RoadRunner

Hard Disk Player (HDP) and HDP Software Mobile Digital Video Systems

OPERATING MANUAL

Apollo Video Technology
www.avt-usa.com

Table of Contents

Chapter 1 — Introduction

The Hard Disk Player (HDP) allows you to play back recorded video on the removable hard disk drive of the DVR on your personal computer. This manual describes the procedures for installing and operating the SATA to USB 2.0 or IDE to USB 2.0 converter (hereinafter "Converter") and Hard Disk Player (HDP) program designed for the digital video recorder (DVR).

NOTE: The Converter type depends on the interface of removable hard disk drive (SATA and IDE).

Product Components

- HDP Software Installation CD
- Operating Manual (This Document)

System Requirements

- Operating System: Microsoft Windows XP
- CPU: Intel Pentium IV (Celeron) 2.4GHz or higher (Intel Pentium Dual Core 2.2GHz or higher recommended)
- RAM: 512MB or higher
- VGA: AGP, Video RAM 8MB or higher (1024x768, 24bpp or higher)
- UBS 2.0 High Speed only

NOTE: Intel Pentium Dual Core 2.2GHz or higher CPU is required for the proper audio playback.

Chapter 2 — Installation

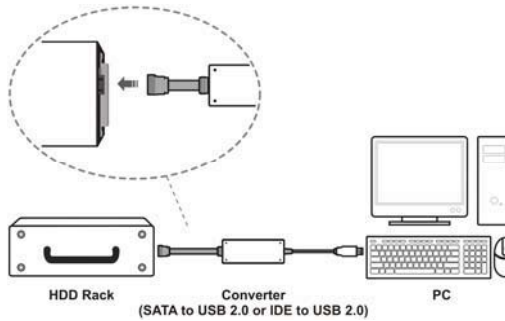
Installing the Converter

Once you have recorded video on your DVR's removable hard disk drive, you can playback the image on your personal computer using the SATA to USB 2.0 or IDE to USB 2.0 converter. Remove the hard disk drive from the DVR unit, and connect it to the 50-Pin connector side of the Converter. After that, connect the USB ports of the Converter and personal computer using provided USB cable. Refer to the following typical the Converter installation diagram.

NOTE: Refer to the Converter manufacturer's instructions for the proper installation and operation.

NOTE: When using the HDP (IDE to USB 2.0 converter), refer to the *Appendix – Installing the Hard Disk Player (HDP)* for instructions for the proper installation and operation.

CAUTION: If the Converter is not detected from your personal computer, make sure that the patch driver for the Main Board Chipset is installed.



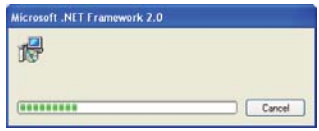
NOTE: A jumper setting on Master of the hard disk drive is recommended for the proper operation.

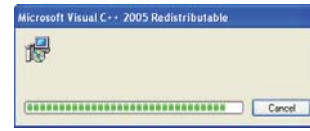
CAUTION: When removing the Converter from your personal computer and the removable hard disk drive rack, it is recommended to disconnect the USB cable from your personal computer first, and pull out the power cord and 50-Pin connecter in order for your system reliability.

Installing the Hard Disk Player (HDP) Program

CAUTION: If an older version of HDP program has been already installed on your computer, you should uninstall the older version first.

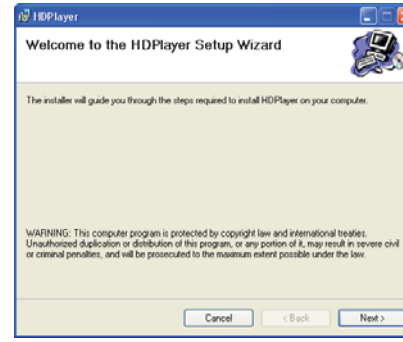
1. Insert the installation CD.
2. Run the Setup.exe file.
3. The .NET Framework and the Visual C++ Runtime Libraries are installed automatically.



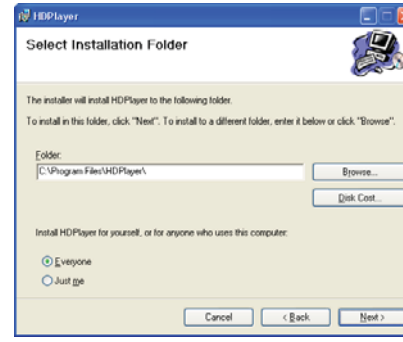


NOTE: Installing the *.NET Framework* and the *Visual C++ Runtime Libraries* is required for HDP to operate properly. This installation step will be skipped if they are already installed on your computer.

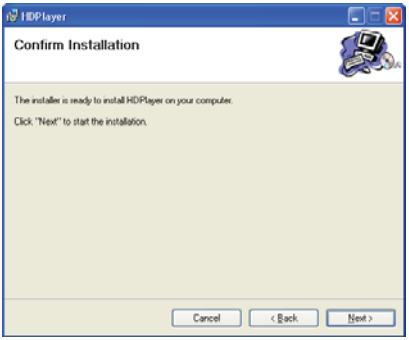
4. When the following dialog box appears, click Next.



5. Designate the folder path to install HDP and select the user(s) who can use HDP. Then click Next.

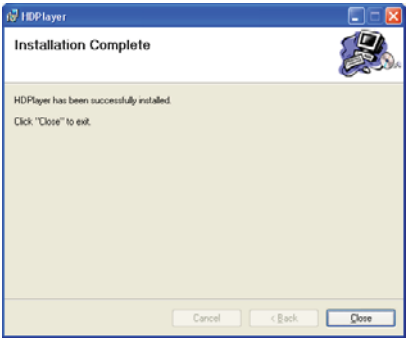


6. When the following dialog box appears, click Next.



7. Click Close to complete the installation.

8. After installing the HDP program, you will find the HDP icon on the desktop. Run the program by double clicking the icon.



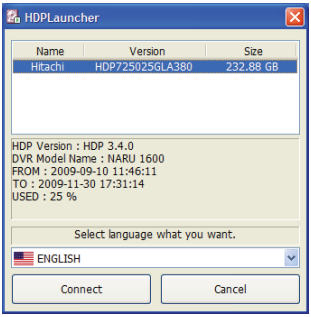
Chapter 3 — Hard Disk Player (HDP) Program

Description

The Hard Disk Player (HDP) program is the playback software, which allows you to play recorded images of the hard disk drive on your personal computer. Features of the HDP program are as follows:

- Time-lapse and event search
- Recording status table and Search event view panel
- Search using Google map and Speed graph
- Zoom
- Various image enhancement
- Video clip copying
- Current image saving and printing

To search for and play back recorded images, first make sure that the hard disk drive is connected to your personal computer through SATA to USB 2.0 or IDE to USB 2.0 converter. Then, move to the Start menu in Windows and select HD Player from the HDP options to approach the hard disk drive.



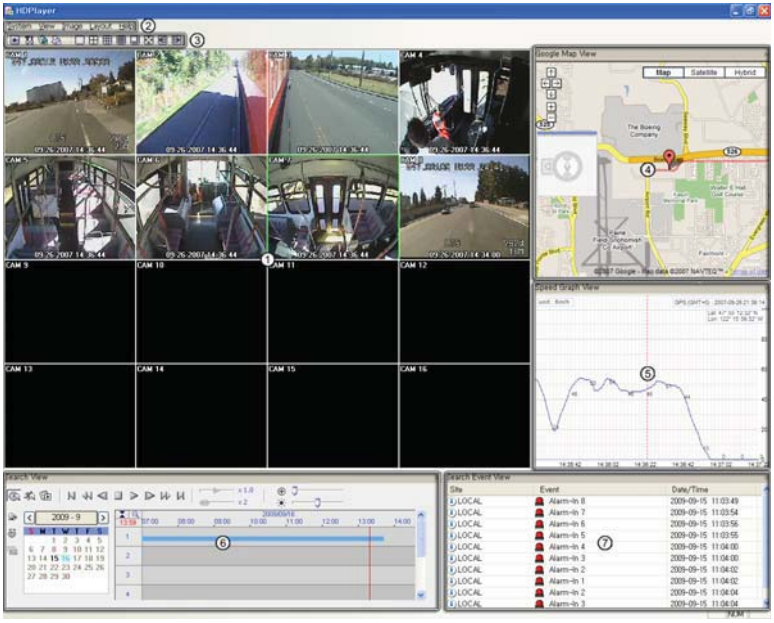
The HDP Launcher screen displays the list of connected hard disk drives, and displays the information about the selected hard disk drive when selecting a hard disk drive from the list. Select the language to use from the language option list.

Selecting the hard disk drive you want from the list and clicking the Connect button initiates the HDP program. The HDP program 3.4.0 or 1.0 will be running depending on the model of the DVR.

NOTE: The HDP Launcher screen will differ depending on the DVR specifications.

NOTE: When running the HDP program for the first time, it might take quite a long time to start the program if the connected hard disk drive has recorded text-in data.

HDP Program 3.4.0



① Screen ② Menu ③ Toolbar ④ Google Map View Panel
⑤ Speed Graph View Panel ⑥ Search View Panel ⑦ Search Event View Panel

Clicking the ⊠ icon hides the panel without a tab. Hidden panels can be displayed by selecting them from the drop-down menus. Panels can be resized, moved and combined with other panels creating a workspace that fits your needs. To resize a panel, scroll the cursor over the edge of the panel until the cursor changes to ↔ or ↕. Then click the left mouse button and drag the panel border to enlarge or reduce its size. To move a panel to a different position on the screen, scroll the cursor over the title bar of a panel that has not been auto-hidden until it changes to ✣. Once you click and drag, position arrows will display on the screen.

The four position arrows along the outer edges allow you to place the panel along the given edge independent of the other panels. When you drag the panel over a position arrow, a transparent blue box will display showing the new panel position. If you are satisfied with the position, release the left mouse button and the panel will move to its new position.

You can also move a panel so that it is associated with another panel. To do this, drag the panel over the panel you want it associated with, and the icon with four position arrows will center over that panel. Scrolling the cursor over the icon arrows will cause a transparent blue box to display where the panel will be located. If you are satisfied with the position, release the left mouse button and the panel moves to its new position.

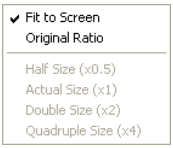
It is possible to combine panels so that they take up less space on the screen. Combined panels have a row of tabs across the bottom. Clicking a tab brings that panel to the foreground.

To combine panels, move the cursor to the title bar of the panel you want to move. Click and drag the panel onto the panel you want to combine it with. If the panels can be combined, the four-position arrow icon will have a tab symbol in the center. Drag the cursor over the tab symbol, and a new tab appears on the panel. Release the mouse button and the panels will now be combined.

Screen

The Screen displays recorded video on the hard disk drive. HDP provides various multi-screen layouts; single-screen, quad, 1+7, 3x3, 4x4 and full-screen.

The user can change the image aspect ratio displayed on each camera screen. Select a camera on the screen and click the right mouse button. Selecting Aspect Ratio in the text menu screen displays the following menu.



- Fit to Screen: Displays images by fitting them to the screen size.
- Original Ratio: Displays images by fitting them to the screen size while maintaining their original ratio.
- Half Size (x0.5) to Quadruple Size (x4): Select the desired image size.

NOTE: *Half Size (x0.5)* to *Quadruple Size (x4)* will be enabled when the selected camera screen can display images in those sizes.

The user can enhance image display quality on the screen by eliminating stair stepping (aliasing) effects in the enlarged image. Click the right mouse button on the screen and select Anti-Aliasing Screen from the menu.

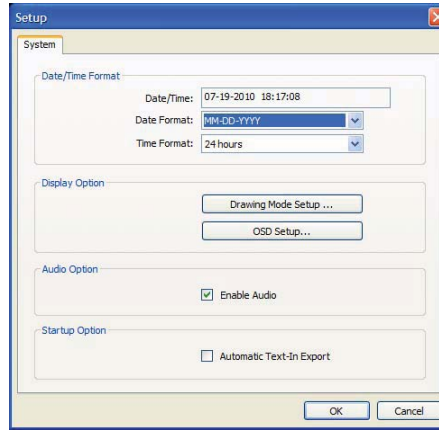
NOTE: When using the low-end computer, the image drawing speed might decrease while the Anti-Aliasing Screen is activated.

Menu

System Menu.

Exit: Disconnect the current connection and closes the HDP program. Exit can also be performed by clicking the button on the toolbar.

Setup: Allows setting up the system operation.



- Date/Time Format: Set the date/time format.
- Display Option
  – Drawing Mode Setup…: Select the draw mode level.

- Normal Drawing: Depends on your PC's CPU performance and displays images in low speed (DIB Draw Mode).
- Fast Drawing (Default): Displays image in normal speed (Direct Draw Mode).
- Fast Drawing (YUV420/RGB32): Depends on your PC's video card performance and displays images in high speed (Direct Draw Mode (YUV420/RGB32)).
- Overlay (YUV420/RGB32/RGB565): Displays image in high speed (Direct Draw Overlay Mode (YUV420/RGB32/RGB565)).

NOTE: If the image cannot be displayed properly because of your PC's specifications, lower the drawing mode level.

NOTE: While in the *Fast Drawing* mode, the drawing speed might decrease when the HDP screen is not located on the primary monitor.

NOTE: *Overlay Drawing* mode may not be supported, depending on the type of video card installed in your PC. Video cards with an ATI chipset are recommended.

NOTE: When using dual monitors, selecting *Overlay Drawing* will display the image only on the primary monitor.

  – OSD Setup…: Select options (Title, Time Info, Date Info and Text-In) to display on the screen and select the first day of week in the calendar.

- Audio Option: Enable or disable audio playback.
- Startup Option
  – Automatic Text-In Export: Select whether or not the text-in data is automatically saved when start the HDP program start if connected hard disk drive has recorded text-in data. You can find the saved text-in data in .txt file format in the folder where the HDP program has been installed.

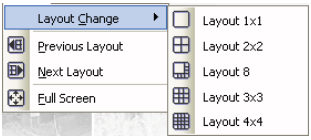
View Menu: Displays or closes the toolbar and panels.

Image Menu

- Save: Saves the current image as a bitmap file.
- Print: Prints the current image.

NOTE: The Image menu can also be accessed using the toolbar controls.

Layout Menu



Select the desired screen layout using the layout toolbar. When changing the screen layout, the selected camera on the current screen will be located in the first cell of the new layout. When in one of the multi-view formats, selecting Previous Layout or Next Layout will move to the previous or next page. In other words, when viewing Cameras 1 to 4 in the quad format, selecting Previous Layout will display Cameras 13 to 16 and selecting Next Layout will display Cameras 5 to 8. Selecting Full Screen enters the full-screen mode, and returns to the previous screen mode by pressing the Esc key on the keyboard or selecting FullScreen Close (x) from the popup menu displayed by clicking the right mouse button.

NOTE: The Layout menu can also be accessed using the toolbar controls.

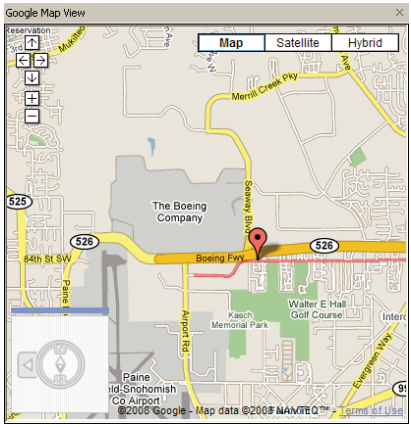
Help Menu: Displays HDP version information.

Toolbar

The controls on the toolbar perform functions as described below

Select the desired screen layout using the layout toolbar. When changing the screen layout, the selected camera on the current screen will be located in the first cell of the new layout. When in one of the multi-view formats, clicking the or button will move to the previous or next page.

Google Map View Panel

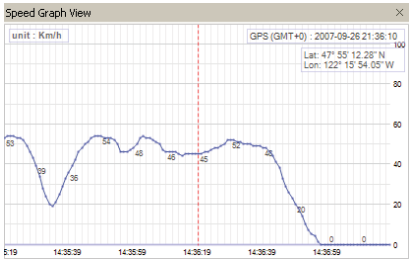


The Google Map View panel displays the location and movement path of vehicle of the current playback images if recorded data have the GPS information. The marker indicates the current location of vehicle, and the red line displays the path of vehicle movement, and the compass needle points to the movement direction of vehicle. Three different views (Map, Satellite and Hybrid modes) from Google Map will be provided. You can check the speed information of vehicle you are searching for on the Speed Graph View panel.

Clicking the path of vehicle movement in a red line or dragging and dropping the marker in the desired position on the screen with the mouse displays recorded data from the time when the vehicle was passing by the selected location on the map.

NOTE: Searching on the Google Map View panel will NOT be available during playback.

Speed Graph View Panel

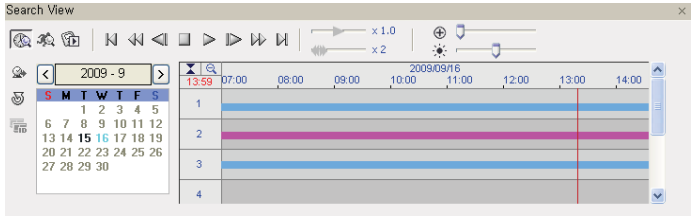


The Speed Graph View panel displays the vehicle speed of the current playback images if recorded data have the GPS information. A red dotted line indicates the current playback position. Clicking the right mouse button on the Speed Graph View panel allows you to set up the graph type and unit, GPS information display, and high quality display. You can check the location and movement path of vehicle you are searching for on the Google Map View panel.

Clicking the desired position on the Speed Graph View panel displays recorded data from the selected time.

NOTE: Searching on the Speed Graph View panel will NOT be available during playback.

Search View Panel



The Search View panel consists of playback and search controls, time-lapse search table, and event search table.

- Go to the First Image
- Go to the Previous Image
- Play
- Fast Forward Play
- Fast Backward Play
- Stop
- Go to the Next Image
- Go to the Last Image

NOTE: The speed of fast forward is dependent on the USB interface (USB 1.1 or USB 2.0) and the number of images per second.

You can control the playback speed of images that are currently being played back by using the x 1.0 control slider. You can control the fast forward or fast backward playback speed of images that are currently being played back fast forward or fast backward by using the x 2 control slider.

You can enlarge a specific part of the image up to five times using the control slider. The user can electronically pan and tilt within the enlarged image by dragging the image using the mouse. Click the left mouse button on the enlarged image and drag to move its position. You can change the brightness of the current image using the control slider. Clicking the button cancels the brightness changes and resets the image.

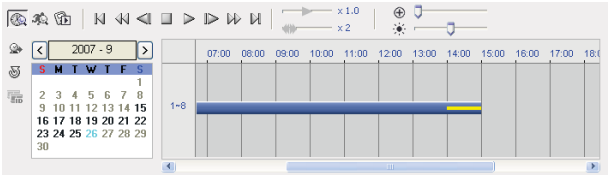
NOTE: Zoom in/out and brightness control work only while in the pause mode.

Search Mode

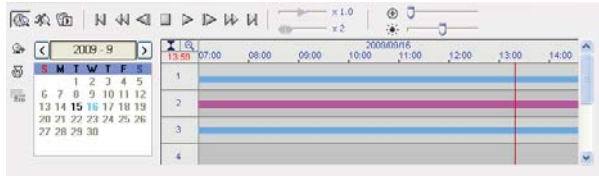
HDP supports two search modes: time-lapse mode and event mode. The time-lapse search mode searches for recorded data by time and then plays back images found within the time parameters. The event search mode searches for event log entries using specific conditions and plays back the images associated with those event entries. These two modes have different panel configurations and search methods.

Time-lapse Search: Click the button on the Search View panel to enter the time-lapse search mode. Selecting a date from the calendar initiates the time-lapse search. The dates for which recorded images are available are enabled. When first entering the time-lapse search, the latest date with recorded images will be selected (highlighted) in the calendar. Click the (Reload) button to reload the date information. Recorded information available from the selected date will be displayed on the timetable. The recorded data are displayed by time and bar-shaped segments indicate there are recorded data during that time. Select a specific hour by clicking the mouse on the desired hour segment.

NOTE: The timetable of the time-lapse search panel will differ depending on the DVR specifications.



The recorded data of all camera channels are displayed by time in one-hour segments and a yellow-highlighted segment indicates the selected time that will be played back. Select a specific hour by clicking the mouse on the desired hour segment, and video images will be played back starting with the first image captured within the one-hour segment. If the DVR's time and date have been reset to a time that is earlier than some recorded video, it is possible for the DVR to have more than one video segment in the same time range. Click the (Segment) button and select the video segment you want to search. The active segment will be highlighted with blue, and the inactive segment will be highlighted with gray on the timetable.



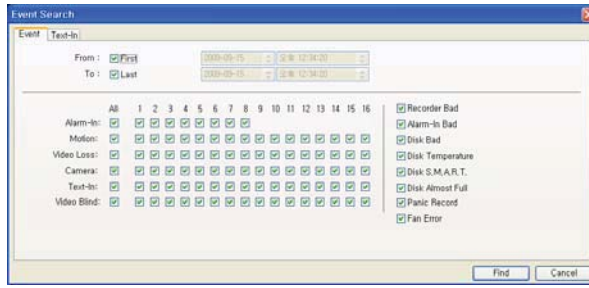
The recorded data of each camera channel are displayed by time in one-minute segments and a red vertical line indicates the selected time that will be played back. The color of the bar indicates different types of recording: Yellow for Pre-event, Purple for Event, Red for Panic, and Blue for Time-lapse. If the DVR has more than one video segment in the same time range, each segment will be separated by a yellow vertical line.

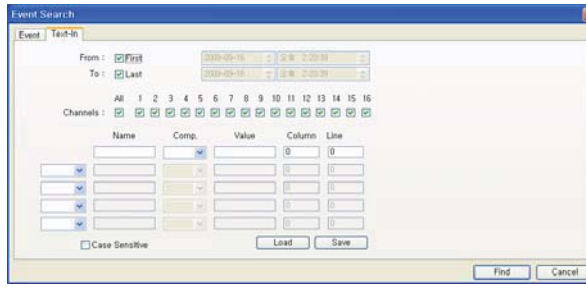
To view an image at a specific time, click the (Go To) button.

Event Search: Click the button on the Search View panel to enter the event search mode.

Site	Event	Date/Time
LOCAL	CAM8	2007-10-25 12:00:28
LOCAL	CAM7	2007-10-25 12:00:28
LOCAL	CAM6	2007-10-25 12:00:28
LOCAL	CAM5	2007-10-25 12:00:28
LOCAL	CAM4	2007-10-25 12:00:28
LOCAL	CAM3	2007-10-25 12:00:28
LOCAL	CAM2	2007-10-25 12:00:28
LOCAL	CAM1	2007-10-25 12:00:28

Click the button, and set up the search condition in the following Event Search dialog box.





NOTE: The Event Search dialog box will differ depending on the DVR specifications.

NOTE: The Text-In (Event Search – Text-In tab) search may not be supported, depending on the specifications and version of the remote DVR.

Set up the search criteria for the event search in the Event Search dialog box, and click the Find button. The results will be displayed in the event list. A total of 100 results can be displayed at a time. Click the (Query Next) button to display the next results. If you select an event in the list, the recorded data associated with that event will be displayed on the screen. The images may be played back using the playback buttons.

NOTE: When *First* is selected for the search starting time, the search will be from the first recorded data. When *Last* is selected for the search ending time, the search will be to the last recorded data.

Save

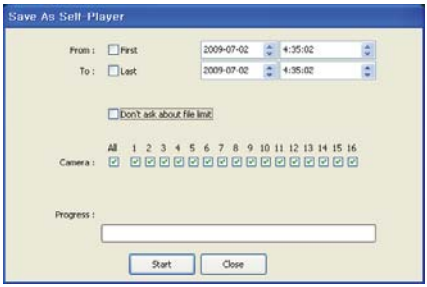
Clicking the button on the toolbar saves the image currently displayed on the screen as a bitmap file.

Clicking the button on the Search View panel saves recorded video.

- **Save As Video:** Saves any video clip of recorded data in an AVI (Audio Video Interleaved) file format. Set up the save parameters in the following dialog box. Click the Start button and then set the file name and the video compression codec.

NOTE: When saving clips larger than 1GB, clips will be saved in the unit of 1GB. For example, 3 individual files of each 1GB will be created when saving clips of 3GB.

- **Save As Self-Player:** Saves any video clip of recorded data as an executable file. Set up the save parameters in the following dialog box. Click the Start button, and select Save in. Enter a File name and then select Save as type (.exe) for the video you are saving. Then click the Save button.

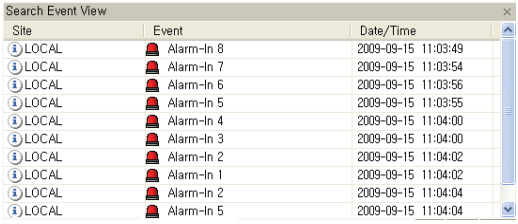


NOTE: The backup file size must be less than 2GB because of Microsoft limitations.

NOTE: The Save As Video and Save As MiniBank dialog boxes will differ depending on the DVR specifications.

Search Event View Panel

The Search Event View panel displays alarm-in events searched while playing back images.



Playing Recorded Audio

HDP will play audio when it is in the single-screen layout while playing back recorded video that has recorded audio. The icon will display on the screen while recorded audio is played.

NOTE: Audio might be interrupted during playback because of your PC's performance.

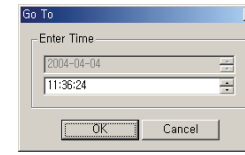
HDP Program 1.0

The search function of the HDP program 1.0 is divided into two modes of operation: time-lapse mode and event mode. These two modes are different in screen configuration and search method. The default setting of the program is the time-lapse search mode. The last search mode used is automatically selected when the HDP program 1.0 function is executed again.

Time-Lapse Search

Selecting a date from the calendar initiates time-lapse search. The dates for which recording is available are displayed in bright white characters. When first entering the time-lapse search, the newest recorded date will be selected (highlighted in yellow) in the calendar. Click the (Reload) button to reload the date information. Recorded information available from the selected date is shown on the recording status table. The recorded data are displayed by time (in hour segments). A yellow line indicates the selected time (in hour segments) that will be played back. Go to a specific hour by clicking the mouse on the desired hour segment. Video images will be played back starting with the first image captured within the one-hour segment.

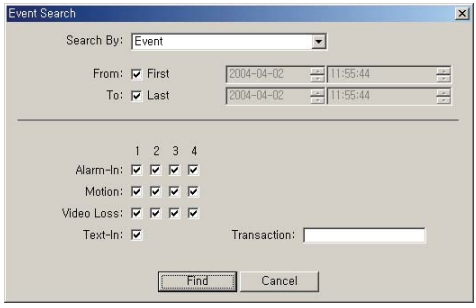
To view an image at a specific time, click the (Go To) button. This action displays the Go To dialog box. The input time range is within the current date. If you want to view images for a different date, select the date in the calendar first, and then click the button.



Event Search

Click the (Event) icon located next to the (Time-Lapse) icon above the calendar as displayed in the time-lapse mode to enter the event mode. Click the time-lapse icon to return to the time-lapse mode. First, click the Query button below the event icon, and set up the search condition in the Event Search dialog box. When loading the event search for the first time, this Event Search dialog box appears automatically. Search modes by Event and Camera are provided.

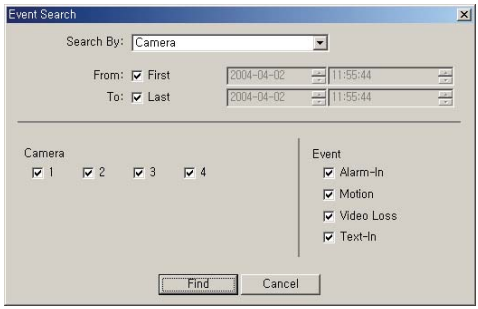
Using Search By Event method, the user can search for the detection results of the target event(s) by selecting the target event(s) as the search condition.



- Search By: Selects Event as a search option.
- From: If this box is checked, search from the first recorded data. If you want to a specific starting date/time, remove a check and then set the desired date/time.
- To: If this box is checked, search until the last recorded data. If you want to a specific search ending date/time, remove a check and then set the desired date/time.
- Alarm-In, Motion, Video Loss, Text-In: Select target channel(s) of each event-triggered device (Search by Event only).

NOTE: When selecting *Text-In* as an event option, search text-in events that have the identical value to any preset specific transaction number on the DVR. Otherwise, search all text-in events when the *Transaction* field is empty.

Using Search By Camera method, the user can search for the event results of the target camera(s) associated with optional event(s), and also search for more specific results by selecting the event(s) type.



- Search By: S elects Camera as a search option.
- From: If this box is checked, search from the first recorded data. If you want to a specific starting date/time, remove a check and then set the desired date/time.
- To: If this box is checked, search until the last recorded data. If you want to a specific search ending date/time, remove a check and then set the desired date/time.
- Camera/Event: Select target camera channel(s) associated with each event, and select event option(s).

NOTE: The information of search methods in the *Event Search* dialog box can vary with the specification of the DVR.

Set up the search criteria for the event search in the Event Search dialog box. Select the search method first, and then click the Find button after setting the search period and the other conditions according to the search method. The results will be displayed in the event list located in the main window of event search.

If you select the target event in the list, the recorded data associated with that event will be displayed in the main monitor window. The images may be played back using the play back buttons. A total of 100 results can be displayed in the event list at a time. Click the Query Next button to display the next results.

Other Functions

Playback Functions

- Fast Backward Play
- Play
- Go to the First Image
- Go to the Next Image
- Stop
- Fast Forward Play
- Go to the Previous Image
- Go to the Last Image

NOTE: The speed of fast forward is dependent on the USB interface (USB 1.1 or USB 2.0) and the number of images per second.

Screen Division : The HDP program 1.0 provides multi-screen playback function. The available multi-screen formats are single-screen, quad, 3x3, and 4x4.

Image Enhancement: Allows enhancements to be made to played back images.

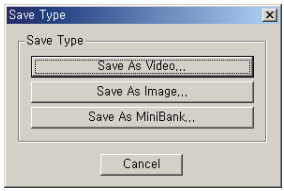
- **Zoom In/Out** : Enlarges a specific part of the image up to five times using a control slider. The user can electronically pan and tilt within the enlarged image by dragging the image using a mouse.
- **Brightness** : Changes the brightness of the current image using a control slider.

NOTE: *Zoom In/Out* and *Brightness* works only in the single-screen mode.

- **Blur/Sharpen:** Blurs or sharpens the given image.
- **Equalize:** Equalizes the given image.
- **Interpolation:** Reduces the alias effect that occurs when using the zoom function.
- **Revert:** Reloads the original image.

NOTE: *Interpolation* works only for the enlarged image.

Save



- **Save As Video:** Saves any video clip of recorded data in an AVI (Audio Video Interleaved) file format.

First, set the time range you want to save in the Save Range. If you want to save all recorded data by the event you select in event list, place a check in the All Data Of Selected Event box. (This check box is visible in the Event mode only.) Click the Start button, and then set the file name and the video compression codec.

- **Save As Image:** Saves the current image in a bitmap or JPEG file format.
- **Save As MiniBank:** Saves any video clip of recorded data in an .exe file format.

NOTE: In the *Event Search* mode, you will not be able to use the *Save As MiniBank* function.

Select the camera number for which you want to save video in the Camera, and set the time range you want to save in the Save Range. Placing a checkmark in the Audio box saves audio with video. Click the Start button, and select a Save in, enter a File name and then select a Save as type (.exe) for the video you are saving. Then click the Save button.

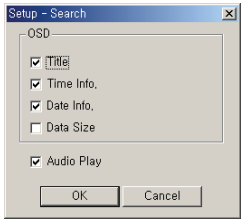
NOTE: You do not need to install any special software on your personal computer to review the video saved as MiniBank. The backup file contains the Player program. Double-clicking the target backup file starts the Player program.

Print : Prints the current image.

Setup

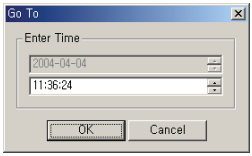
Sets up the on-screen display (OSD) options.

NOTE: OSD option can vary with the specification of the DVR.



Go To Date/Time

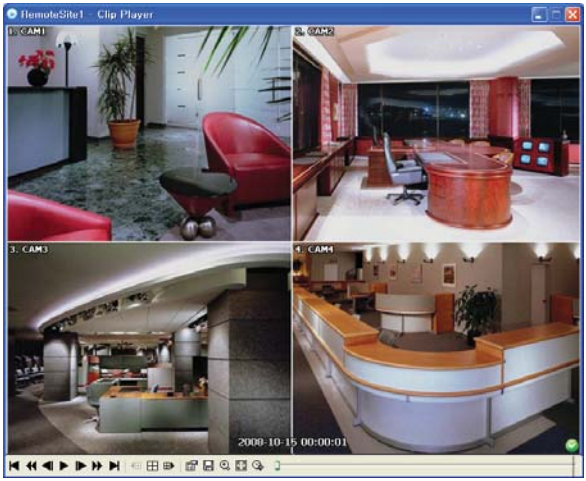
Goes to the specific dates and times directly using the Go To dialog box.



Reviewing Video Clips

You do not need to install any special software on you personal computer to review video saved as MiniBank files. The backup file contains a Player program. Double-clicking the target file starts the Player program.

NOTE: It is suggested that the computer used for the Clip Player program has at least an 800MHz Pentium III (Intel Pentium Dual Core 2.2GHz recommended). If your CPU is slower than this, video clips recorded at maximum speed with very high image quality will be played back slowly. Also DirectX 9.0 or higher is required to install, and the VGA card with 16MB or higher video RAM is recommended for proper operation.



The ClipPlayer Screen displays the clip images.

NOTE: Proper image display depends on the display settings of your PC. If you are experiencing display problems, click the right mouse button on the background screen and select Properties → Settings then set the Color quality to "32 bit". Then select Advanced → Troubleshoot, and then set the Hardware Acceleration to "Full". Please make sure that DirectX version 9.0 or higher has been installed if the display problem continues. To check the version of DirectX, click Start → RUN and type "dxdiag" then hit the enter key which will display DirectX Diagnostic Tool dialog box. Then move to the Display tab and make sure DirectDraw Acceleration is set to "Enabled". Test DirectDraw by selecting the DirectDraw Test button. Please check the driver version of the video card and update it to the latest version available. If you still have display problems after changing all display settings as described above, try replacing the video card. Video cards with an ATI chipset are recommended.

Clicking exits the Player program.

Click to go to the beginning of the video clip.

Click to play the video clip in fast reverse.

Click to go back one frame of the video clip.

Click to play the video clip.

Click to go forward one frame of the video clip.

Click to play the video clip in fast forward.

Click to go to the end of the video clip.

Click to show the previous page.

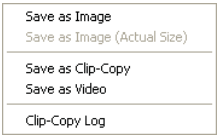
Click to cycle through the screen layouts. It cycles through 2x2, 3x3, 4x4 and 1+7.

Click to show the next page.

Click the icon to set up the Clip Player properties.

- Print: Prints the current image.
- Frame Info.: Displays Channel, Title, Time, Type, Size and Resolution information about the image.
- Image Processing: Controls brightness, blur and sharpness of playback images. (Single-Screen Layout and Pause Mode Only)
- Play Speed Control: Changes the playback speed (Play) or fast forward/backward playback speed (FF/RW).
- Drawing Mode: Selects the draw mode level. If you are not sure about the best draw mode level for your system, try each level until the image displays properly.
- Screen Size: Changes the Clip Player screen size.
- Aspect Ratio: Changes the image aspect ratio displayed on each camera screen.
- OSD Setup…: Selects options to display on the screen.
- Enable Audio: Plays audio while playing back recorded video that has recorded audio. (Single-Screen Layout Only)
- Anti-Aliasing Screen: Enhances image display quality on the screen by smoothing stair-stepping (aliasing) effects in the enlarged image. If video plays slow because of your CPU's slow speed, releasing the Anti-Aliasing Screen option might improve playback speed.
- Show Text-In: Displays video with text-in data if the video was recorded with text-in data. (Single-Screen Layout Only)

Click the icon to save clip images.



- Save as Image: Saves the current image as a bitmap or JPEG file.
- Save as Image (Actual Size): Saves the current video frame as a bitmap or JPEG file in its actual size. (Single-Screen Layout Only)
- Save as Clip-Copy: Saves video of desired time range as an executable file.
- Save as Video: Saves video of desired time range as an AVI file.
- Clip-Copy Log: Saves the clip copy log information as a text file. The user information about Save As Clip Copy will be logged as "Internal-Copy".

Click the icon to select from Normal and Double screen views. You can move the enlarged image by clicking the left mouse button and dragging.

Click the icon to display the image full screen.

Click the icon to view an image from a specific time by setting up the date and time to search.

Encryption icons display in the bottom-right corner. displays when the clip file has not been tampered with, and displays and playback stops when the system has detected tampering.

NOTE: If the VGA card or monitor does not support 800x600 video resolution, *Full Screen* might not display properly. If this happens, press the ESC key on your PC keyboard to return to the normal screen mode.

Click the slider bar and move it left or right to move through the video clip.

Placing the mouse cursor on an image and clicking will cause that image to display full frame.

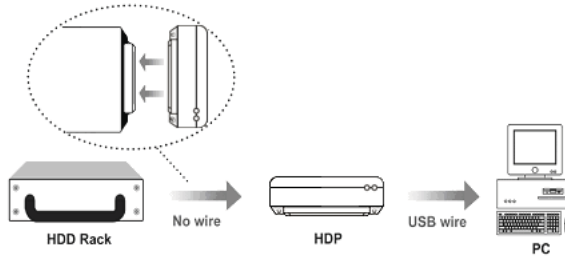
Appendix

Installing the Hard Disk Player (HDP)

Once you have recorded video on your DVR's removable hard disk drive, you can playback the image on your personal computer using the Hard Disk Player (IDE to USB 2.0 Converter). Remove the hard disk drive from the DVR unit, and connect it to the 50-Pin connector side of the HDP. After that, connect the USB ports of HDP and personal computer using provided USB cable. Refer to the following typical HDP installation diagram.

CAUTION: If the HDP is not detected from your personal computer, make sure that the patch driver for the Main Board Chipset is installed.

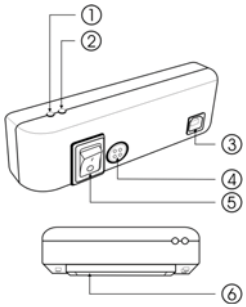
CAUTION: Make sure that all removable hard disk drives and HDPs have labels displaying before using the HDP. The devices might be damaged if they do not have labels displaying .



NOTE: A jumper setting on Master of the hard disk drive is recommended for the proper operation.

CAUTION: When removing the HDP from your personal computer and the removable hard disk drive rack, it is recommended to disconnect the USB cable from your personal computer first, and pull out the power cord and 50-Pin connecter in order for your system reliability.

HDP Controls



① Power LED: The green Power LED is lit when the HDP is On.

② Operation LED: The red Operation LED is lit when the HDP is playing back video on the connected hard disk drive.

③ USB 2.0 Connector: Connect the USB port of the HDP and the USB port of the personal computer using the provided USB cable.

④ Power Connector: Connect the 4-pin connector of the adaptor to the HDP, and connect the AC power cord to the adaptor and then to the wall outlet.

⑤ Power Switch: Press | (On) turn on the HDP and press O (Off) to turn off the HDP.

⑥ HDD Rack Connector: Connect it to the 50-pin connector of the hard disk drive rack.

Specifications

NOTE: Specifications are subject to change without notice.

Interface Format	
Interface Format	USB 2.0 (High Speed)
Connectors	
USB Port	One
50-Pin IDE Connector	One
General	
Dimensions (W x H x D)	4.53" x 1.38" x 1.18" (115mm x 35mm x 30mm)
Unit Weight	0.16 lbs. (75g)
Shipping Weight	1.32 lbs. (600g)
Shipping Dimensions (W x H x D)	9.84" x 6.3" x 2.36" (250mm x 160mm x 60mm)
Operating Temperature	41°F to 104°F (5°C to 40°C)
Operating Humidity	0% to 90%
Power	100 to 240 VAC, 0.85 A, 50/60Hz
Input Voltage	12 VDC, 1.5 A / 5 VDC, 1.5 A
Approvals	
Approvals	FCC, MIC