

Versatile H.264 DVR

OSD Setup Manual

Version 2.1

Table of Contents

Menu System Overview	7
< Username and Password >.....	7
< Key Usage >	7
Key Usage in OSD Menu	7
Key Usage in Virtual Keyboard.....	8
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 >.....	10
< Date/Time >	11
Date / Time	11
Time Zone	11
Date/Time Display	12
Date Display Mode	12
Time Display Mode.....	12
Daylight Saving Time Setup	12
- Daylight Saving Time	12
- DST Start / End	12
- DST Bias.....	13
Network Time Protocol Setup.....	13
- NTP Server	13
- Automatically Time Sync	13
- Manually Time Sync.....	13
< Unit Name >	13
< Show Unit Name >	14
< User Management >	14
Password Protection	14
Account Setup.....	14
Permissions Setup	15
Load Default Setting.....	15
< Network Setup >	15
LAN Select	16

LAN Setup	16
- DHCP	16
- IP	17
- Netmask.....	17
- Gateway.....	17
- DNS	17
- PPPoE Account.....	17
- PPPoE Password.....	18
- PPPoE Max Idle.....	18
- Connect At Booting	18
- Network Restart	18
Web Port	19
Email Address	19
SMTP Setup	19
- Email via SMTP	19
- SMTP Server	20
- SMTP Port	20
- SMTP Account	20
- SMTP Password	21
- Use SSL Connection.....	21
DDNS Setup.....	21
- Enable DDNS.....	21
- Host Name	22
- DDNS Port	22
- Submit/ Update	22
- ezDDNS.....	23
UPnP Setup.....	23
- UPnP	23
- UPnP NAT Traversal	23
< RS485 Setup >.....	24
Unit ID	24
Baud Rate	24
Bits	24
Stop	24
Parity	24
< Audio Output/Key Beep >.....	25
Audio Output	25
Key Beep.....	25
Split Mode Audio.....	25
Monitor Setup.....	26

< Show Camera Name >.....	26
< OSD Transparency >	26
< VGA Resolution >.....	26
< Show Color Bar >.....	26
< Mouse Sensitivity >.....	26
Camera Setup.....	27
< Analog Camera >	27
Analog Camera Select	27
Dome Protocol.....	27
Dome ID	27
Camera Name	27
Hidden.....	28
Brightness	28
Contrast.....	28
Saturation.....	28
Hue.....	28
Record Setup	29
< Record Mode Setup >	29
Record Resolution.....	29
Record Format	29
Max Rec. PPS.....	30
CBR/VBR	30
< Schedule Setup >.....	30
Day / Night Time Start / End	30
Weekend Schedule	31
Weekend Start / End.....	31
< Preset Record Configuration >.....	31
< Per Camera Config >	32
Camera Select.....	32
Normal PPS.....	32
Normal Qlty	32
Event Max PPS	32
Event Qlty.....	32
Event Active.....	32
< ezRecord Setup >	33
< Data Lifetime Setup >	34
Data Lifetime Mode	34
Data Lifetime	34
Data Lifetime By Day.....	34
Data Lifetime By Channel.....	34

< Circular Recording >	35
< Audio Recording >.....	35
< Purge Data >.....	36
Purge All Data	36
Purge All Event Data	36
Purge Event Before	36
Start To Purge.....	36
Sequence Setup	37
< Main / Call Monitor Dwell >	37
< Main / Call Monitor Schedule >	37
Event Setup	38
< Internal Buzzer >.....	38
< Event Icon >	38
< Email Notice >.....	38
< Email Attachment >.....	39
< Alert Notification Setup >.....	39
Alert Configuration Set	39
Alert Notification	39
Alert IP	40
Alert Port	40
Alive Interval.....	40
< Event Full Screen >.....	40
< Event Duration >	40
< Per Channel Config >.....	40
Channel Select	40
Video Loss Detect	41
Motion Detect	41
Detection Configuration	41
- Detected Area Setup.....	41
- Sensitivity	42
- Block Threshold	42
Alarm In	42
Alarm Out	42
Database Setup	43
< Total / Free Size >	43
< Avail. Rec Time >	43
< Internal Disks >	43
< Repair On Power Loss >	44
Configuration	45
< Load Factory Default >.....	45

< Import Configuration >	45
< Export Configuration >	46
Copy Destination	46
Configuration Name	46
Begin Export	46
< System Log >	47
< Operation Log >	47
Export	48
< Select Device >	48
< Select Channel >	49
< From / To Time >	49
< Select Events >	49
< Data Type >	49
< Export Format >	50
< Digital Signature >	50
< Erase Disc >	50
< Begin Export >	50
POS Setup	51
< POS Function >	51
< POS Overlay >	51
< Exception POS Setup >	51
Exception No.	52
Trigger	52
Exception String	52
By Numerals	52
< Input Setup >	53
Input source	53
Camera Selection	53
Text Filter	54
Manual Filter Setup	54
Input Process	54
Text Baud Rate	55
Text Bit	55
Text Stop	55
Text Parity	55
Shutdown	56
< Power Off >	56
< Reboot >	56
< Power Key Privilege >	56
Appendix A: ezRecord Diagram Samples	57

Appendix B: Record Duration	60
Appendix C: DVRPlayer	63
Appendix D: USB Mouse Operatoion	68
Special Operations	68
Appendix E: HDD Copy Tool (EXT2IFS)	70

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 select an account to login. There are two preset accounts: “admin” and “user”. The next step is to enter a corresponding password. The preset password for the administrator account “admin” is “1234”, while the preset password for the account “user” is “4321”.



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

An icon displayed at the status bar will show the authority level of the account. Under logout condition, the icon will show “Guest”. 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 when keys are not pressed for 5 minutes 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 Unit 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, unit name, etc. The virtual keyboard displays as follows.

!	@	#	*	-	_	+	=	,	.	/	Back	
1	2	3	4	5	6	7	8	9	0	Del		
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
<<		>>		Space			Cancel		OK			

<To input characters>

Move the cursor by pressing Direction keys and press ENTER to select characters.

<To move the cursor in title entry field>

Select “<<” / “>>” and press ENTER to move the cursor to left / right in the title entry field.

<To delete previous character>

Select <Backspace> and press ENTER.

<To delete current character>

Select <Delete> and press ENTER.

<To exit the virtual keyboard>

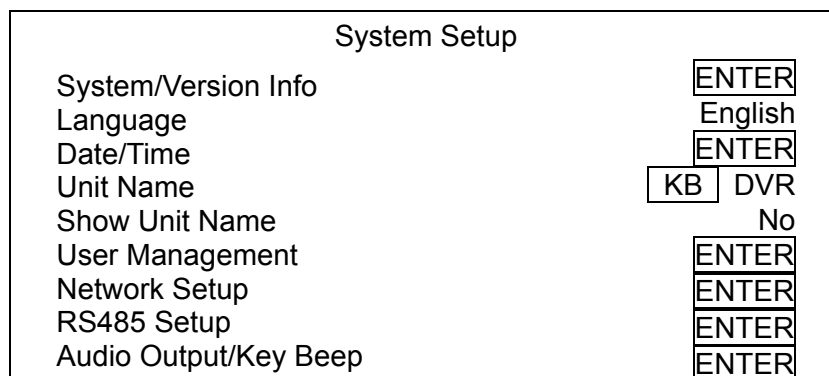
Select <OK> and press ENTER to save the settings and exit. Otherwise press ESC or select <Cancel> and press ENTER to exit without saving changes.



NOTE: If a USB keyboard is connected and when any key on the keyboard is pressed, the cursor on the virtual keyboard will be automatically moved to <OK>.

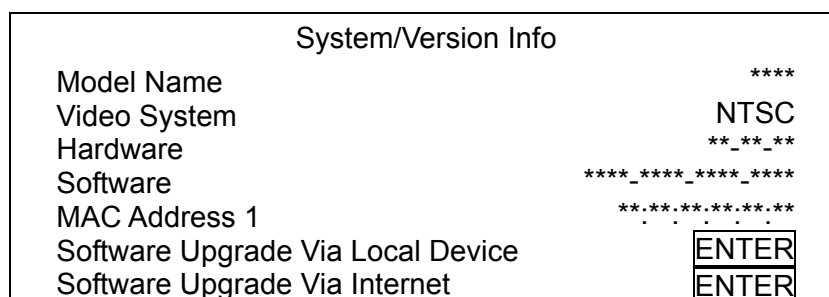
System Setup

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/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.



■ **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 DVR downloads the software, updates the system files, and reboots automatically.

< 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	2011/02/21
Time	PM 10:39:26
Time Zone	OFF
Date/Time Display	ON
Date Display Mode	Y/M/D
Time Display Mode	12 HR
Daylight Saving Time Setup	<input type="text" value="ENTER"/>
Network Time Protocol Setup	<input type="text" value="ENTER"/>



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



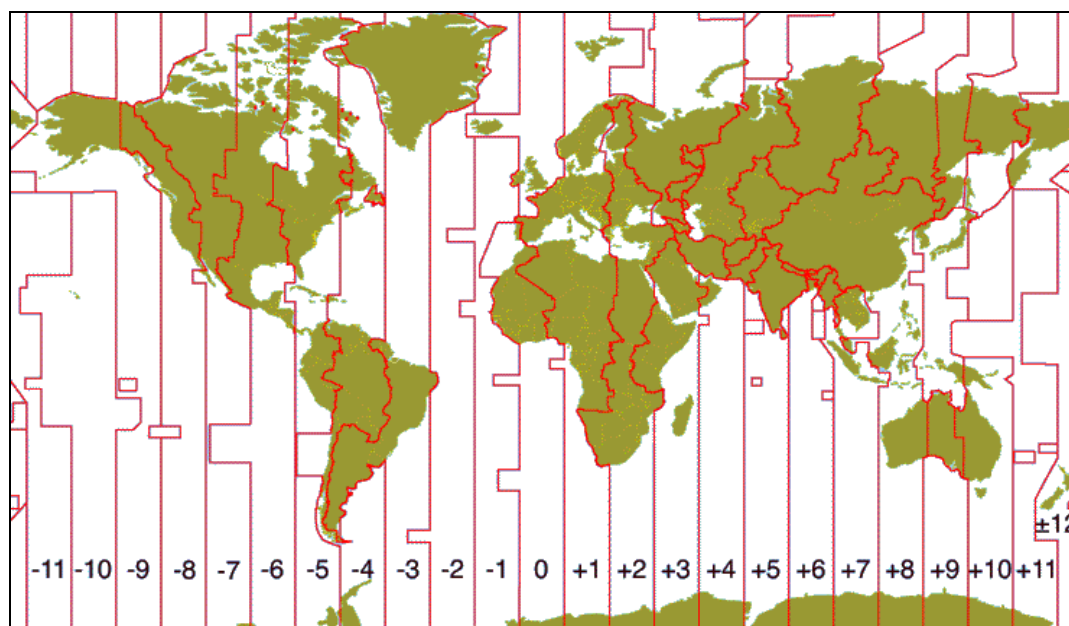
NOTE: To avoid database corruption, formatting the database is recommended after changing Date/Time setting.

■ *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**

Select <ON> or <OFF> to setup whether to display date/time information on the screen. Press ENTER and 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 HR> or <24 HR>. Use the UP / DOWN keys to change the format.

■ **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 1st Sun 01:00
DST End	Oct Last Sun 01:00
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	<input type="text" value="KB"/> time.nist.gov
Automatically Time Sync	Off
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.

!												
!	@	#	*	-	_	+	=	,	.	/	Back	
1	2	3	4	5	6	7	8	9	0	Del		
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
<<		>>		Space			Cancel		OK			

- 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.

< Show Unit Name >

This item enables the unit name of the **Versatile H.264 DVR** to be shown on the monitor. Select <Yes> to show or select <No> to hide.

< 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	<input type="button" value="ENTER"/>
Permissions Setup	<input type="button" value="ENTER"/>
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. Note that the account is case sensitive and password cannot contain the number “0”. Press Direction keys and ENTER to select items. The privilege level ranks from levels 1~8, which level 8 has the highest authority. Alternatively, select <Disable> to stop using the account.

Account Setup		
Account:	<input type="text" value="admin"/>	<input type="button" value="Mod"/>
Password:	<input type="text" value="****"/>	<input type="button" value="Mod"/>
Privilege:	<input type="text" value="Level 8"/>	
	<input type="button" value="Confirm"/>	
	<input type="button" value="Cancel"/>	



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

■ **Permissions Setup**

Setup permitted authority level for accessing the functions listed in this menu. The functions include: Playback/Search, Hidden Camera, Dome Control, Live Operation, Call Control, Export Data, Menu Access, System Setup, Monitor Setup, Camera Setup, Record Setup, Sequence Setup, Event Setup, Database Setup, Configuration, POS Setup and Shutdown. Press Direction keys and ENTER to select from items. In accordance with users' privilege level defined in <Account Setup>, the authority level here also ranks from levels 1~8, with level 8 as the highest level. Users will be able to access any function that is set to their equivalent level or lower. Alternatively, select <DISABLE> to allow free access.

Permissions Setup	
Item	Authority
Playback/Search	DISABLE
Hidden Camera	LEVLE8
Dome Control	DISABLE
Live Operation	DISABLE
Call Control	DISABLE
Export Data	DISABLE



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	ENTER
Web Port	80
Email Address	KB
SMTP Setup	ENTER
DDNS Setup	ENTER
UPnP Setup	ENTER

■ **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 <input type="text" value="NUM"/>
Netmask	255.255.255.0 <input type="text" value="NUM"/>
Gateway	192.168.1.1 <input type="text" value="NUM"/>
DNS	0.0.0.0
PPPoE Account	<input type="text" value="KB"/>
PPPoE Password	<input type="text" value="KB"/>
PPPoE Max Idle	35 Min
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>.

- **DNS**

DNS is the abbreviation for “Domain Name Server”, which is an Internet service that translates domain names into IP addresses. The advantage of using DNS is that domain names are easier to remember.

This item allows users to specify the IP address of the Domain Name System associated with the DVR. To configure this item, DHCP must be set to <Off>.

If the server is unavailable when using DHCP, the DVR will search for the network server and boots up more slowly. This network search continues until it times out.

- **PPPoE Account**

The item allows users to setup the PPPoE login username.



NOTE: For accessing the PPPoE settings, select <PPPoE> as the Network Type in Network Setup menu.

To setup the login username, follow the steps:

- Select <PPPoE Account> from LAN Setup menu and press ENTER. A virtual keyboard displays.

!	@	#	*	-	_	+	=	,	.	/	Back	
1	2	3	4	5	6	7	8	9	0	Del		
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
<<			>>			Space			Cancel		OK	

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

- **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.

■ **Web 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 web port, move the cursor over <Web 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	KB	
SMTP Port		25
SMTP Account	KB	
SMTP Password	KB	
Use SSL Connection		Off

- **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.

!	@	#	*	-	_	+	=	,	.	/	Back	
1	2	3	4	5	6	7	8	9	0	Del		
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
<<			>>			Space			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.

- Use SSL Connection

SSL stands for Secure Sockets Layer, which provides communications security over the Internet. Select <On> for this item to enable SSL connection. Otherwise, select <Off> to disable SSL connection.

■ 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	<input type="text" value="KB"/> XXXX_XXXX
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.

!	@	#	*	-	_	+	=	,	.	/	Back	
1	2	3	4	5	6	7	8	9	0	Del		
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
<<			>>			Space			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.



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:

<p>ezDDNS Submit/update ok! Host name is XXXX_XXXXXX Press any key to return</p>
--



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.

■ UPnP Setup

UPnP is the abbreviation for Universal Plug and Play, which is a technology that integrates a universal protocol for widespread plug-and-play devices to ease the network implementation. When a PC and a DVR both installed the UPnP function, the PC can automatically recognize the DVR in the same local area network. The advantage of this function is that PCs can connect to the DVR via the remote control software by directly clicking on the icon representing the DVR in <My Network Places> folder. The menu will be as the following.

UPnP Setup	
UPnP	On
UPnP NAT Traversal	No

- UPnP

Set the first item UPnP to <ON> and the DVR is now with UPnP function.

- UPnP NAT Traversal

The UPnP NAT traversal function will help to automatically setup a router if the DVR connects to the internet via a router. Select <Yes> and the settings of router will be taken care by the DVR itself.

< 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 <CH01> through <CH16> to output the preferred audio, or select <OFF> to disable audio output in multiple window viewing modes.

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 Name	Yes
OSD Transparency	0 %
VGA Resolution	1024*768
Show Color Bar	<input type="checkbox"/> ENTER
Mouse Sensitivity	100%

< Show Camera Name >

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

< OSD Transparency >

This item allows users to set the OSD menu transparent in a certain degree, so that users can see the live images while configuring the OSD settings. The options are <0%>, <15%>, <30%>, <45%>, <60%>, <75%>, and <90%>.

< VGA Resolution >

This item allows users to select appropriate VGA resolution for the VGA monitor connected to the DVR. The options are <1024*768>, <1280*1024> and <1080P>.



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.

< Mouse Sensitivity >

This item allows users to set the sensitivity of the connected mouse. Starting from <10%>, with 10% increment, the maximum value is <100%>.

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.

< 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.

Camera Setup	
Analog Camera Select	CH01
Dome Protocol	None
Dome ID	0
Camera Name	KB CH1
Hidden	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 available protocol includes <DSCP>, <AD422>, <Pelco D>, <Pelco P>, <Fastrax 2>, <JVC>, <Panasonic_C> and <Panasonic_N>. 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 Name**

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

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

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

!	@	#	*	-	_	+	=	,	.	/	Back	
1	2	3	4	5	6	7	8	9	0	Del		
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
<<		>>		Space			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.

■ **Hidden**

This function allows users to set monitor display of the specific camera to be hidden while the DVR continues to record video. Choosing <Yes> means to hide monitor display of the selected camera; or choose <No> to remain monitor display of the specific camera non-hidden.

■ **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>.

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	ENTER
Schedule Setup	ENTER
Preset Config	Best Quality
Per Camera Config	ENTER
ezRecord Setup	ENTER
Data Lifetime Setup	ENTER
Circular Recording	ON
Audio Recording	ON
Purge Data	ENTER

< 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	240
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**

The video format will be H.264 compression. This item is read-only.

■ **Max Rec. PPS**

This item will remain constant. Each channel will be 30PPS.

■ **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 06:00
Night Time Start	AM 06:00
Night Time End	PM 06:00
Weekend Schedule	On
Weekend Start	Fri PM 06:00
Weekend End	Mon AM 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 PM 06:00. <Weekend End> indicates the specific day and time when weekend schedule should end, for example, Mon AM 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 >

The <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 @ 120PPS	720 X 240 @ 240PPS	360 X 240 @ 480PPS
PAL	720 X 576 @ 100PPS	720 X 288 @ 200PPS	360 X 288 @ 400PPS
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.

Per Camera Config			
Cameral Select	Day	Night	CH01 Weekend
Normal PPS	30	30	30
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 normal PPS for each channel cannot exceed 30 for NTSC / 25 for PAL.

■ **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
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 Setup >

Data Lifetime indicates the duration that a video is saved and recallable in the HDD. Only those video recorded within Data Lifetime can be displayed on the screen and played back. The video exceeded Data Lifetime will be hidden and cannot be retrieved for playback.

Data Lifetime Setup	
Data Lifetime Mode	General
Data Lifetime	0 Days
Data Lifetime By Day	ENTER
Data Lifetime By Channel	ENTER



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.

■ **Data Lifetime Mode**

This item allows the user to choose preferred data lifetime mode. There are three types of data lifetime mode: General, By Day, and By Channel. When a specific mode is selected, the other two will be grayed out and cannot be accessed.

■ **Data Lifetime**

When data lifetime mode is set as <General>, this item will be accessible. Press ENTER to select this item and press UP / DOWN keys to set the data lifetime. The value ranges from <1> to <365> days. Alternatively, select <0> to disable this function.

■ **Data Lifetime By Day**

When data lifetime mode is set as <By Day>, this item will be accessible. Enter this menu and users can setup data lifetime of each weekday independently. The value ranges from <1> to <365> days. Alternatively, select <0> to disable this function.

■ **Data Lifetime By Channel**

When data lifetime mode is set as <By Channel>, this item will be accessible. Enter this menu and users can setup data lifetime of each channel independently. The value ranges from <1> to <365> days. Alternatively, select <0> to disable this function.

< 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 as icons in the status bar. Furthermore, an alert icon will show up in the status bar 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	2000/01/01
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	<input type="text" value="ENTER"/>
Call Monitor Dwell	5 Sec
Call Monitor Schedule	<input type="text" value="ENTER"/>

< 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.

Main Monitor Schedule			
CH1	▶	CH2	▶
CH5	▶	CH6	▶
CH9	▶	CH10	▶
CH13	▶	CH14	▶
CH3	▶	CH7	▶
CH11	▶	CH15	▶
CH4	▶	CH8	▶
CH12	▶	CH16	▶
<input type="text" value="Confirm"/>		<input type="text" value="Cancel"/>	

Follow these steps to set a sequence:

- Press LEFT / RIGHT direction keys to move to previous / next sequence order.
- Press UP / DOWN keys to assign a channel to that order in the sequence.
- Continue the steps until the sequence is completed.
- To setup a sequence with less than the maximum number of entries, select <Circular> to end the sequence.

The maximum number of entries in a sequence equals to the number of channels. 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
Alert Notification Setup	ENTER
Event Full Screen	None
Event Duration	20 Sec
Per Channel Config	ENTER

< 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 triggered event. 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.

< Alert Notification Setup >

This function allows users to send alert notifications to the CMS program which had been installed to the computer. For detailed setup instruction, please refer to the CMS user's manual.

Alert Notification Setup	
Alert Configuration Set	1
Alert Notification	OFF
Alert IP	0.0.0.0 NUM
Alert Port	9999
Alive Interval	120 Sec

■ **Alert Configuration Set**

<Alert Configuration Set> provides 3 combinations of Alert Notification, IP, and Port.

■ **Alert Notification**

4 options are included in this item; <OFF>, <Event>, <Alive>, and <Both>.

<**OFF**>: The Alert Notification is turned off.

<**Event**>: When the alarm is triggered, the DVR will send an alert message to the CMS.

<**Alive**>: The DVR will send an alive message to the CMS every *N* second just to show users that the connection between the DVR and CMS is in effect. The time interval *N* can be adjusted in <Alive Interval>.

<**Both**>: This enables the DVR to send both Event and Alive alert messages to the CMS.

■ **Alert IP**

The Alert IP must match the IP address of the computer.

■ **Alert Port**

The ports for DVR and the CMS Alert MUST be the same.

■ **Alive Interval**

Users can define the time interval (1 to 255 seconds) between each alive message. This item will not be accessible if the alert notification menu is set to <OFF> or <Event>.

< 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, <Main> to display the alarm channel on Main Monitor when an alarm is triggered, <Call> to display the alarm channel on Call Monitor, or 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 the <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	CH01
Video Loss Detect	OFF
Motion Detect	OFF
Detection Config	ENTER
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>.

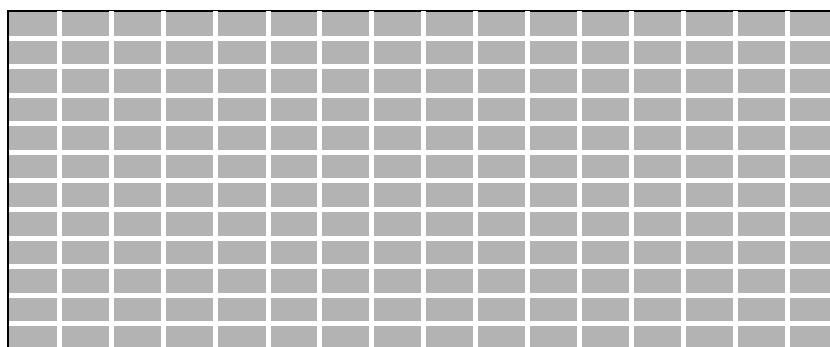
■ **Detection Configuration**

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	ENTER
Sensitivity	60 %
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	xxxGB
Free Size	xxxGB (Circular)
Avail. Rec Time	Infinite
Internal Disks	ENTER
Repair On Power Loss	On



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. “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, this item will show “Infinite”. This information is read-only as well.



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	Temp.	Active	Action
#: xxxxxxx-xxxxxx	38	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.

<Device Name> and <Temp.> are read-only. For internal disks, the number in front of the device name represents the SATA port that the HDD is connected to. If no storage device can be found, the message “No available items!” will be displayed.

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), <Format> (format the selected HDD).



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

< Repair On Power Loss >

This item enables the DVR to do auto HDD scan after powered on, if the DVR previously experienced unexpected power loss or was not shutdown properly. If auto scan failed, formatting of HDD is required. The preset is <On>. This helps to secure the data saved in the HDD. Therefore, it is suggested to keep this function enabled.



NOTE: If password protection is enabled, login with authorized account will be prompted before HDD format. Regarding details of HDD scan, please refer to the User's Manual for more information.

Configuration

The Configuration menu can be used to restore the default factory settings, import/export configuration, and view/export system log. 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	ENTER
Export Config	ENTER
System Log	ENTER
Operation Log	Off

< 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 Configuration >

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 of the imported configuration is different from the DVR's current configuration, a warning message will be shown and the system will reboot.



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

< Export Configuration >

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	ENTER
Config Name	KB
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.

■ Configuration 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.

< System Log >

Select <System Log> and a list of system logs will be displayed on the screen. Users can export the system log as a data file to an external storage device. Connect a USB storage device and select <Export> to export the system log file to the USB storage device. Alternatively, press COPY can also export the system log file. Note that in the mean time, a digital signature file will also be exported.

< Operation Log >

Set <Operation Log> to <On> and operation logs will start to be recorded in the system log. Alternatively, set to <Off> and operation logs will not be part of the system log.

Export

The Export menu enables users to export recorded video with or without digital signature to a USB storage device, or to a DVD+RW. Make sure an external storage device is available and connected to the appropriate port for video export.

When the recorded video is exported with digital signature, the output will be four files, including *.gpg, *.avi (*.drv), *.sig and readme.txt. Exporting a video whose size is 1GB with digital signature may take about 30 minutes.



NOTE: The inserted DVD+RW will be ejected when its capacity is 99% full.

Export	
Select Device	<input type="text" value="ENTER"/>
Select Ch:	Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 All
From:	2011/02/19 AM 07:50:05
To:	2011/02/28 PM 03:09:18
Select Events	<input type="text" value="ENTER"/>
Data Type	Normal
Export Format	DRV
Digital Signature	No
Erase Disc	No
Begin Export	No



NOTE: The system log will keep records of all video exportations, including duration, start time, and end time.

< Select Device >

The available external devices for exporting video will be listed by name and free size in Select Device menu. The Select Device menu displays as follows.

Select Device		
Device Name	Available	Sel
xxx-xxx-x-x-xx	256 MB	No
xx-xxx-xx-xxxx	1.5 GB	No

Device Name

The item shows the name of the available devices.

Available

The item shows the free space of the available devices.

Sel

Set this item to <Yes> to set the selected device as the exporting destination.



NOTE: The item <Erase Disk> from Video Export menu will be grayed out when the selected device is not a DVD+RW or when the device is not selected yet.

< Select Channel >

The item is used to select channels for export. Move the cursor to the desired channel using LEFT / RIGHT keys, select or de-select a channel by pressing ENTER.

< From / To Time >

These items are used to set the time which data export begins and ends. Move the cursor using Direction keys, and press ENTER to select the date / time items; adjust the selected date and time value by UP / DOWN keys.



NOTE: When the Start / End Time are set, remember to select the exporting Data Type.

< Select Events >

Select the item to display the event list for exporting event video. Move the cursor to scroll the event list and press ENTER to select the events users want to export.



NOTE: Users will not be allowed to access <Select Events> if <Data Type> is set to <Normal>.

< Data Type >

This item is used to select exporting video type. The options are <Normal> (export normal video only), <Event> (export event video only) and <Both> (export both normal and event video).



NOTE: If users want to export selected event video using the item <Select Event>, users have to set <From> and <To> to the same day and time. Otherwise, not only the selected event video will be exported to the selected destination, but also other event videos recorded during the period between <From> and <To>.

< Export Format >

This item is for selecting exporting video format. The options are <DRV>, <AVI>, and <Original>. The DRV and AVI files are compressed video files while the original files are raw data of the unit's recorded video.

The DRV and original files can only be played back with the remote monitoring software and **DVRPlayer**, and multiple cameras video can be played back from one file. The AVI files can be played back with Windows Media Player. Note that if multiple channels are exported for AVI files, each channel is exported to a separate file.

< Digital Signature >

The Digital Signature function enables users to export video clip with the unit's unique signature key. It aims to authenticate that a video clip was exported from the unit and it has not been modified. Users can export video clips with or without a digital signature file (*.sig). Set the item to <Yes> to export with the signature file, or <No> to export without it.

Make sure that an external storage device, such as a USB Hard Drive or USB ThumbDrive, is available and connected to the appropriate port for export.

For more information on verifying digital signature, see [Appendix C: DVR Player](#).

< Erase Disc >

This function is used to remove information found on a DVD+RW disk prior to writing new information. Select <Yes> and press ENTER. The data on the DVD+RW will be erased when the exporting process begins.



NOTE: This item will be grayed out when the selected device is not a DVD recorder or when the device is not selected yet.

< Begin Export >

Select <Yes> and press ENTER to start exporting.

POS Setup

The <POS > function provides a connection between a DVR and a Point-of-Sale equipment, such as cash registers. With this function, the financial transaction data can be linked to specific camera images and recorded to the DVR. To enable this function, enter OSD setup menu and select <POS>. Press Enter and the menu will be shown as follows. Items in this menu are described in the following subsections.

POS	
POS Function	On
POS Overlay	Live & PB
Exception POS Setup	<input type="text" value="ENTER"/>
Input Setup	<input type="text" value="ENTER"/>

< POS Function >

This item is used to enable/disable this function. Select <On>, the text database will be created on the hard disk.

< POS Overlay >

This item is for users to choose which mode users want to display the POS overlay on the monitor. Select <Live> to display the POS overlay in Live mode only; select <PB> to display the POS overlay in Playback mode only; and select <Live&PB> to display in both modes.



NOTE: POS overlay only shows in full screen mode.



NOTE: PB overlay is available only under x1 playback speed.

< Exception POS Setup >

This sub-menu is used to define the conditions that will be treated as an “Exception” and thus trigger an action (the function will be implemented later).

Exception POS Setup	
Exception No.	1
Trigger	On
Exception String	<input type="text" value="KB"/> NO SALE
By Numerals	OFF
Value	<input type="text" value="KB"/>
Value (Upper Limit)	<input type="text" value="KB"/>

■ ***Exception No.***

Select an exception number for further settings. Users can select from <1> to <16>.

■ ***Trigger***

Select <On>, those transactions which contain “Exception Strings” and which meet the “Numerals” conditions will be marked as exceptions in the text database and will trigger preset actions such as alarm output.

■ ***Exception String***

This item allows users to define Exception String. The “Exception String” is case-sensitive. Only exactly matched ones will be marked as exceptions.

■ ***By Numerals***

“Exception String” must be defined before “By Numerals” takes effect. If “By Numerals” is enabled, only transactions which meet both “Exception String” and “By Numerals” condition will be marked as exceptions and thus trigger an action. Users can select from the following options:

OFF:

The function is disabled.

Specific:

The value of transaction meets a specific value will be marked as an exception. The specific value needs to be set through the following sub-menu <Value>.

Greater Equal Than:

The value of transaction greater than or equal to a certain value will be marked as an exception. The specific value needs to be set through the following sub-menu <Value>.

Less Equal Than:

The value of transaction less than or equal to a certain value will be marked as an exception. The specific value needs to be set through the following sub-menu <Value>.

Inside The Range:

The value of transaction within a certain range will be marked as an exception. The specific value needs to be set through the following sub-menus <Value> and <Value (Upper Limit)>.

Outside the Range:

The value of transaction outside a certain range will be marked as an exception. The specific value needs to be set through the following sub-menus <Value> and <Value (Upper Limit)>.



NOTE: Transactions will only be marked as exceptions in the text database after “Exception String” and “By Numerals” are set AND “Trigger” is <ON>. The data that has been stored before will not be marked as exceptions.

< Input Setup >

This item is used to choose the connection method between the POS Device and the DVR. Also some relative settings of the connection method can be configured.

Input Setup	
Input Source	Direct Connected
Camera Selection	1
Text Filter	ASCII
Manual Filter Setup	<input type="text" value="ENTER"/>
Input Process	Canonical
Text Baud Rate	9600
Text Bits	8
Text Stop	1
Text Parity	None

■ **Input source**

Select whether the input source is directly connected or connected with the Data Converter. If the input source is directly connected, users may need to go to the next item, Camera Selection, to select a corresponding camera.

■ **Camera Selection**

Select a camera to display the POS overlay.

■ **Text Filter**

This item is used to choose the text filter. The supported models for pole display and printer are listed below.

Pole Display	Printer	POS Machine
Cache Technology VFD-202T	Citizen CBM-1000 II	Acula AQ-812
Citizen C2202	Citizen CT-S300	IBM SurePOS 700
Digipos CD5220	Dell T200	Samsung ER-380M
Emax Pole Display	Epson TM-T88II/ TM-T88III/ TM-T88IV	Samsung ER-655
Epson DM-D Series	Epson TM-T90	Senor POS
Logic Controls LD9000	Epson TM-930 II	
Logic Controls PD3000	Epson RP-U420	
Logic Controls PD6000	IBM SureMark TF6	
Logic Controls TD3000	IBM SureMark TM6	
Magellan	Ithaca iTherm 280	
Partnertech CD5220	Ithaca POSJet 1000	
Posiflex ICD-2002	POS-X Xr500	
Posiflex PD 302	Samsung SRP350	
Posiflex PD 303	Sensor TP-288	
Posiflex PD-2100	Star TSP100 futurePRNT	
Posiflex PD-2200	Star TSP600	
POS-X Xp8000	Star TSP700	
Scales	Star TSP800	
Sibnet	TPG (Axiohm) A794	
STAR SCD400-PD	WP-520(ESC/POS)	
Soteke VFD2025		
Soteke VFD2029		
TEC		
Toledo 8217		
TYSSO VFD Series		
Ultimate Technology PD1100XL		
Wedderburn DS-770		

■ **Manual Filter Setup**

After entering the Manual Filter Setup menu, users should key in hexadecimal digits. The menu of the item is shown as follows.

Manual Filter Setup	
Header 1	KB
Header 2	KB

■ **Input Process**

If users will be using a Pole Display from a PC based POS, select <Canonical>. <Non-Canonical> is to be selected when using a Pole Display from a Standalone POS.

■ *Text Baud Rate*

This item allows users to setup the baud rate of RS232 which connects the POS Device and the DVR.

■ *Text Bit*

This item allows users to setup the bits of RS232.

■ *Text Stop*

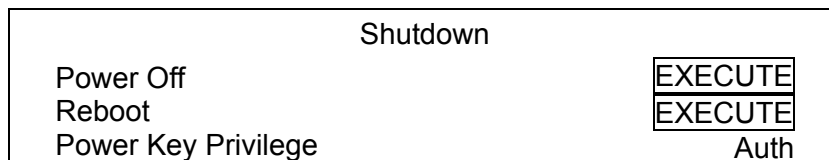
This item allows users to setup the stop of RS232.

■ *Text Parity*

This item allows users to setup the parity of RS232.

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.



< 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.

< Power Key Privilege >

According to the setting of this item, users are able to quick shutdown the DVR via long pressing the Power Key. This item defines the action of the power key. The options are <Auth>, <Confirm>, <Direct>, and <Disable>. The following explains each option.

<Auth>: This will ask users to login with an authorized account, when Password Protection function is enabled. If Password Protection function is disabled, the action will be the same as the next option <Confirm>.

<Confirm>: When this option is selected, a confirmation message will be shown after pressing and holding the Power Key. Users can confirm or cancel the quick shutdown function.

<Direct>: For users who wish to enable the quick shutdown function without any confirmation or login process, select this option and the DVR will automatically shutdown after pressing and holding the Power Key.

<Disable>: Select this option to disable the quick shutdown function.

Appendix A: ezRecord Diagram Samples

Diagram Sample(Full-D1)

NTSC:720x480@120PPS

PAL:720x576@100PPS

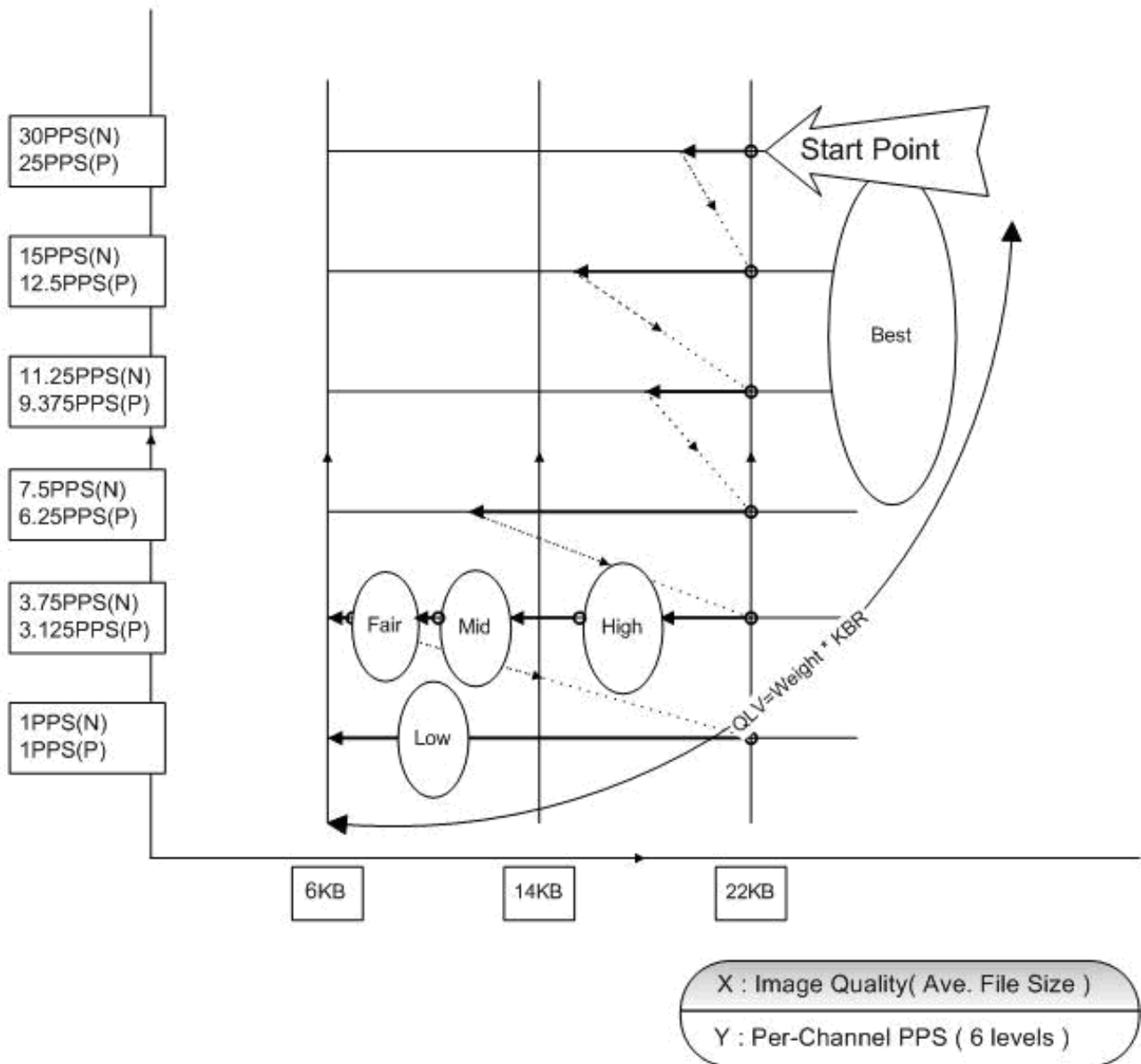


Diagram Sample(Half-D1)

NTSC:720x240@240PPS

PAL:720x288@200PPS

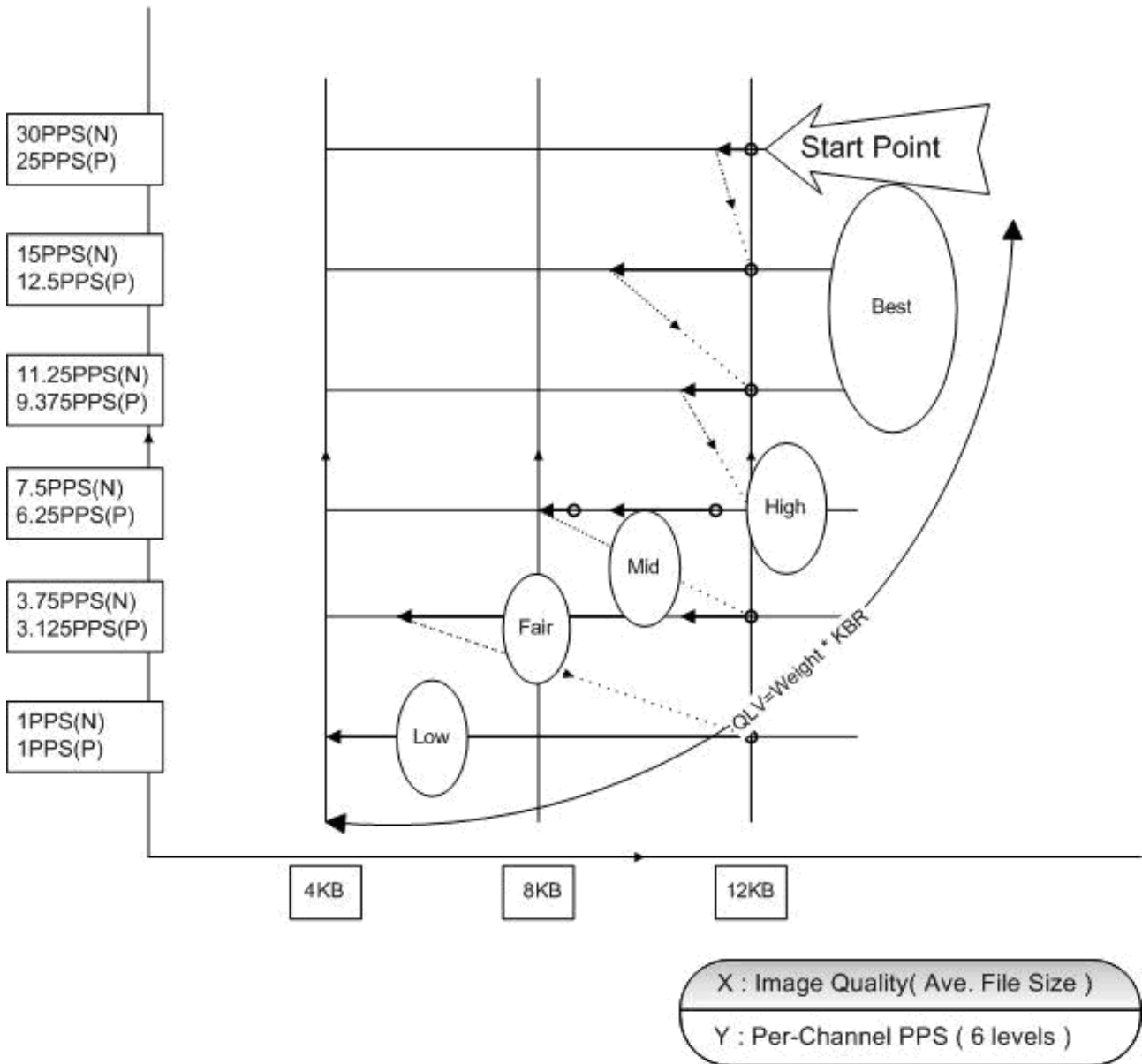
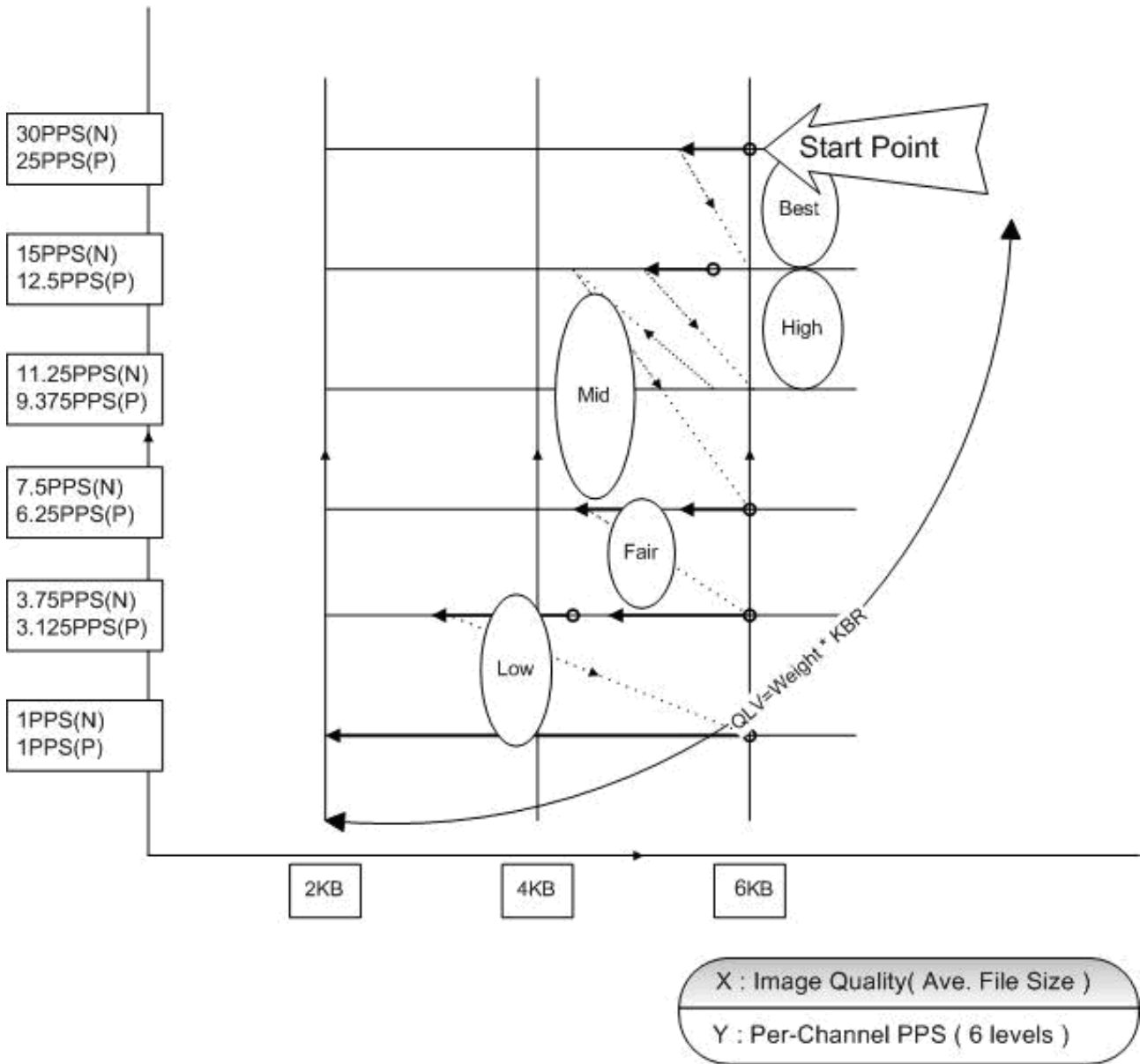


Diagram Sample(CIF)

NTSC:360x240@480PPS

PAL:360x288@400PPS



Appendix B: Record Duration

The record duration relates to recording rate, image quality, HDD capacity, and event settings. The following tables give a 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 quality 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.

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

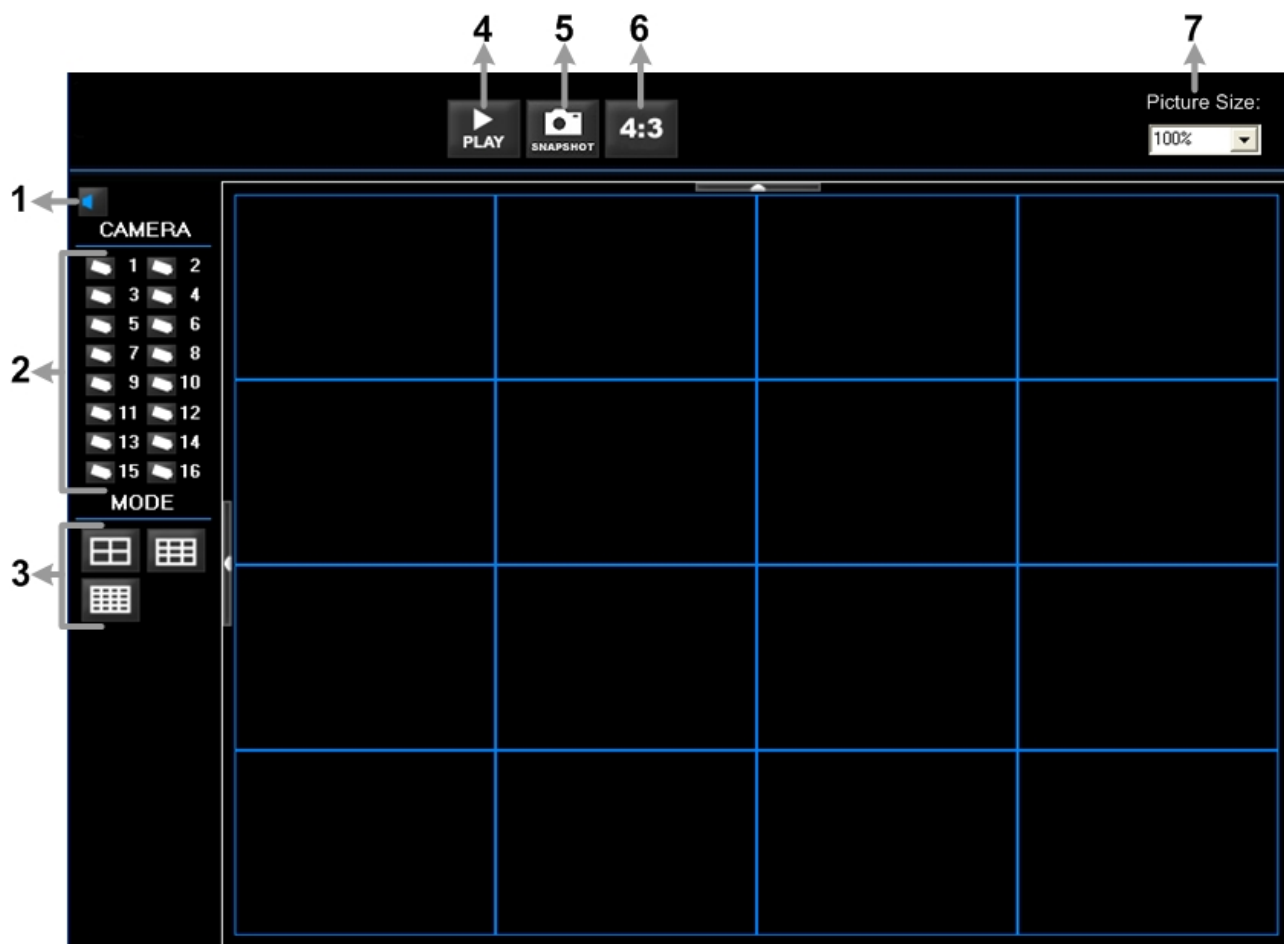
DVRPlayer is a software that enables users to playback the *.drv files recorded by the DVRs at a PC site.



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

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

The main window of the **DVRPlayer** 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.

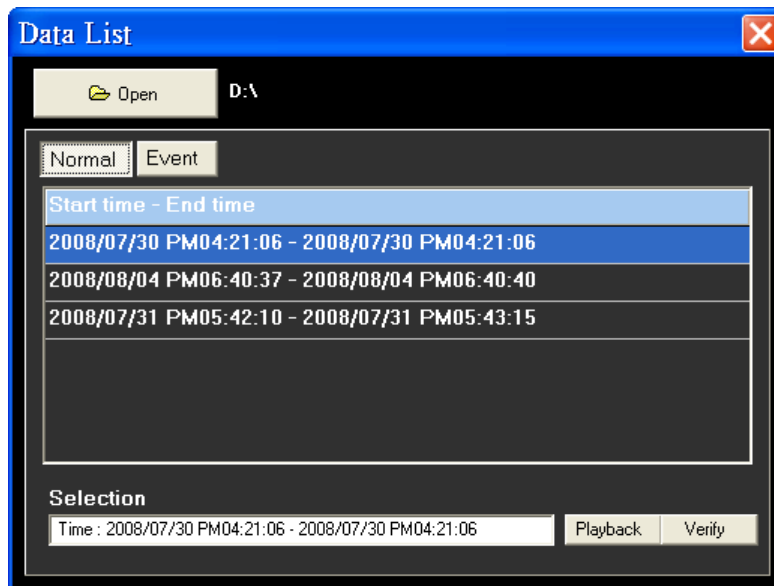


The functional items are:

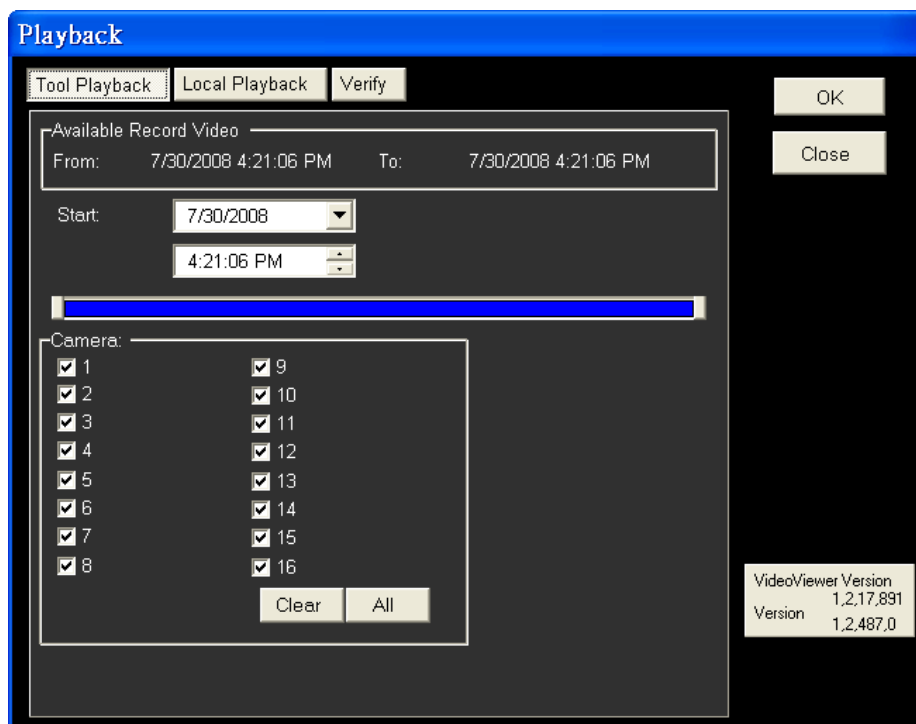
1	Audio On/Off	5	Capture Snapshot
2	Camera Selection	6	Change Viewing Aspect to 4:3
3	Mode Selection	7	Change Picture Size
4	Play Recorded *.drv Files		

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:



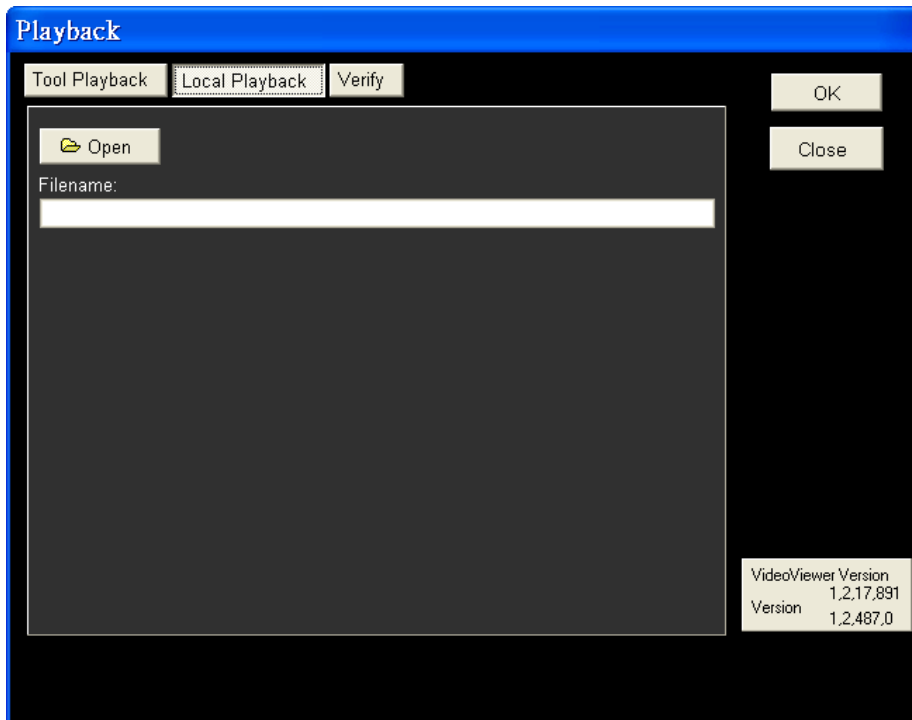
The “Data List” will show all recorded videos, “Normal” and “Event” separately, that are stored in the destination folder appeared at the top. Note that users can also click <Open> on the top to select a different folder which contains recorded videos. Select one from the list and click <Playback> at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



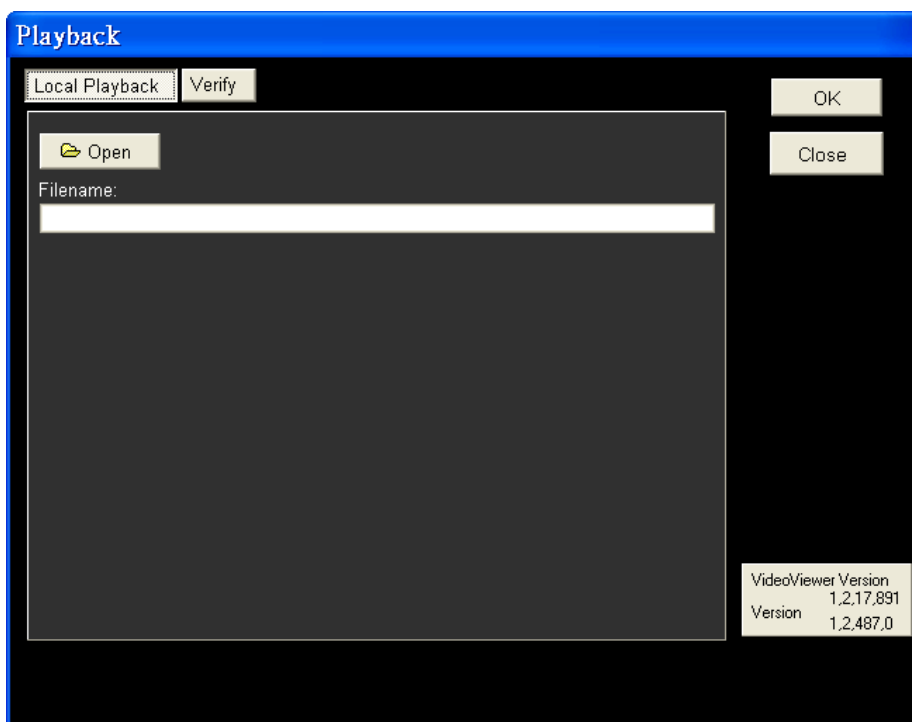
In the <Tool Playback> tab, users can set starting time and displaying cameras of the selected video. Then click <OK> on the upper right-hand corner of the window to start playback the video with selected starting time and displaying camera on the main window.

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.



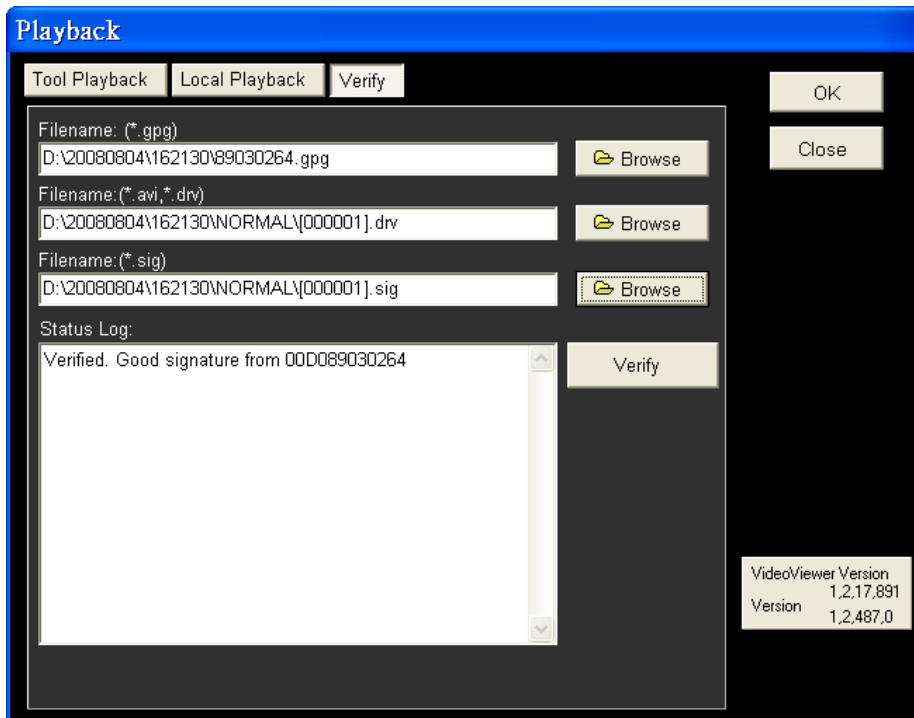
Note: If users click the close button at the top-right corner of the “Data List” window, the following “Playback” window with <Local Playback> tab and <Verify> tab only. The function of <Verify> tab will be described on the next page.



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.

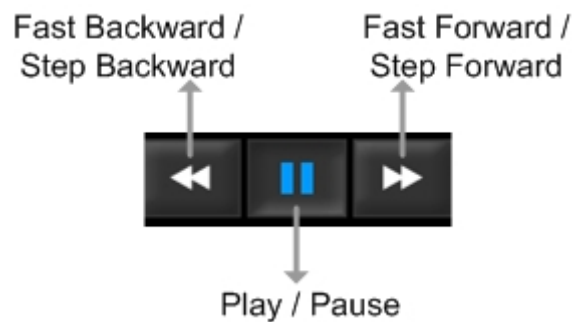
- Select any video from the Data List and click <Verify> at the bottom, then the “Playback” window will be displayed returning a GOOD or BAD signature result in the <Status Log> field. A GOOD signature indicates the exported clip has not been altered, whereas a BAD signature means the video might be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



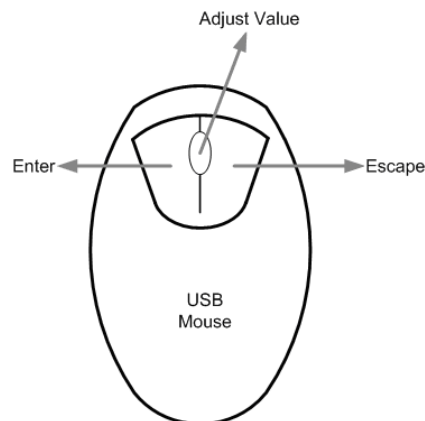
Refer to the following table for description of playback control buttons used while playing back the *.drv file.

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: USB Mouse Operatoion

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 right side of the screen and a Live Panel will be displayed. The icons on the Live Panel are the same as the functional keys on the front panel of the DVR.



Clicking the left button functions the same as pressing the “ENTER” key. Clicking the right button functions the same as pressing the “ESC” key. 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.

Special Operations

There are two special operations provided when an USB mouse is connected. One is camera title alignment and the other is motion detection area setup.

Camera Title Alignment

Users are allowed to change the display position of camera titles of all channels. To change the camera title position of any single channel, left click on the camera title and drag to any preferred position. If users want to set all of the camera titles to the same position that is set for a specific channel, right click on the specific camera title and select <Align Here> from the pull-down menu. Users can also change the monitor type as BNC or VGA. The other options allow users to quickly set all camera titles to the preset positions at once.

Motion Detection Area Setup

When users are setting the motion detection area, a USB mouse can help to speedily complete the setup. Enter the OSD setup menu and go to the following path: <Main Menu> → <Event Setup> → <Per Channel Config> → <Detection Config> → <Detected Area Setup>. The screen is split into 16x12 grids, where the grids can be selected or deselected as motion detection area.

Left click once on any grid to select or deselect the specific grid. Moreover, left click and drag to choose multiple grids, then a pull-down menu will be displayed when the mouse button is released. Choose <BLOCK SELECT> to set the grids as motion detection area, or choose <BLOCK DESELECT> to deactivate the grids. Otherwise, choose <CANCEL> to do nothing.

Right clicking the USB mouse will display a different pull-down menu, which includes: <Select All>, <Deselect All>, and <Confirm>. Choose <Select All> to set all grids as motion detection area, or choose <Deselect All> deactivate all grids. When the setup is completed, choose <Confirm> to save the setting and return to the previous page.

Appendix E: HDD Copy Tool (EXT2IFS)

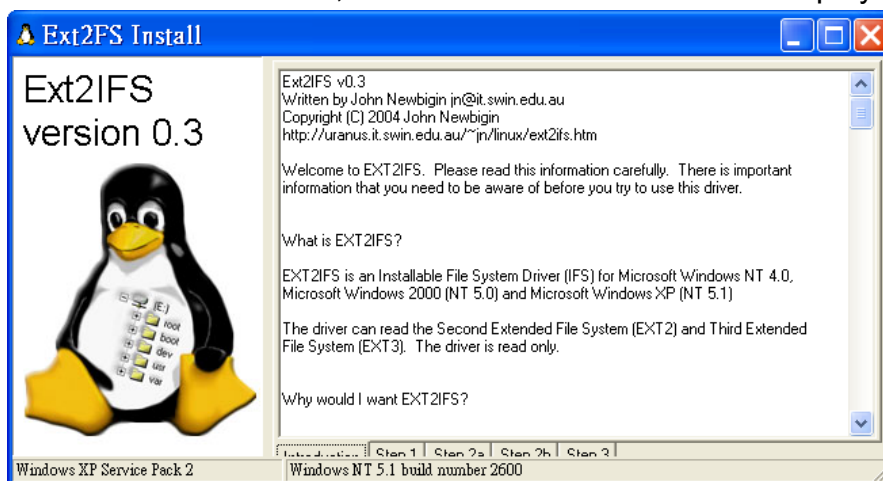
The data system of the DVR's HDD is totally different from Windows® based PC. So if users just simply plug the HDD onto the PC, the PC will not recognize its existence. Hence, to access data from the DVR's HDD, users will need a special HDD Copy Tool driver called EXT2IFS. This appendix section will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

Installation of the DVR's HDD

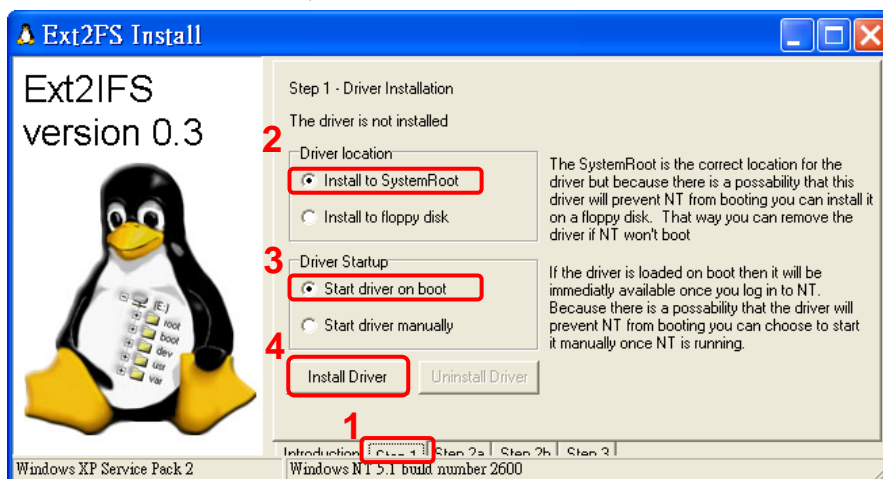
EXT2IFS can be found on the website: <http://uranus.it.swin.edu.au/~jn/linux/ext2ifs.htm>. A detailed description about the driver can also be found. Plug in the DVR's HDD to the PC, then follow the steps below.

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

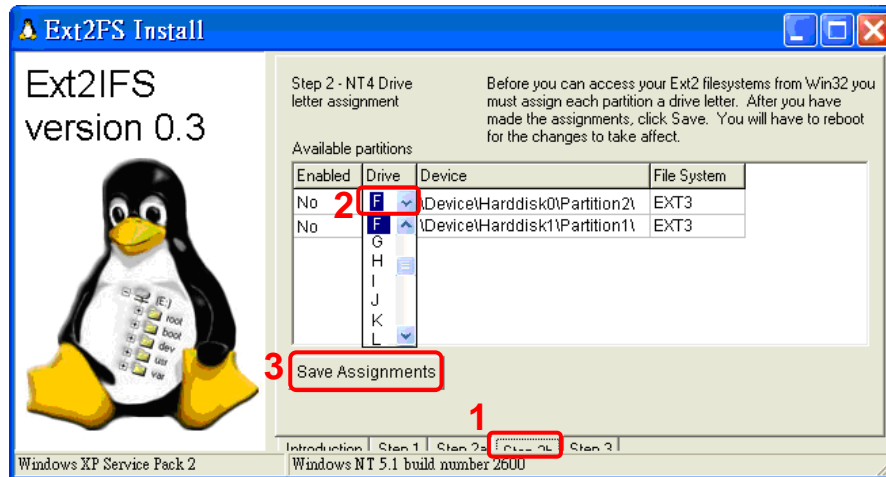
Step 2. Extract the EXT2IFS driver that was just downloaded. Open the extracted folder and double click on "service.exe", and the window below will be displayed.



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.

