution of the recorded video. If the recording is set to NTSC system, the selections are 720*480, 720*240, and 352*240. If the recording is set to PAL system, the selections are 720*576, 720*288, and 352*288.

■ **Record Format**

Select format of the recorded video from <H264> and <MJPG>.

■ **Max Rec. PPS**

This item will be automatically changed according to record resolution.

■ **CBR/VBR**

This item allows users to select an encoding method for the unit.

CBR, standing for Constant Bit Rate, means a way to encode a file at a fixed rate. That also indicates a CBR file has consistent file size and quality.

VBR, standing for Variable Bit Rate, allocates an appropriate amount of data per second, depending on the complexity of the video file.

It's strongly suggested to use VBR encoding when reliable video quality is the top priority.



NOTE: Since a VBR file doesn't have a fixed size, the HDD space usage cannot be calculated and thus ezRecord function is not supported for VBR mode. Therefore, if ezRecord is selected as the preset record configuration, the option of this menu item will automatically be set as <CBR>.

< Schedule Setup >

This submenu is used to set the day and night time, or weekend recording schedule. The Day and Night schedules are for defining day time and night time; the Weekend schedule can be modified for weekends and holidays.

Select <Schedule Setup> from the Record Setup menu and press ENTER; the following menu is displayed.

Schedule Setup	
Day Time Start	AM 06:00
Day Time End	PM 18:00
Night Time Start	AM 06:00
Night Time End	PM 18:00
Weekend Schedule	ON
Weekend Start	Fri 18:00
Weekend End	Mon 06:00

■ **Day / Night Time Start / End**

The Day/Night Start Time and End Time determines the duration of day/night recording time. Time is indicated in 1-minute increments. The time display format in this menu is based on the setting of <Time Display Mode> in <System Setup>.

■ **Weekend Schedule**

<Weekend Schedule> determines whether a weekend schedule is in effect. Choose <ON> to take effect the related weekend settings.

■ **Weekend Start / End**

<Weekend Start> indicates the specific day and time when weekend schedule should begin, for example, FRI 18:00. <Weekend End> indicates the specific day and time when weekend schedule should end, for example, MON 06:00. Time is indicated in 1-minute increments.

Note that the value users have set indicates when the regular Day and Night scheduling ends, and Weekend recording begins.

< Preset Record Configuration >

<Preset Config> is used to select the preset recording quality and frame rate. Different preset recording quality levels are offered for users to choose: <Best Quality>, <Standard>, <Extended Record>, <Event Only>, <ezRecord >, <512Kbps DSL>, <256Kbps DSL>, <128Kbps DSL> and <OFF>. According to various Record modes, the preset configuration options for normal and event status are described in terms of relative recording rate PPS (Picture Per Second) and recording size for each channel in the table below.

These preset conditions <Best Quality>, <Standard>, <Extended Record>, <Event Only>, <ezRecord >, <512Kbps DSL>, <256Kbps DSL>, and <128Kbps DSL> override any other quality and rate settings. Refer to the table below for file sizes of different preset conditions. Note that <Event Only> and <ezRecord> are not included in the table because there are further details for these two settings. <Event Only> will be described in <Event Setup> section. <ezRecord> will be explained in <ezRecord Setup> section.

NTSC	720 X 480 @ 30PPS	720 X 240 @ 60PPS	360 X 240 @ 120PPS
PAL	720 X 576 @ 25PPS	720 X 288 @ 50PPS	360 X 288 @ 100PPS
Best	22 KB/Pic	12 KB/Pic	6 KB/Pic
Standard	14 KB/Pic	8 KB/Pic	4 KB/Pic
Extended	6 KB/Pic	4 KB/Pic	2 KB/Pic
512Kbps DSL	4 KB/Pic		
256Kbps DSL	3 KB/Pic		
128Kbps DSL	2 KB/Pic		



NOTE: The total PPS is equally shared by all channels, which means, even if one channel has not been connected with a camera, the channel still reserves its share of PPS. However, if <ezRecord> is selected, the channels not connected to cameras will not be recorded. In other words, the total PPS will be shared by channels with cameras connected only.

< Per Camera Config >

This sub-menu is used to set the Day / Night / Weekend PPS and recording quality for each individual channel. <Preset Configuration> must be set to <OFF> in order to access these related settings. The menu is displayed as below in Record mode: 720×240@60PPS in NTSC / 720×288@50PPS in PAL.

Per Camera Config			
Camera Select	Day	Night	CH1 Weekend
Normal PPS	7.5	7.5	7.5
Normal Qlty	Mid	Mid	Mid
Event Max PPS	30	30	30
Event Qlty	Best	Best	Best
Event Act	Both	Both	Both

■ **Camera Select**

The item is used to select a desired channel for setting the parameters. Move the cursor to <Camera Select> and press ENTER, then select a channel using UP / DOWN keys. Press ENTER again to confirm the selection.

■ **Normal PPS**

Normal PPS is used to set the recording rate for normal status.

Please note that the total normal PPS of all channels cannot exceed the maximum PPS of each Record mode. To increase one channel's PPS, others' may have to be reduced first. Event PPS is not restricted to this rule, since a smart event scheduler will handle to the total PPS with a correct weighting. For example, if channel 1 is set to event mode with 30PPS, the remaining 30 PPS will be equally distributed to other 15 channels, which means each channel will be set to 2 PPS.

■ **Normal Qlty**

This item is used to set the picture size for normal status recording. The available options are: <Low>, <Fair>, <Mid>, <High> and <Best>.

■ **Event Max PPS**

<Event Max PPS> is used to set the event recording rate for Event status. Usually, the Event PPS is set equal to or greater than the Normal PPS. The setting is depending on users' application. If the Event PPS is set to <0>, the DVR will not record event video when alarms triggered.

■ **Event Qlty**

This item is used to set the picture size for event status recording. The available options are: <Low>, <Fair>, <Mid>, <High> and <Best>.

■ **Event Active**

Users are allowed to choose which alarm type needs to be recorded. The available options are <Alarm> (alarm events only), <Motion> (motion detection events only) and <Both> (alarm event + motion detection), and <None>. The default setting is <Both>, which includes Alarm and Motion events recording.

< ezRecord Setup >

This item aims to ease the complicated record settings, and to make the setup much easier. Note that this item can be accessed only when <ezRecord> is selected as the option for <Preset Config>.

Select <ezRecord Setup> from <Record Setup> and press ENTER, the menu is displayed as below:

ezRecord Setup	
How Many Days To Record	2 Days
Daytime Record	Yes
Night Record	Yes
Weekend Record	Yes
Record Info	
Average Normal PPS	3.75
Average Normal Quality	Best

Follow these steps to Setup ezRecord:

- Select <How Many Days To Record> and press ENTER, then press UP/DOWN to select a desired number of days. The average normal PPS & quality will be adjusted automatically. The maximum recording days depends on the storage size of the HDD. In other words, the larger the storage size, the more days the DVR can record.
- Move to <Daytime Record> and press ENTER. This item is for users to select whether the DVR will record during daytime. If yes, use UP/DOWN to select <Yes> to enable daytime recording; or select <No> to disable.
- Repeat the same procedures for <Night Record> and <Weekend Record>, respectively. Note that <Weekend Record> will be inaccessible if <Weekend Schedule> in <Schedule Setup> is set to <OFF>.

- Select <Average Normal PPS> and press ENTER, then press UP/DOWN to choose a desired number of PPS. The <How Many Days To Record> will be computed automatically.
- Select <Average Normal Quality> and press ENTER, then press UP/DOWN to select a desired quality. The <How Many Days To Record> will be computed automatically.



NOTE: The current number of connected cameras will affect the recording quality automatically calculated by the <ezRecord Setup>. Therefore, when there are cameras disconnected or connected, the <ezRecord Setup> should be reset.

< Data Lifetime >

Data Lifetime indicates the duration that a video is saved and recallable in the HDD. Only those video recorded during Data Lifetime can be retrieved for playback. The video exceeded Data Lifetime will be hidden and cannot be retrieved for playback. Press ENTER to select this item in Record Setup menu, and then use UP / DOWN keys to set the data lifetime. The value ranges from <1> to <365> days, or select <0> to disable the function.



NOTE: If users want to playback a video which is beyond the data lifetime, please extend the duration till the recording data/time of the video is included.

< Circular Recording >

Users can choose to record video in circular mode or in linear mode. If circular mode (set to <ON>) is selected, the DVR will store new video data to overwrite the oldest recorded video. If linear mode (set to <OFF>) is selected instead, the DVR will stop recording when HDD capacity is full. The percentage of HDD usage will be displayed at the lower-left corner of the screen. Furthermore, a reminder message “ALMOST FULL” will show up at the upper-right corner of the screen when HDD usage reached 98%. In the mean time, an internal buzzer will start beeping.

From the Record Setup menu, move the cursor to <Circular Recording> and press ENTER, then select <ON> / <OFF> using UP / DOWN keys.

< Audio Recording >

This item allows users to enable / disable Audio recording function of the DVR. When it's set to <ON>, audio input is recorded and saved with the video. When it's set to <OFF>, audio is ignored.

< Purge Data >

This item is used to delete the Normal or Event videos. In <Record Setup> menu, move the cursor to <Purge Data> and press ENTER. The <Purge Data> menu is shown as below.

Purge Data	
Purge All Data	No
Purge All Event Data	No
Purge Event Before	2008/01/01
Start To Purge	No

■ **Purge All Data**

This item is used to delete all videos from the database. Use UP / DOWN keys to select <Yes> and start the deletion by setting <Start to Purge> to <Yes>.

■ **Purge All Event Data**

This item is used to delete all event videos from the database. Use UP / DOWN keys to select <Yes> and start the deletion by setting <Start to Purge> to <Yes>.

■ **Purge Event Before**

This item is used to delete event video before a specific date. Use LEFT / RIGHT keys to move the cursor to next or previous field, ENTER to select the item and UP / DOWN to adjust the value. Start the deletion by setting <Start to Purge> to <Yes>.

■ **Start To Purge**

After selected the videos to be deleted or chosen the date for deletion, set this item to <Yes> to start the deletion, or select <No> to cancel.

Sequence Setup

The Sequence Setup menu allows users to set the camera sequence schedule and dwell time for main and call monitor. Select <Sequence Setup> in main menu and press ENTER. The menu displays as follows.

Sequence Setup	
Main Monitor Dwell	5 Sec
Main Monitor Schedule	
Call Monitor Dwell	5 Sec
Call Monitor Schedule	

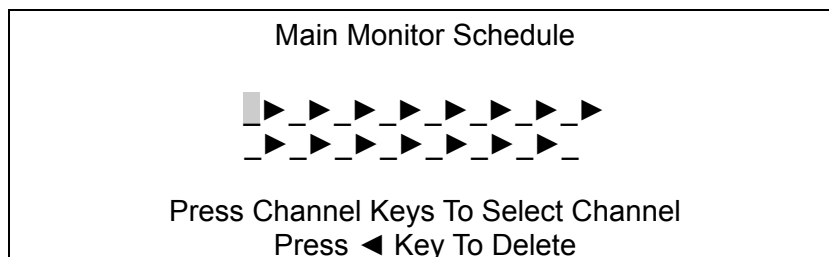
Items in the <Sequence Setup> menu are described in the following subsections.

< Main / Call Monitor Dwell >

The main/ call monitor can be set to display full screen video of all installed cameras in sequence. This item is used to set the Main/ Call Monitor dwell time, which is the duration of time elapsed before switching to the next channel. The dwell time is in the range of 1 to 120 seconds.

< Main / Call Monitor Schedule >

This item is used to set displaying sequence of connected cameras to be displayed on the main/ call monitor in full-screen format. Move the cursor to <Main Monitor Schedule> and press ENTER. The menu is displayed as follows.



Follow these steps to set a sequence:

- Press LEFT direction key to delete the original setting.
- Press the desired Channel keys to assign the camera to the position where the cursor stops.
- Continue the steps until the sequence is completed.

The maximum number of entries in a sequence equals to the number of channels. Users can select fewer than the maximum entries for camera sequence and leave the remaining entries blank. The sequence can include a specific camera or cameras multiple times.

Event Setup

This menu allows users to determine **Versatile H.264 DVR** behavior in response to alarm events. In the Main menu, move the cursor to <Event Setup> and press ENTER. The following menu is displayed. Items in the Event Setup menu are described in the following subsections.

Event Setup	
Internal Buzzer	ON
Event Icon	ON
Email Notice	OFF
Email Attachment	OFF
Event Full Screen	None
Event Duration	20 Sec
Per Channel Config	

< Internal Buzzer >

This item allows users to enable / disable internal buzzer of the **Versatile H.264 DVR**. If <ON> is selected, the buzzer is activated in response to alarm events. If <OFF> is selected, the buzzer is not activated.

< Event Icon >

This item enables (ON) / disables (OFF) the display of event icons on the monitor when alarm events occur. The event icons are represented by a character according to the event types respectively. Refer to the following table for association of event icons and event types.

Event Icon	Event Type
A	Alarm in event
M	Motion detection event
L	Video loss event

< Email Notice >

The item enables (ON) / disables (OFF) the Email notification of an event. When an alarm event is triggered and <Email Notice> is enabled, an e-mail concerning the alarm event will be sent.



NOTE: In order to send an event notification e-mail successfully, ensure that the DVR is connecting to the internet.

< Email Attachment >

The function allows the DVR to send out a brief AVI video regarding the event. The number of the attached AVI video will be equivalent to the number of cameras connected to the DVR. For example, if the DVR has been connected with 8 cameras, then 8 videos will be attached to the notice email. The total size of the video will be about 2 MB.

Select <ON> to enable this function; or <OFF> to disable it.



NOTE: The video clips of the Email Attachment will ONLY be in *.avi format. Please download the Divx Player from www.divx.com to play the *.avi files.

< Event Full Screen >

This function allows the DVR to display the alarm channel in full screen size when an alarm is triggered.

Select <None> to disable this function; select <Main> to display the alarm channel on Main Monitor when an alarm is triggered; select <Call> to display the alarm channel on Call Monitor; and select <Both> to display the alarm channel on both Main Monitor and Call Monitor.

< Event Duration >

This item determines the duration of the buzzer and Alarm Out relay function after an alarm is triggered. The available event duration range is from 5 second to 999 seconds.

< Per Channel Config >

This menu is used to configure <Video Loss Detect>, <Motion Detect>, <Alarm In> and <Alarm Out> settings for each channel. The menu is displayed as below.

Per Channel Config	
Channel Select	CH1
Video Loss Detect	OFF
Motion Detect	OFF
Motion Detect Indicator	ON
Detection Config	
Alarm In	OFF
Alarm Out	ON

■ **Channel Select**

The item is used to select a desired channel for setting the parameters. Move the cursor to <Channel Select> and press ENTER, then select a channel using UP / DOWN keys. Press ENTER again to confirm the selection.

■ **Video Loss Detect**

This item allows users to enable or disable Video Loss as an alarm event. Select <ON> to enable Video Loss alarm events, or <OFF> to disable.

■ **Motion Detect**

This item allows users to enable or disable motion detection function of **Versatile H.264 DVR**. Select <ON> to enable Motion Detect alarm events, or <OFF> to disable. If motion detection function is enabled, it is required to define motion detection parameters such as detection area and sensitivity settings in <Detection Config>.

■ **Motion Detect Indicator**

This item allows users to display/ hide the motion detection indicators. Select <ON> to display the indicators, or <OFF> to hide them.

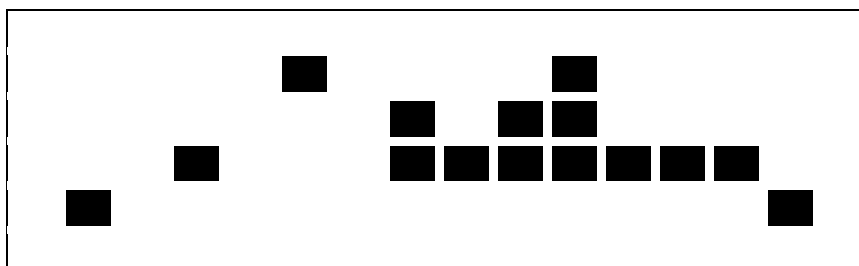
■ **Detection Config**

If motion detection function is enabled, it is required to define the motion detection parameters such as detection area and sensitivity settings. Select a channel for setting the parameters, move the cursor to <Detection Config> and press ENTER. The detection configuration menu displays as follows.

Detection Config	
Detected Area Setup	
Sensitivity	88%
Block Threshold	4

- **Detected Area Setup**

After selected this item, the detected area is displayed as follows. The detection area consists of 192 (16×12) detection grids.



Use the Direction keys to move the cursor and press ENTER to select or de-select a grid. Press MODE to select all of the grids for detection; press MODE again to de-select all of the grids.

- **Sensitivity**

This item is used to set the sensitivity of detection grids for the camera. A greater value indicates more sensitive motion detection. A motion alarm will be triggered once the amount of motion detected exceeds the Threshold value.

Move the cursor to <Sensitivity> and press ENTER, and then use UP/DOWN keys to adjust the value. The value is increased by 4% increment.

- **Block Threshold**

<Block Threshold> indicates the motion alarm triggered level; select from <1> to <16>. Selecting <1> means the DVR will trigger the alarm when one grid is detected; and selecting <16> means the DVR will trigger the alarm when 16 grids are detected. Move the cursor to <Block Threshold> and press ENTER, and then use UP / DOWN keys to adjust the value.

- **Alarm In**

This item allows users to enable/ disable alarm input detection. According to users' application, select <N/O> (Normal Open) or <N/C> (Normal Close) to enable the alarm input detection, or select <OFF> to disable the detection.

If <N/C> is selected without installing any device, an alarm will be triggered and the Event Icon will always display on the monitor until the selection is changed to <N/O> or <OFF>, or when a device is installed.

- **Alarm Out**

This item allows users to enable / disable the alarm output on the selected channel to activate the relay. The signal can be a light or siren to caution an alarm event. Select <ON> to enable the alarm output, or <OFF> to disable.

Database Setup

The menu displays information of internal and external HDDs. In the main menu, select <Database Setup> and press ENTER. The following menu is displayed.

Database Setup	
Total Size	xxx GB
Free Size	(Circular)
Avail. Rec Time	(Circular)
Internal Disks	



NOTE: If the detection of HDDs fails, the message “HDD fail” will be displayed.

< Total / Free Size >

Total Size shows the total storage capacity of HDDs that have been added to the database. Free Size indicates free storage space available for recording in the database, or “Circular” will be shown if the DVR is set to record in circular mode. Both of them are “read only”.

< Avail. Rec Time >

The Avail Rec Time indicates the available time duration for recording. If the DVR is set to record in circular mode, the item will show “Circular”. The information is “read only”.



NOTE: If VBR mode is selected in <Record Mode Setup>, the available time will not be able to be calculated. Thus there will be no value displayed for this item.

< Internal Disks >

Select <Internal Disks> to see information of the built-in HDDs. The menu is displayed as below.

Internal Disks		
Device Name	Active	Action
xxx xxxxxxx-xxxxxx	Yes	None

The information of the built-in HDDs will be listed by model name and status. If no storage device is connected to the DVR, the message “No Available Items!” will be displayed.



NOTE: If the file system of the internal HDDs is not compatible for the DVR, the system will format the internal HDDs automatically without notice.

Active

This item indicates if the HDD is added to the database. <Yes> means the HDD has been added to the database.

Action

This item allows users to add the HDD to the database or remove it from the database. The options are <None> (no action), <Add> (add the selected HDD to the database), <Remove> (remove the selected HDD from the database), and <Format> (format the selected HDD).



NOTE: Before disconnecting an external HDD from the DVR, **ALWAYS** remember to remove it from the database first.

Configuration

Users can restore factory default setting, import/ export configuration in the Configuration menu. Select <Configuration> from the main menu and press ENTER. The following menu is displayed. Items in this menu are described in the following subsections.

Configuration	
Load Factory Default	No
Import Config	
Export Config	

< Load Factory Default >

This item is used to load the factory default setting. Select <Yes> to restore the factory default setting from the read-only memory, or select <No> to cancel.

< Import Config >

This item allows users to load a DVR configuration that was saved in an external drive. To import a configuration that was previously exported, make sure the device with the saved configuration is connected to the DVR. Select <Import Config> from the Configuration menu and press ENTER. The following menu is displayed.

Import Config	
Config Name	Select
xxxx-xxxx	No
xxx-xx	No

Press UP/ DOWN to select one of the available configuration files, and choose <Yes> to start importing the configuration.



NOTE: If the record mode and/or number of IP cameras of the imported configuration are different from the DVR's configuration, the following message will be displayed.

Warning!! System will reboot if record mode and/or IP camera number differ.	
ENTER: Yes	ESC: No



NOTE: DO NOT remove the external device before the DVR completely reboots, otherwise it will be formatted.

< Export Config >

Users are allowed to save a DVR configuration by exporting it to an external drive, such as an USB Flash Drive. Before exporting the configuration, make sure the device in which the configuration will be saved is attached to the DVR appropriately. Select <Export Config> from the Configuration menu and press ENTER. The following menu is displayed.

Export Config	
Copy Destination	
Config Name	
Begin Export	No

Items in this menu are described in the following sections.

■ *Copy Destination*

Enter this item to list available destinations (external storage devices) where the configuration can be exported. Press UP/ DOWN to select a destination. Please note that saving a different configuration to the same destination with the same file name will overwrite the previous configuration file without warning.

Copy Destination	
Device Name	Select
XXXX-XXXX	No



NOTE: It is not allowed to select the built-in DVD+RW as a copy destination.

■ *Config Name*

This item allows users to assign a name to the exported configuration file. Use the virtual keyboard to enter the configuration file name. Note that the file name can only contain up to 15 characters, with no spaces.

■ *Begin Export*

Select <Yes> to begin exporting the configuration file, or select <No> to exit.



NOTE: It is strongly recommended to export configuration before upgrading the DVR system. Also, backup the configuration routinely is recommended as well, just in case for unexpected situation.

Shutdown

This item is used to shut down or reboot the DVR. If the **Versatile H.264 DVR** must be shut down for any reason, please follow the proper shut down and power on procedures to avoid any potential damages to the DVR.

Select <Shutdown> in the main menu and press ENTER to access the Shutdown menu, which displays as follows.

Shutdown		
Power Off		Execute
Reboot		Execute

< Power Off >

Press ENTER on this item to shut down the DVR. Do not remove the power source during shutdown until the message "You can safely turn off DVR now!" displays.

< Reboot >

Press ENTER on this item to reboot the DVR. The color bar and system checking information are displayed on the monitor until the DVR is completely restarted.

Appendix A: ezRecord Diagram Samples

Diagram Sample(Full-D1)

NTSC:720x480@30PPS

PAL:720x576@25PPS

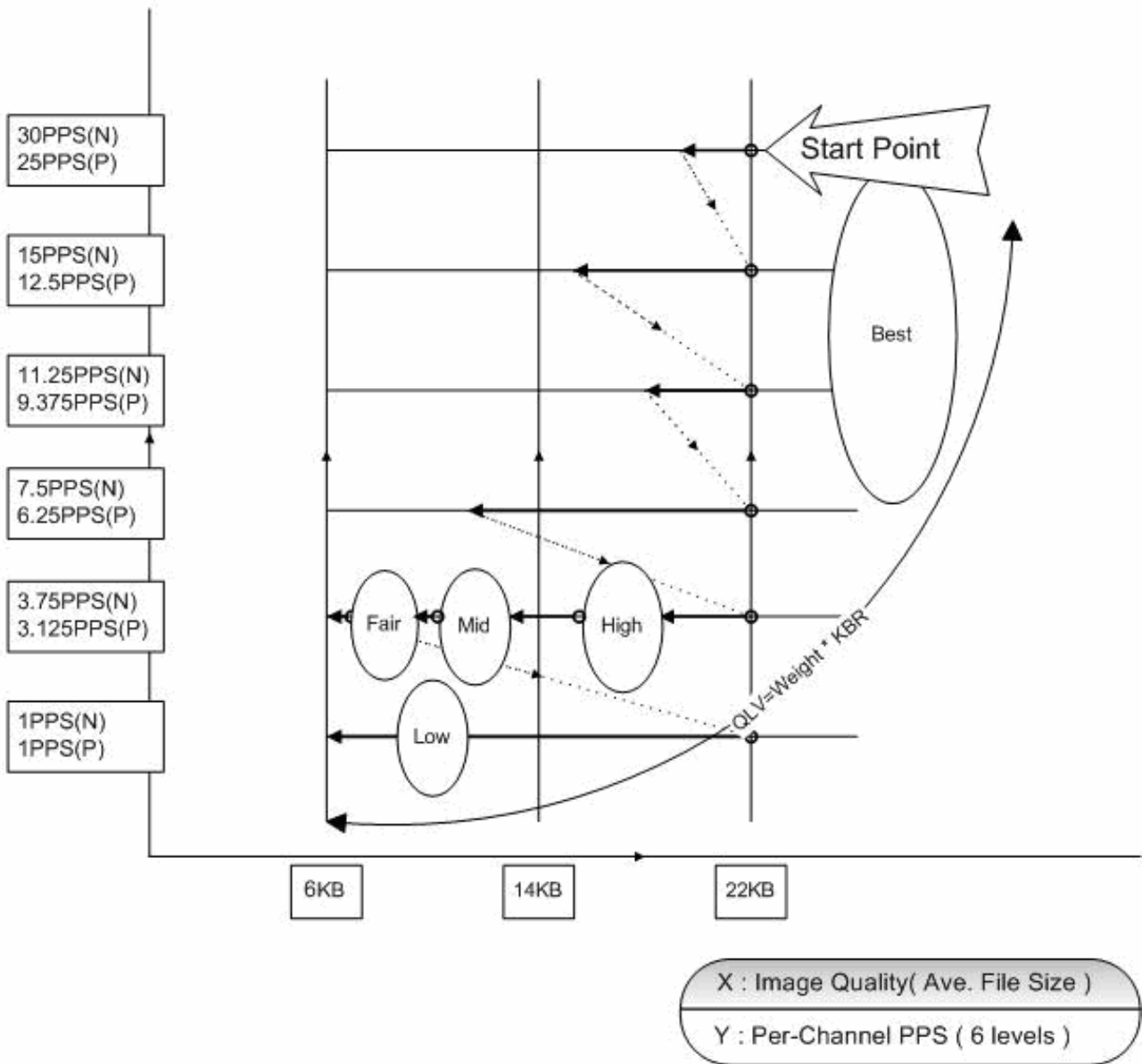


Diagram Sample(Half-D1)

NTSC:720x240@60PPS

PAL:720x288@50PPS

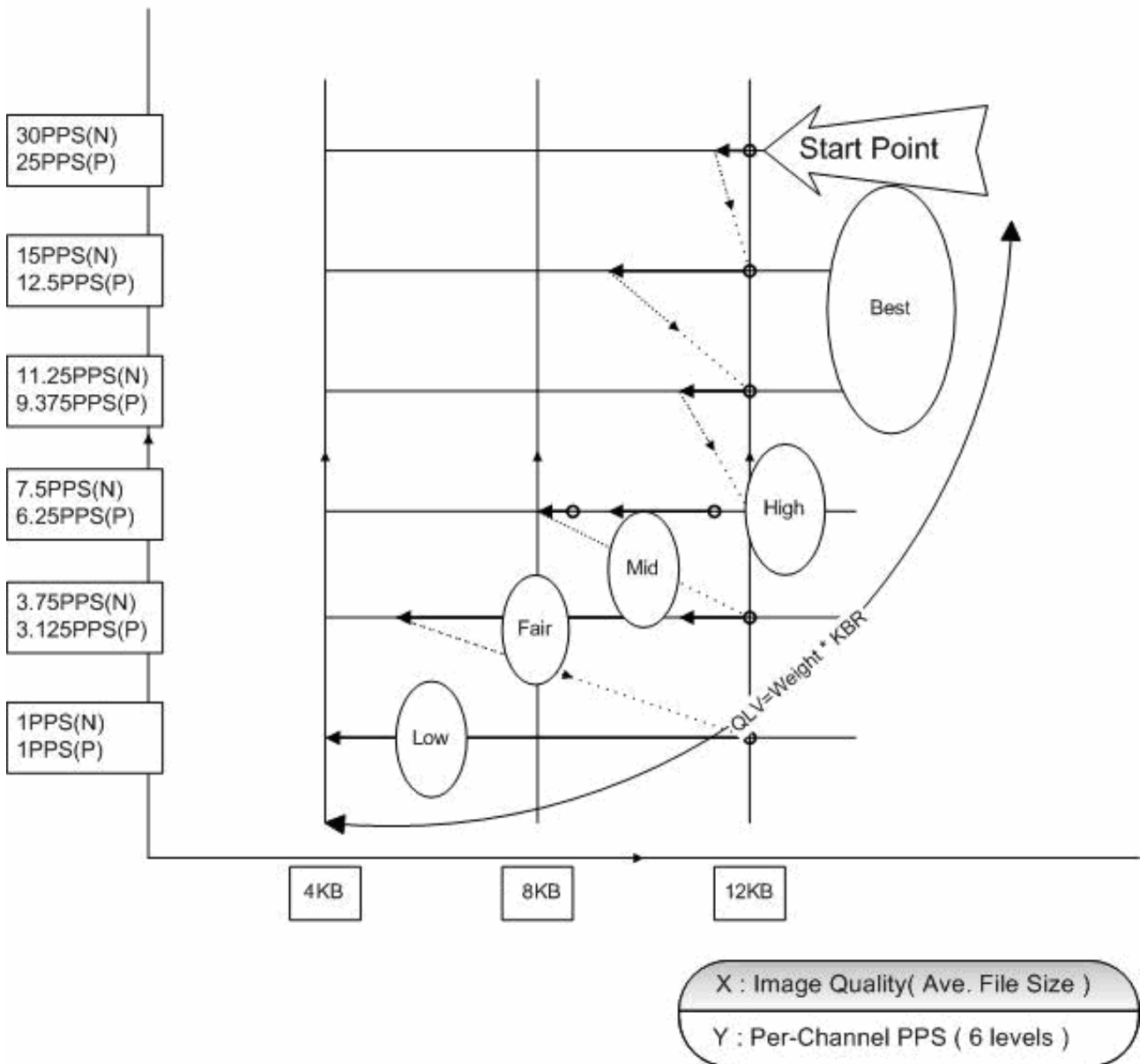
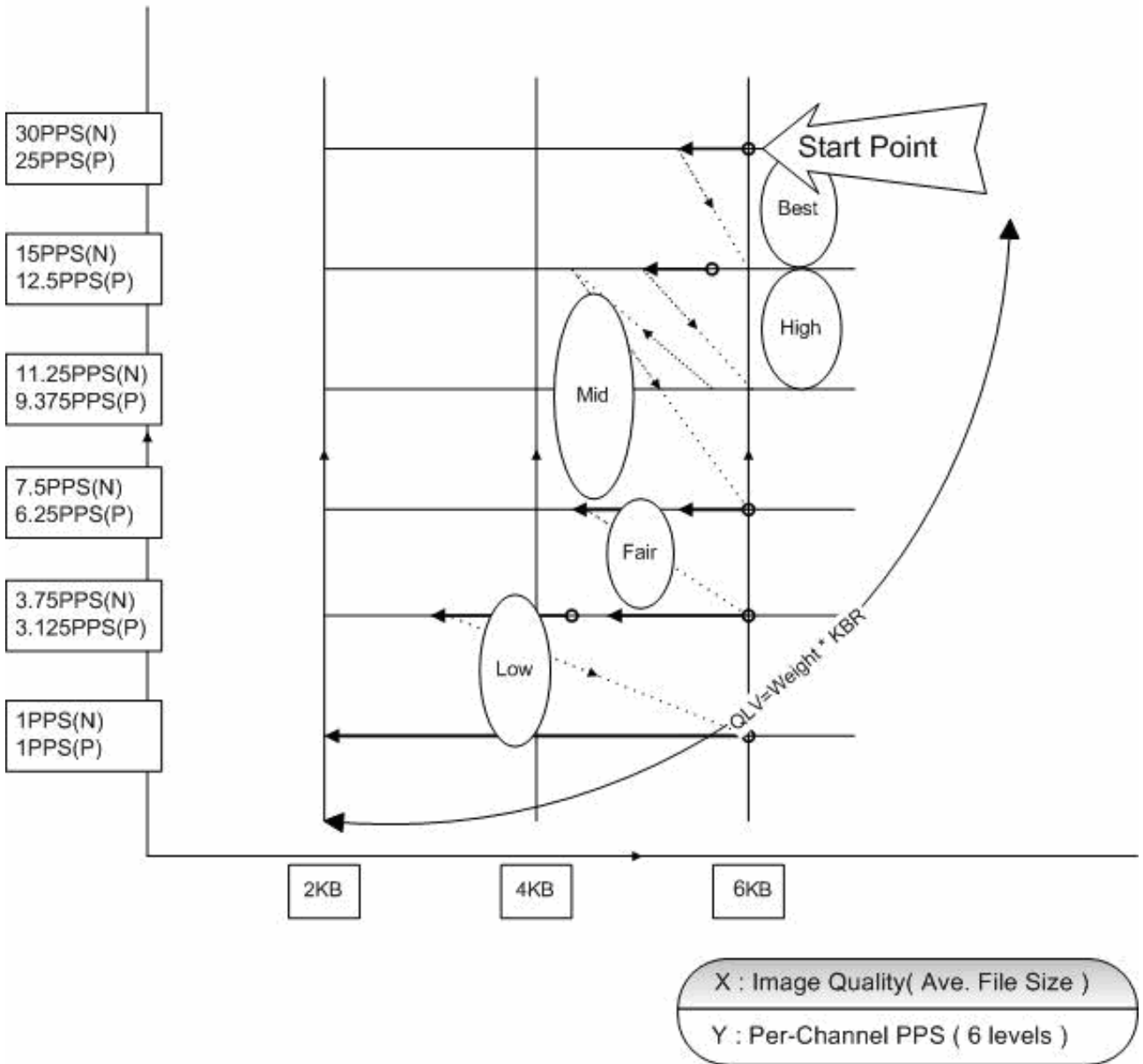


Diagram Sample(CIF)

NTSC:360x240@120PPS

PAL:360x288@100PPS



Appendix B: Record Duration

The record duration relates to recording rate, image quality, HDD capacity, and event settings. The following tables give sample calculation of record duration according to different recording rate, image quality, and HDD capacity, excluding consideration of events, for different models with different recording mode. The recording quality refers to the Normal Qlty setting of <Per Camera Config> in <Record Setting>, assuming all channel are set to the same quality at all times.



NOTE: Record duration times are based on actual tests and represent average file sizes. Performance may vary depending on specific installations and use. Audio recording requires 8 KB per second (or 0.7 GB per day) for data storage.

I. Refer to the following tables for **H.264** recording:

Record Duration (Days): Full-D1, Global [Day, Night, Weekend] (without Audio)

Recording Rate		Recording Quality Mode									
Total PPS of all Channels		Low		Fair		Mid		High		Best	
NTSC	PAL	NTSC (6 KB)	PAL (6 KB)	NTSC (10 KB)	PAL (10 KB)	NTSC (14 KB)	PAL (14 KB)	NTSC (18 KB)	PAL (18 KB)	NTSC (22 KB)	PAL (22 KB)
320 GB Internal Storage											
30	25	19.62	23.55	11.77	14.13	8.41	10.09	6.54	7.85	5.35	6.42
15	12.5	39.24	47.09	23.55	28.26	16.82	20.18	13.08	15.70	10.70	12.84
7.5	6.25	78.49	94.19	47.09	56.51	33.64	40.37	26.16	31.40	21.41	25.69
500 GB Internal Storage											
30	25	30.92	37.11	18.55	22.27	13.25	15.90	10.31	12.37	8.43	10.12
15	12.5	61.85	74.22	37.11	44.53	26.51	31.81	20.62	24.74	16.87	20.24
7.5	6.25	123.70	148.44	74.22	89.06	53.01	63.62	41.23	49.48	33.74	40.48
750 GB Internal Storage											
30	25	46.62	55.95	27.97	33.57	19.98	23.98	15.54	18.65	12.72	15.26
15	12.5	93.25	111.90	55.95	67.14	39.96	47.96	31.08	37.30	25.43	30.52
7.5	6.25	186.49	223.79	111.90	134.27	79.93	95.91	62.16	74.60	50.86	61.03
1 TB Internal Storage											
30	25	63.83	76.59	38.30	45.96	27.36	32.83	21.28	25.53	17.41	20.89
15	12.5	127.66	153.19	76.59	91.91	54.71	65.65	42.55	51.06	34.82	41.78
7.5	6.25	255.31	306.38	153.19	183.83	109.42	131.30	85.10	102.13	69.63	83.56

Record Duration (Days): Half-D1, Global [Day, Night, Weekend] (without Audio)

Recording Rate		Recording Quality Mode									
Total PPS of all Channels		Low		Fair		Mid		High		Best	
NTSC	PAL	NTSC (4 KB)	PAL (4 KB)	NTSC (6 KB)	PAL (6 KB)	NTSC (8 KB)	PAL (8 KB)	NTSC (10 KB)	PAL (10 KB)	NTSC (12 KB)	PAL (12 KB)
320 GB Internal Storage											
60	50	14.72	17.66	9.81	11.77	7.36	8.83	5.89	7.06	4.91	5.89
30	25	29.43	35.32	19.62	23.55	14.72	17.66	11.77	14.13	9.81	11.77
15	12.5	58.87	70.64	39.24	47.09	29.43	35.32	23.55	28.26	19.62	23.55
7.5	6.25	117.73	141.28	78.49	94.19	58.87	70.64	47.09	56.51	39.24	47.09
500 GB Internal Storage											
60	50	23.19	27.83	15.46	18.55	11.60	13.92	9.28	11.13	7.73	9.28
30	25	46.39	55.66	30.92	37.11	23.19	27.83	18.55	22.27	15.46	18.55
15	12.5	92.77	111.33	61.85	74.22	46.39	55.66	37.11	44.53	30.92	37.11
7.5	6.25	185.55	222.66	123.70	148.44	92.77	111.33	74.22	89.06	61.85	74.22
750 GB Internal Storage											
60	50	34.97	41.96	23.31	27.97	17.48	20.98	13.99	16.78	11.66	13.99
30	25	69.93	83.92	46.62	55.95	34.97	41.96	27.97	33.57	23.31	27.97
15	12.5	139.87	167.84	93.25	111.90	69.93	83.92	55.95	67.14	46.62	55.95
7.5	6.25	279.74	335.69	186.49	223.79	139.87	167.84	111.90	134.27	93.25	111.90
1 TB Internal Storage											
60	50	47.87	57.45	31.91	38.30	23.94	28.72	19.15	22.98	15.96	19.15
30	25	95.74	114.89	63.83	76.59	47.87	57.45	38.30	45.96	31.91	38.30
15	12.5	191.49	229.78	127.66	153.19	95.74	114.89	76.59	91.91	63.83	76.59
7.5	6.25	382.97	459.56	255.31	306.38	191.49	229.78	153.19	183.83	127.66	153.19

Record Duration (Days): CIF, Global [Day, Night, Weekend] (without Audio)

Recording Rate		Recording Quality Mode									
Total PPS of all Channels		Low		Fair		Mid		High		Best	
NTSC	PAL	NTSC (2 KB)	PAL (2 KB)	NTSC (3 KB)	PAL (3 KB)	NTSC (4 KB)	PAL (4 KB)	NTSC (5 KB)	PAL (5 KB)	NTSC (6 KB)	PAL (6 KB)
320 GB Internal Storage											
120	100	14.72	17.66	9.81	11.77	7.36	8.83	5.89	7.06	4.91	5.89
60	50	29.43	35.32	19.62	23.55	14.72	17.66	11.77	14.13	9.81	11.77
30	25	58.87	70.64	39.24	47.09	29.43	35.32	23.55	28.26	19.62	23.55
15	12.5	117.73	141.28	78.49	94.19	58.87	70.64	47.09	56.51	39.24	47.09
7.5	6.25	235.46	282.56	156.98	188.37	117.73	141.28	94.19	113.02	78.49	94.19
500 GB Internal Storage											
120	100	23.19	27.83	15.46	18.55	11.60	13.92	9.28	11.13	7.73	9.28
60	50	46.39	55.66	30.92	37.11	23.19	27.83	18.55	22.27	15.46	18.55
30	25	92.77	111.33	61.85	74.22	46.39	55.66	37.11	44.53	30.92	37.11
15	12.5	185.55	222.66	123.70	148.44	92.77	111.33	74.22	89.06	61.85	74.22
7.5	6.25	371.10	445.32	247.40	296.88	185.55	222.66	148.44	178.13	123.70	148.44
750 GB Internal Storage											
120	100	34.97	41.96	23.31	27.97	17.48	20.98	13.99	16.78	11.66	13.99
60	50	69.93	83.92	46.62	55.95	34.97	41.96	27.97	33.57	23.31	27.97
30	25	139.87	167.84	93.25	111.90	69.93	83.92	55.95	67.14	46.62	55.95
15	12.5	279.74	335.69	186.49	223.79	139.87	167.84	111.90	134.27	93.25	111.90
7.5	6.25	559.48	671.37	372.98	447.58	279.74	335.69	223.79	268.55	186.49	223.79
1 TB Internal Storage											
120	100	47.87	57.45	31.91	38.30	23.94	28.72	19.15	22.98	15.96	19.15
60	50	95.74	114.89	63.83	76.59	47.87	57.45	38.30	45.96	31.91	38.30
30	25	191.49	229.78	127.66	153.19	95.74	114.89	76.59	91.91	63.83	76.59
15	12.5	382.97	459.56	255.31	306.38	191.49	229.78	153.19	183.83	127.66	153.19
7.5	6.25	765.94	919.13	510.63	612.75	382.97	459.56	306.38	367.65	255.31	306.38

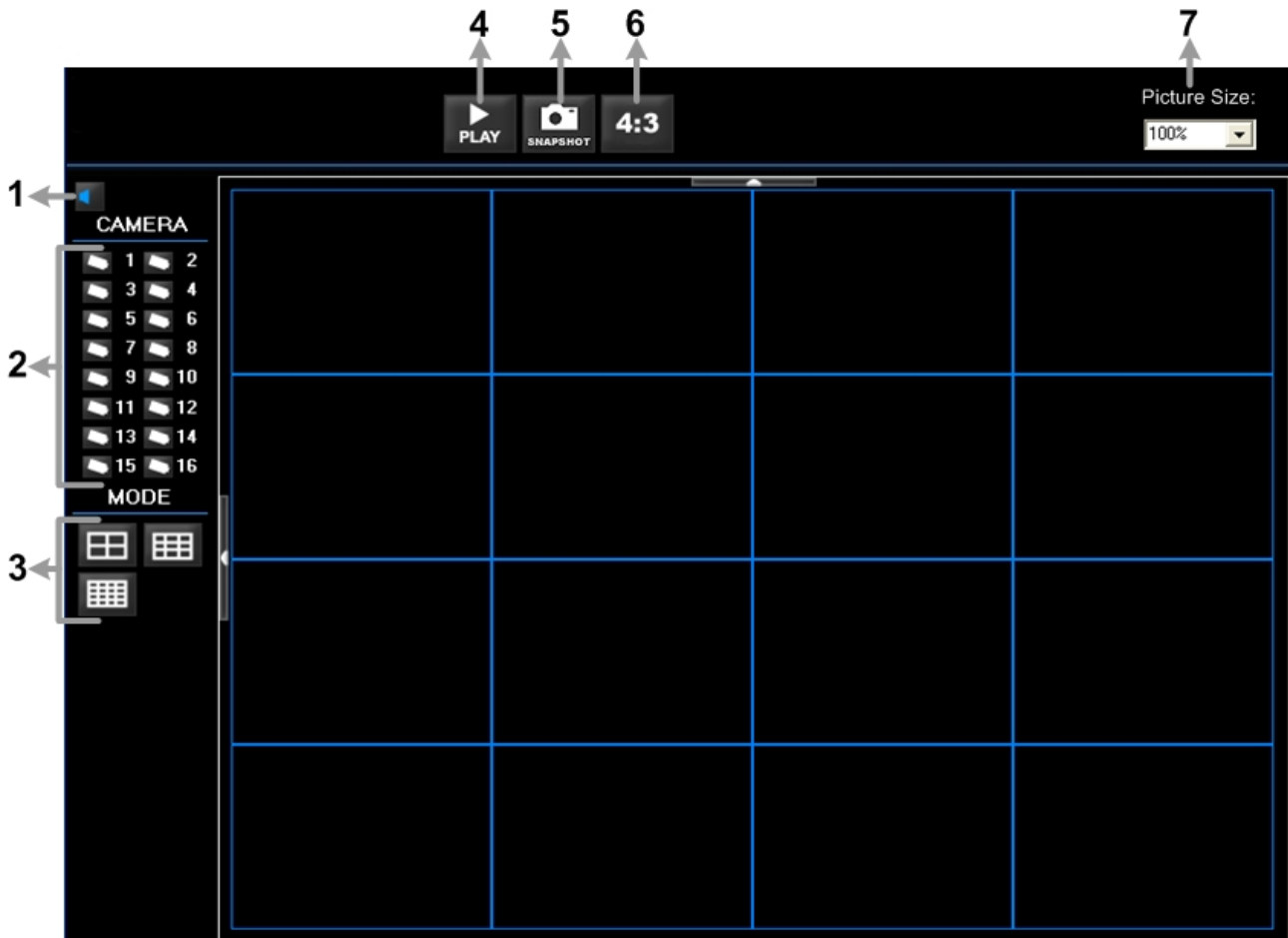
Appendix C: DVRPlayer

DVR**Player** is a software that enables users to playback the *.drv files recorded by the DVRs at a PC site.

NOTE: The DVR**Player** can ONLY accept and playback *.drv files.

First connect to the DVR via DVR**Remote**. Then download the DVR**Player**.zip file by clicking on the link provided on the DVR**Remote** main window. Extract the zip file to the same folder. Click on the DVR_Player.exe, and the main window of the DVR**Player** displays as shown below.

The main window of the DVR**Player** displays a list of cameras and mode selection buttons at the left-hand side. Using the mode selection buttons, users can select a desired viewing mode, including 4-window, 9-window and 16-window.

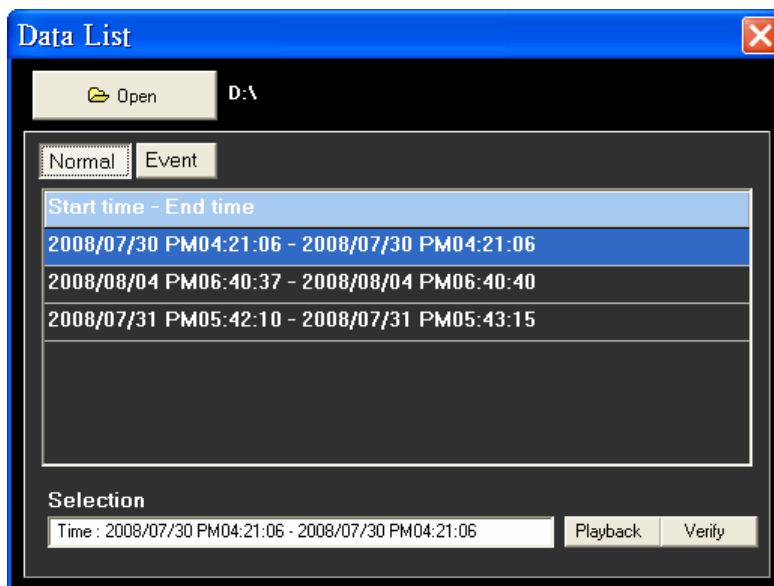


The functional items are:

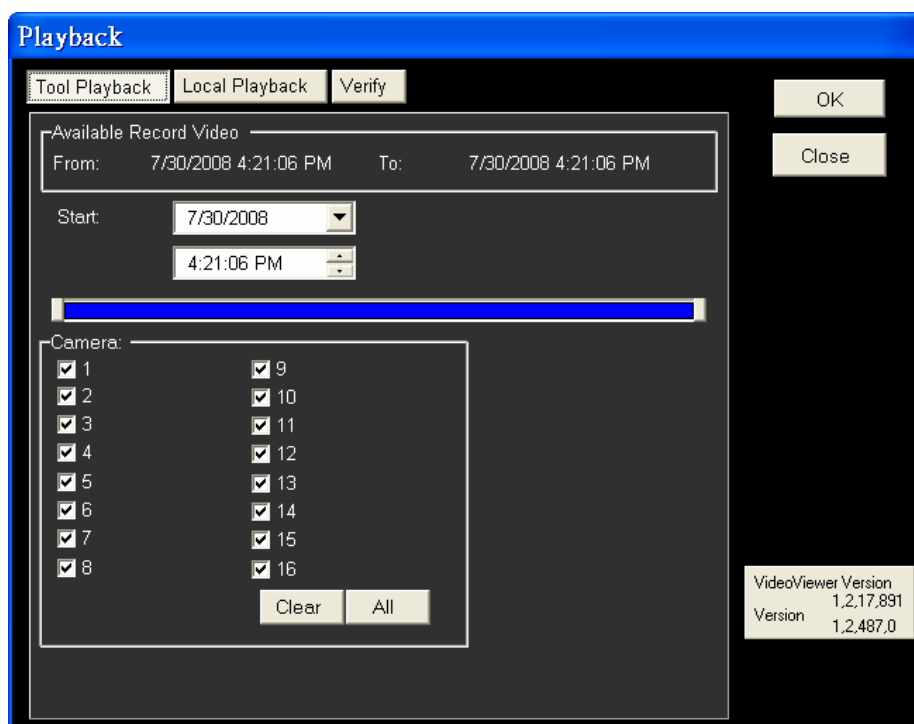
1	Audio On/Off	5	Capture Snapshot
2	Camera Selection	6	Change Viewing Aspect to 4:3
3	Mode Selection	7	Change Picture Size
4	Play Recorded *.drv Files		

Playback the videos on the Data List

Click <PLAY> on the toolbar at the top of the main window. The “Data List” window displays, shown as the figure below:



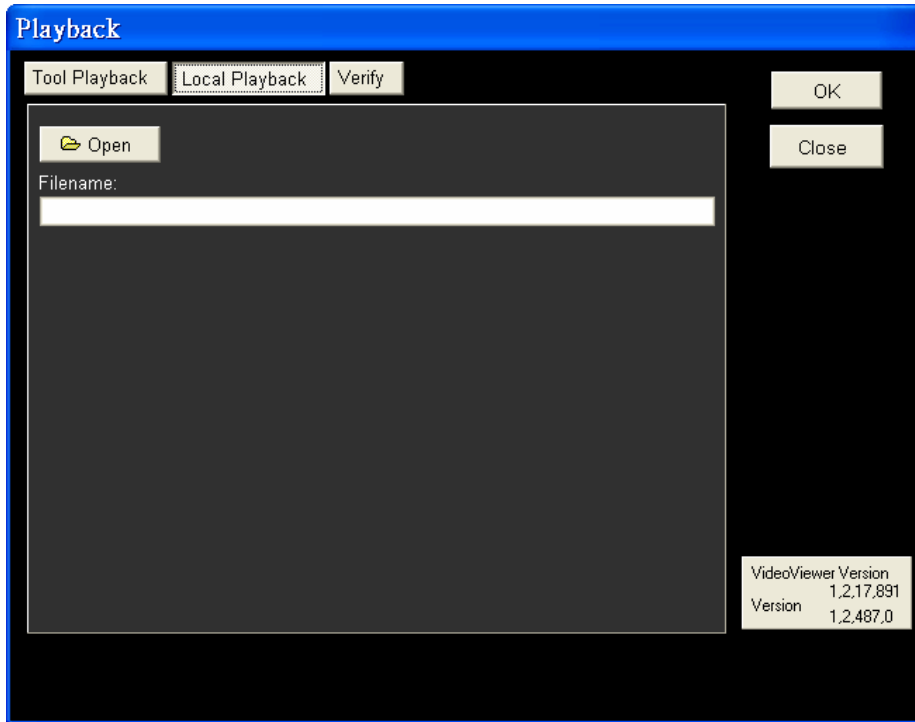
The “Data List” will show all recorded videos, “Normal” and “Event” separately, that are stored in the destination folder appeared at the top. Note that users can also click <Open> on the top to select a different folder which contains recorded videos. Select one from the list and click <Playback> at the bottom, then the “Playback” window will be shown as below:



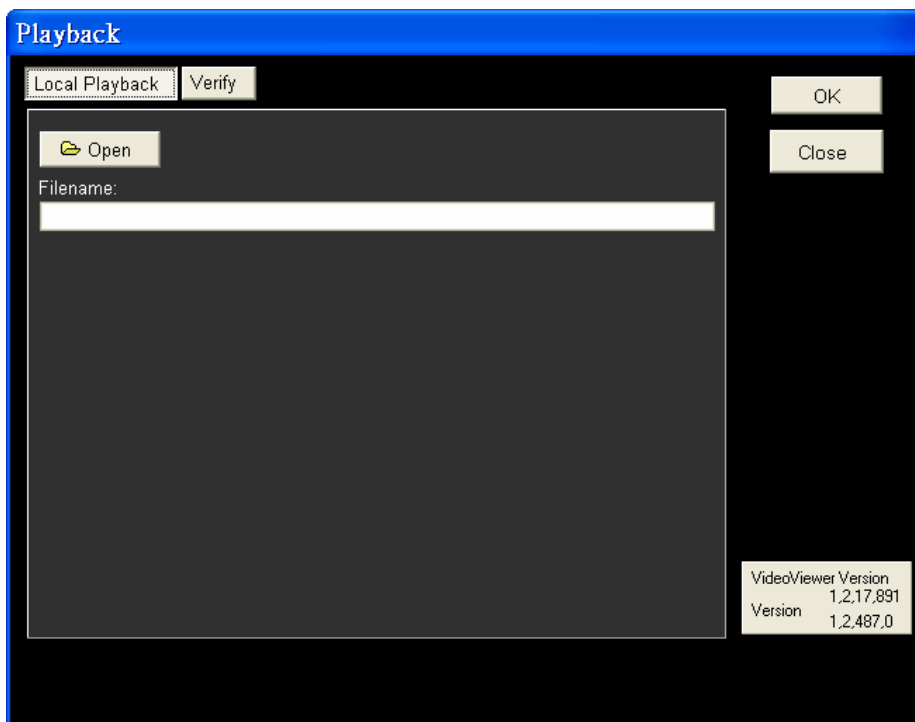
In the <Tool Playback> tab, users can set starting time and displaying cameras of the selected video. Then click <OK> on the upper right-hand corner of the window to start playback the video with selected starting time and displaying camera on the main window.

Local Playback the selected *.drv files

In the <Local Playback> tab, as shown below, users can click <Open> to select a specific *.drv file and click <OK> to playback the file on the main window.



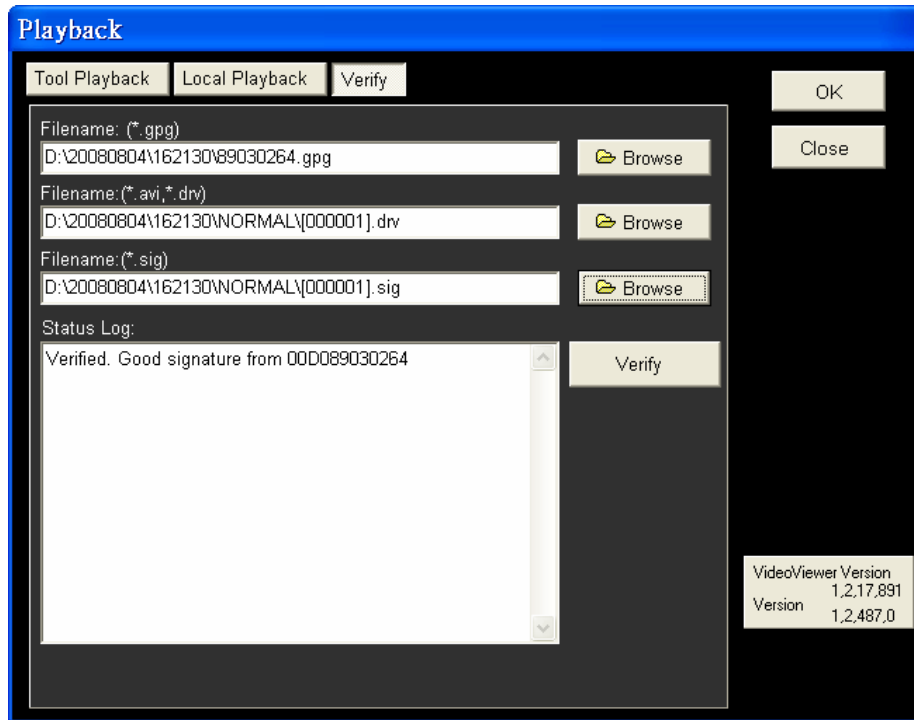
Note: If users click the close button at the top-right corner of the “Data List” window, the following “Playback” window with <Local Playback> tab and <Verify> tab only. The function of <Verify> tab will be described on the next page.



Verify digital signature of exported videos

In the <Verify> tab, as shown below, users can authenticate videos with digital signatures. Follow the steps below to complete the verification.

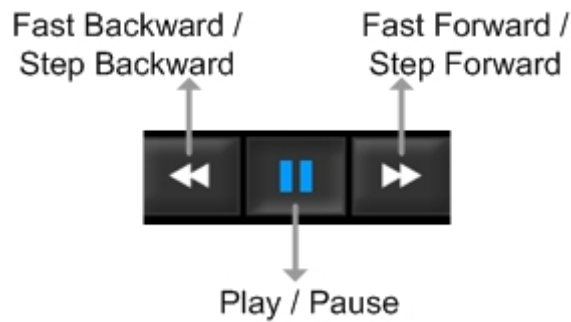
- Select any video from the Data List and click <Verify> at the bottom, then the “Playback” window will be displayed returning a GOOD or BAD signature result in the <Status Log> field. A GOOD signature indicates the exported clip has not been altered, whereas a BAD signature means the video might be changed at some point.






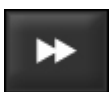
- Alternatively, click <Browse> to select the *.gpg, *.drv (or *.avi), *.sig files, which belong to the video to be authenticated, respectively. After all files are selected, click <Verify> button to start verifying digital signature.

Playback Controls

When the video starts to playback on the main window, the playback control buttons will be displayed on the toolbar at the top of the main window. Please refer to below picture:



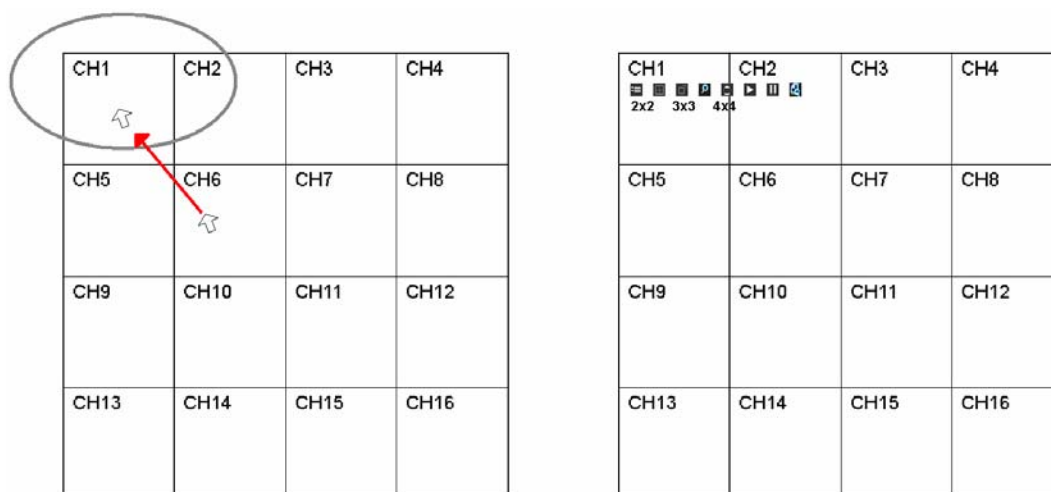
Refer to the following table for description of playback control buttons used while playing back the *.drv file.

ICON	BUTTON	DESCRIPTION
	Fast Backward / Step Backward	<ol style="list-style-type: none"> 1. Click to playback the video backward. Click repeatedly to select the desired playback speed from 1X, 2X, 4X, 8X, 16X and 32X. 2. When the playback is paused, click once to move one step backward.
	Play	Click to resume the playback. The icon is displayed when the playback operation is paused.
	Pause	Click to pause the playback. The icon is displayed while playing back the video.
	Fast Forward / Step Forward	<ol style="list-style-type: none"> 1. Click to playback the video forward. Click repeatedly to select the desired playback speed from 1X, 2X, 4X, 8X, 16X and 32X. 2. When the playback is paused, click once to move one step forward.

Appendix D: Operating USB Mouse on the DVR

Users can use an USB mouse to operate the DVR. To use the USB mouse, please read through the following descriptions.

Plug in an USB mouse to any USB port of the DVR. Move the USB mouse, and the cursor should appear. Move the cursor to the **top-left** of the screen, and 8 functional icons will be displayed, as shown below.



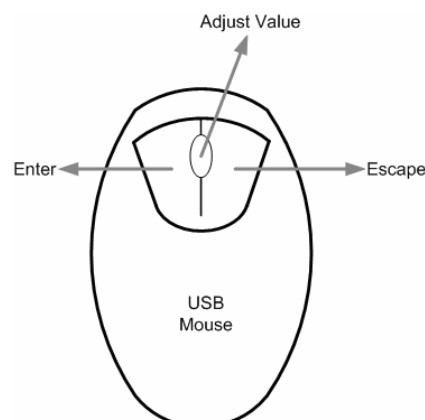
The description of the 8 functional icons on the upper row are listed as the below. They are similar to the function keys on the front panel.



1	Menu	5	Call
2	Mode	6	Play
3	SEQ	7	Pause
4	Zoom	8	Search

Click on the 3 icons on the lower row to display viewing modes 2x2, 3x3, and 4x4.

Clicking the left button of the USB mouse functions the same as pressing the “ENTER” key on the front panel of the DVR. Clicking the right button of the USB mouse functions the same as pressing the “ESC” key on the front panel of the DVR. The scroll wheel is used to change values. For example, if users want to change dome camera ID, enter the OSD setup menu and go to the following path:
 <Main Menu> → <Camera Setup> → <Dome ID>



Left click on <Dome ID> and scroll the wheel up or down, the ID number will change as the scroll wheel moves. Stop moving the scroll wheel when the preferred ID number appears, then left click on the <Dome ID> and the ID number will be changed.

Appendix E: HDD Copy Tool (EXT2IFS)

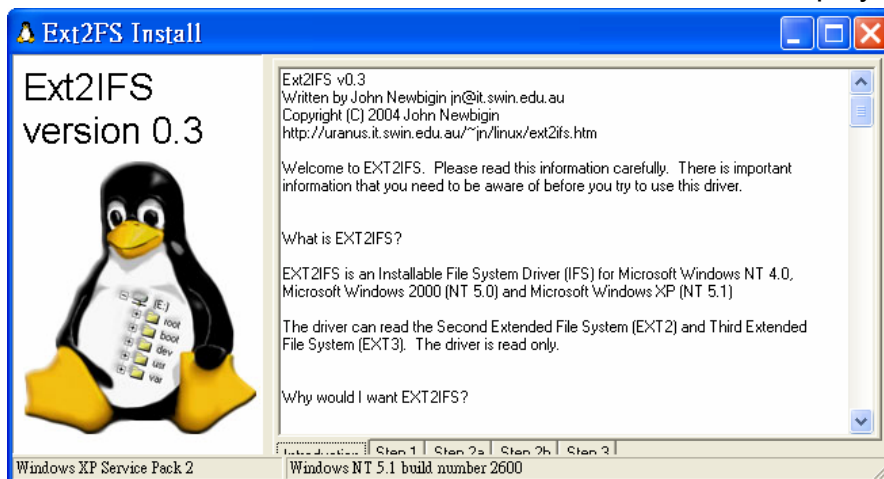
The data system of the DVR's HDD is totally different from Windows® based PC. So if users just simply plug the HDD onto the PC, the PC will not recognize its existence. Hence, to access data from the DVR's HDD, users will need a special HDD Copy Tool driver called EXT2IFS. This appendix section will introduce how to download, install, and setup EXT2IFS and the DVR's HDD.

Installation of the DVR's HDD

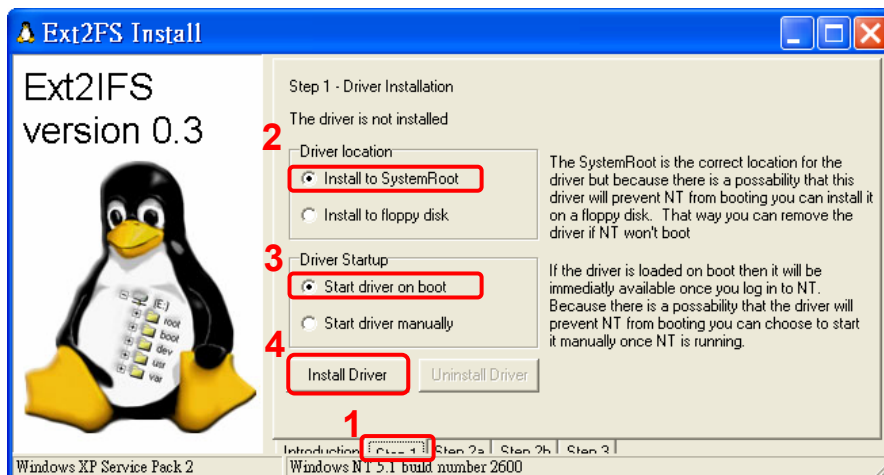
EXT2IFS can be found on the website: <http://uranus.it.swin.edu.au/~jn/linux/ext2ifs.htm>. A detailed description about the driver can also be found. Plug in the DVR's HDD to the PC, then follow the steps below.

Step 1. Download EXT2IFS to the PC from the website listed above.

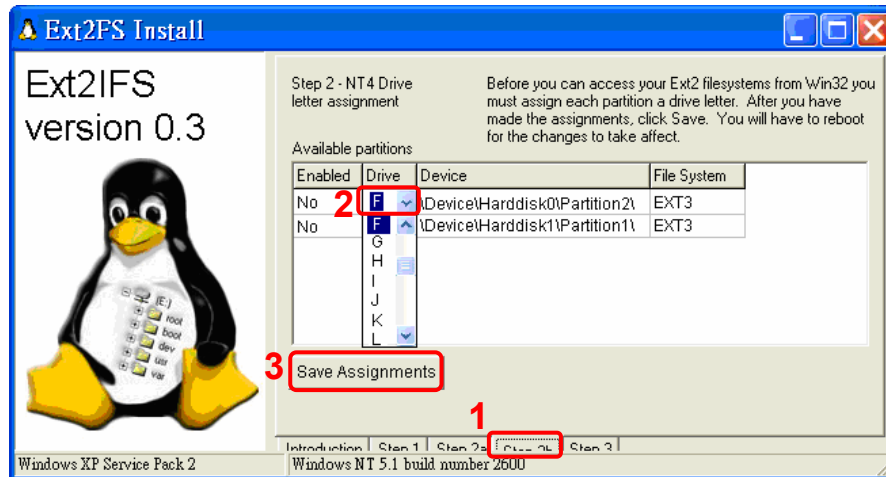
Step 2. Extract the EXT2IFS driver that was just downloaded. Open the extracted folder and double click on "service.exe", and the window below will be displayed.



Step 3. Click <Step 1>, then choose <Install to SystemRoot> and <Start driver on boot> options, as shown below. Then, click <Install Driver> button.



Step 4. Click <Step2b>. Assign each partition to a drive letter. After the assignment of HDDs are made, click <Save Assignments> button.



Step 5. Click <Step3>. Then, click <Start Driver> button. Now, reboot the PC for the changes to take effect. The HDD installation is now completed.



After the DVR's HDD is correctly installed, videos in the DVR's HDD can be played back by using the DVRPlayer. Refer to **Appendix C: DVRPlayer** for detail instruction about the operation of the DVRPlayer.

Removal of the DVR's HDD

To remove the HDD from the PC, follow the instruction below.

Re-open the EXT2IFS, and go to <Step 1> menu. Click “Uninstall Driver”, and a message will be shown as: “The service is currently started. You will have to reboot before the service is completely uninstalled.” Click on “OK” and turn off the PC. Remove the HDD from the PC, and reboot the PC. The removal of HDD is now completed.

