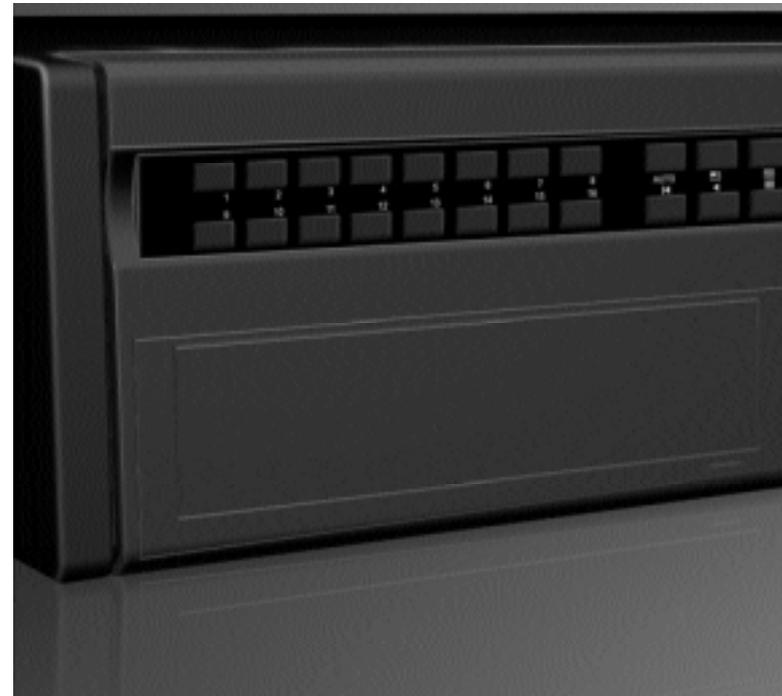


DW-709/716 Manual

- This manual is published by Kaltech and contains information on DW-709/716 which will enable you to use this product properly.
- If you require additional copies of this manual, please print the manual contained in the CD provided with your purchase.



Introduction

Thank you for purchasing Kaltech DW-709/716 .

This DVR is produced by the most advanced Kaltech technology and its quality is guaranteed by strict reliability and compatibility testing.

This DW-709/716 manual provides necessary information for the correct use of this product and also contains some useful tips.

Please read this manual thoroughly before using DW-709/716 in order to prevent possible breakdown due to any mishandling.

Notice

User's guide for DW-709/716 DVR.

This manual applies to DW-709/716 DVR only.

This manual describes external features of the DW-709/716 DVR, part names, correct connection methods for supported domes or Pan/Tilt receivers, control devices, peripheral devices, and the system set up instructions. It should be noted that some features, figures, pictures and references can only be applied to one model either DW-709 or DW-716.

- Kaltech can not be held responsible if the DVR is damaged due to non-compatible devices being used with this product. If you have any doubts please check.
- Kaltech can not be held responsible if the DVR is damaged due to the product being disassembled or modified by the user.
- If you wish to open the system casing to attempt to modify, repair, or upgrade the system, it is recommended that you ask for a Kaltech engineer's assistance by contacting either your dealer or Kaltech head office.
- DigiNet and DW-709/716 are registered trademarks of Kaltech
- This product is qualified for both domestic and industrial use. This product is qualified under the Radio Equipment Requirements of Korea and acquired international certification including CE (Europe) and FCC (USA).

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	WARNING: Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.
	CAUTION: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

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Safety Precautions

Safety Precautions



WARNING: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

SURGE PROTECTION: A UPS IS MANDATORY FOR EFFICIENT FUNCTIONING OF YOUR DIGITAL .

IMPORTANT SAFETY INSTRUCTIONS

1. Read Owner Manual

After unpacking this product, read the owner manual carefully, and follow all the operating and other instructions.

2. Power Sources

This product should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply to your home or business, consult your product dealer or local power company.

3. Ventilation

Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer instructions have been adhered to.

4. Heat

The product should be situated away from heat sources such as radiators. Heat registers, stoves, or other product that produce heat.

5. Water and Moisture

Do not use this product near water. Do not exceed the humidity specifications for the product as detailed in the Appendix section in this manual.

6. Cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

7. Power Cord Protection

Power-supply cords should not be routed so that they are not likely to be walked on or pinched by items placed against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

8. Overloading

Do not overload wall outlets; extension cords, or integral convenience receptacles as this can result in a risk of fire or electrical shock.

9. Lightning

For added protection for this product during storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power line surges.

10. Object and Liquid Entry Points

Never insert foreign objects into the DW-Pro unit, other than the media types approved by Kaltech Enterprises, as they may touch dangerous voltage points or short-out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the product.

11. Accessories

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious personal injury and serious damage to the product.

12. Disc Tray

Keep your fingers well clear of the disc tray as it is closing. Neglecting to do so may cause serious personal injury.

13. Burden

Do not place a heavy object on or step on the product. The object may fall, causing serious personal injury and serious damage to the product.

14. Disc

Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.

15. Damage Requiring Service

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions.

- When the power Supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance – this indicates a need for service.

16. Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified personnel.

17. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electrical shock, or other hazards.

18. Safety Check

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

19. UPS / Surge Protection

A UPS is mandatory for efficient functioning of your Digital Watchdog unit.

Notes on Handling

- When shipping the DW-Pro unit, the original shipping carton packing materials come in handy. For maximum protection, repack the unit as it was originally packed at the factory.
- Do not use volatile liquids, such as insect spray, near the DW-Pro unit. Do not leave rubber or plastic products in contact with the DW-Pro unit for long periods of time. They will leave marks on the finish.
- The top and rear panels of the DW-Pro unit may become warm after long periods of use. This is not a malfunction.

Notes on Locating

- Place the DW-Pro unit on a level surface. Do not use it on a shaky or unstable surface such as a wobbling table or inclined stand.
- When you place this DW-Pro unit next to a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. In this case, place the DW-Pro unit away from the TV, radio, or VCR.

Notes on Cleaning

Use a soft dry cloth for cleaning.

- For stubborn dirt, soak the cloth in a weak detergent solution, wring well and wipe. Use a dry cloth to wipe it dry. Do not use any type of solvent, such as thinner and benzene, as they may damage the surface of the DW-Pro unit.
- If you use a chemical saturated cloth to clean the unit, follow that product's instructions.

Notes on Maintenance

This DW-Pro unit is designed to last for long periods of time. To keep your DW-Pro unit always operational we recommend regular inspection maintenance (cleaning parts or replacement). For details contact your nearest dealer.

Note on Moisture Condensation

Moisture condensation damages the DW-Pro unit. Please read the following carefully.

Moisture condensation occurs during the following cases.

- When you bring the DW-Pro unit directly from a cold place to a warm place.
- When you use the DW-Pro unit in a room where you just turned on the heater, or a place where the cold wind from the air conditioner directly hits the unit.
- In the summer, when you use the DW-Pro unit in a hot and humid place just after you move the unit from an air conditioned room.
- When you use the DW-Pro unit in a humid place.

Do not use the DW-Pro unit when moisture condensation may occur.

If you use the DW-Pro unit in such a situation, it may damage discs and internal parts. It is not recommended to use the Digital Watchdog in a location where moisture condensation may occur.

Warranty Information

Kaltec Electronics (referred to as “the Warrantor”) warrants the Digital Video Recorder against defects in materials or workmanship as follows:

LABOR: For a period of (1) year from the date of original purchase, if Digital Video Recorder is determined to be defective, Kaltec will repair or replace the unit, with new or refurbished product at its option, at no charge.

PARTS: In addition, Kaltec Electronics will supply replacement parts for a period of (1) year.

To obtain warranty or out of warranty service, please contact a Technical Support Representative at 1-866-446-3595 Ext 242 Monday through Friday from 9:00 AM to 5:00 PM Eastern.

This warranty is extended only to the original purchaser. A purchase receipt or other proof of the date of the original purchase is required before warranty service is rendered. This warranty only covers failures due to defects in materials and workmanship which arise during normal use. This warranty does not cover damage which occurs in shipment or failures which are caused by products not supplied by the Warrantor or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, set-up adjustments, improper antenna, inadequate signal pickup, maladjustment of consumer controls, improper operation, power line surge, improper voltage supply, lightning damage, rental use of the product or service by anyone other than a Digital Video Recorder authorized repair facility or damage that is attributable to acts of God.

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above. THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGE TO RECORDING MEDIA) RESULTING FROM THE USE OF THESE PRODUCTS, OR ARISING OUT OF ANY BREACH OF THE WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE.

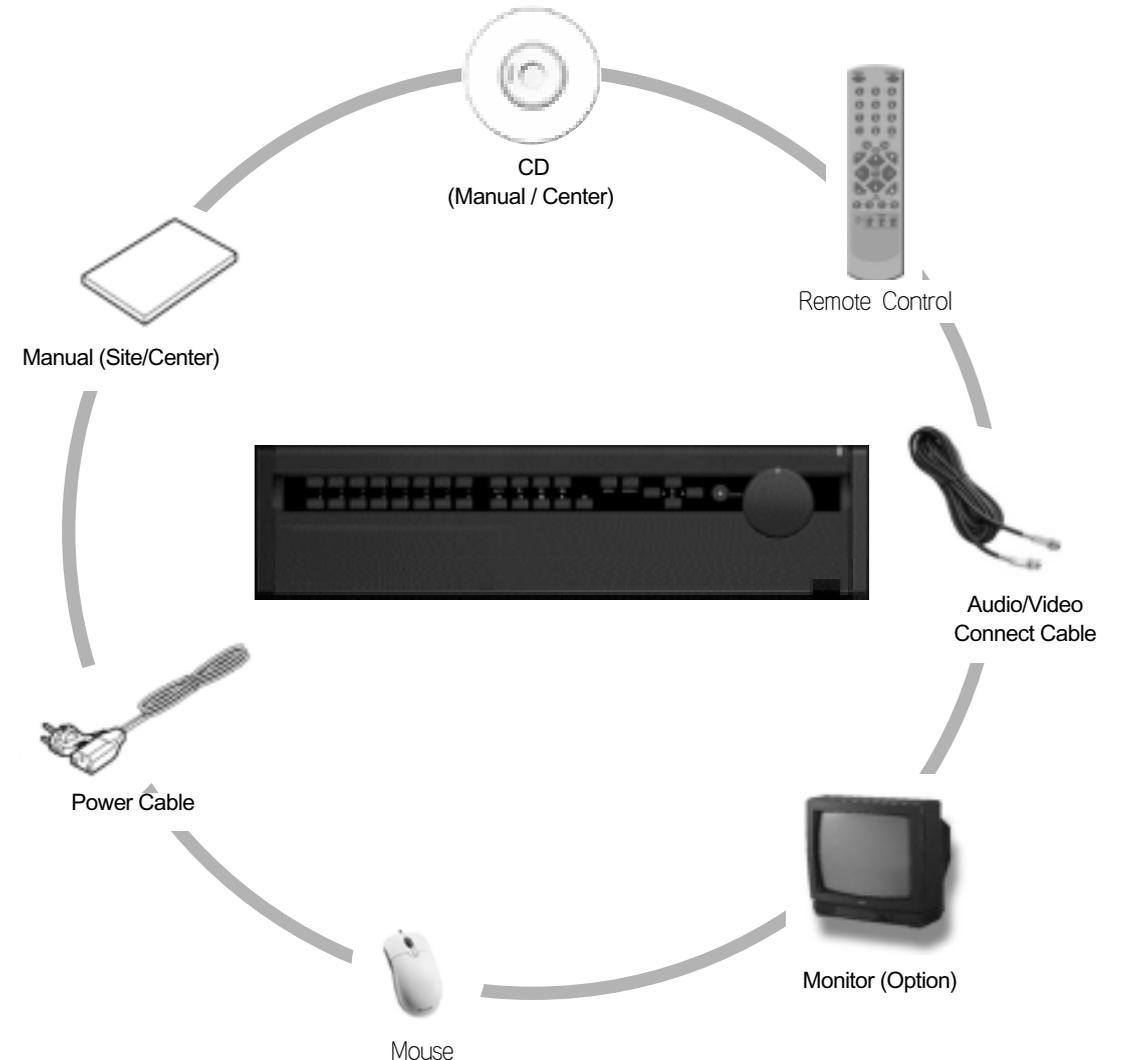
Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

If the problem is not handled to your satisfaction, then write to the Address above.

SERVICE CALLS WHICH DO NOT INVOLVE DEFECTIVE MATERIALS OR WORKMANSHIP AS DETERMINED BY THE WARRANTOR, IN ITS SOLEDISCRETION, ARE NOT COVERED. COSTS OF SUCH SERVICE CALLS ARE THE RESPONSIBILITY OF THE PURCHASER.

Equipment

Please check to make sure the following equipment are included when you purchased DW-709/716. If any items are missing, contact your dealer.



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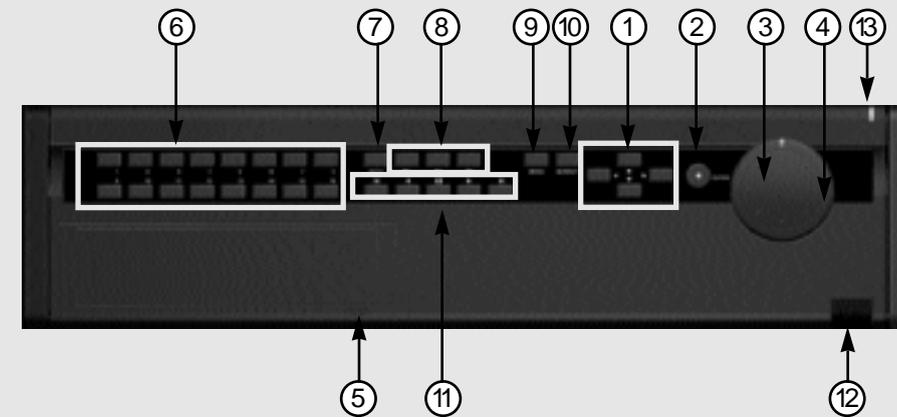
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- 4. Pan/Tilt Camera**
- 5. Search**
- 6. Backup**
- 7. System Setup**
- 8. Controls - Manual Control**

1. System Overview

1.1 Front Panel

The following describes the keys and ports on the front of the system and their functions :



[Figure 1-1. System front view]

① [Directional Keys]

- Use to move through the menu options in Setup or Search mode.
- When controlling P/T/Z camera, press the directional keys to move the camera.
- When searching recorded image, you can adjust the size of the image using up and down directional key.

② [Enter Key]

- Use to select options in Setup or Search mode.
- Use to directly go to Control setup mode from the Surveillance mode.

③ [Jog(inner dial)]

- Rotate to view recordings, in Search mode, forwards or backwards one frame at a time.
- Rotate to change the value of options one unit at a time in Setup mode.
- When controlling P/T/Z camera, rotate to shift camera lens focus.

④ [Shuttle(outer dial)]

- Rotate to play the recordings, in Search mode, forward or backwards.
- Rotate to change the value of options continuously in Setup mode.
- When controlling P/T/Z camera, rotate to zoom in or out.

- ⑤ [CD-RW Open]
 - Press button to open CD-RW.
- ⑥ [Camera/Number keys]
 - In Surveillance mode, press for full screen display of that camera.
 - In Search mode, press for full screen display of that camera recording during playback.
 - Press the keys to enter correct numeric password when accessing Setup or Search modes.
- ⑦ [Auto]
 - Press to begin automatic channel sequence either in full or multi screen modes.
- ⑧ [Split screen buttons]
 - In Surveillance or Search modes, press to select 4-splitscreen , 9-splitscreen  or 16-splitscreen  (DW-716).
- ⑨ [Menu]
 - Press to access Setup mode.
- ⑩ [Search]
 - Press to access Search mode.
- ⑪ [Search mode control Keys]
 - In Search mode, use these keys to view the recording from either the first or last recorded image, to play the recording either forwards or backwards, to pause

- viewing the recording.
- ⑫ [USB Port]
 - You can connect a portable disk drive to USB port to save backup of recorded video.
 - You can update your system software with an upgrade package through the USB port.
 - A standard HP PostScript computer printer can be connected to USB port of DW-709/716 to print out any still image.

[Note] Removable Disk

- The table below lists compatible USB disks. If you want to use other removable disk, it should be compatible with Linux 2.4.0 or over. Other USB disk may not work properly.
- It is recommended that you confirm through the manufacturer the Linux compatibility of the removal disk you wish to purchase.

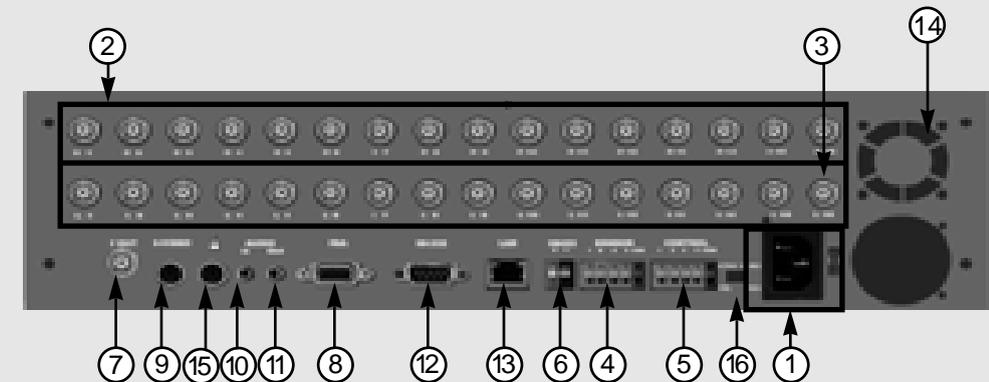
* Removable Disk support

No.	Name	Company	USB Version
1	AnyDrive	AL-tech	Ver 1.1
2	Unidrive	KMIT	Ver 1.1
3	Nexdrive	JUNGSOFT	Ver 1.1
4	SHELLGINO N4	SHELLGINO	Ver 1.1
5	TRANSCEND JF A 128M	Transcend	Ver 1.1

- ⑬ [POWER LED]
 - When power switch is on, the LED gives green light.

1.2 Rear panel

The following describes keys and ports on the rear part of the system and their functions (DW-716) :



[Figure 1-2. System rear view]

- ① [Power Connector]
 - Power cable input, 110V ~ 220V, for system main power Supply.
- ② [Camera Video Input BNC]
 - 16 BNCs for DW-716 and 9BNCs for DW-709.
- ③ [Loop Through Output]
 - Video output ports for camera loop through to view image to another monitor or device.
 - The system supports both NTSC and PAL.

[Caution]

- Be careful of electrocution. Please read [Safety Warnings and Cautions]

[Caution]

- Dependant on the grounding status of the power supply electric current that can cause an electric shock may flow in the video line (coaxial cable). Turn off the system before connecting the video line to the BNC port.

④ [Sensor Input Port]

- External sensor inputs for channels 1~4.
- The system supports NC and NO sensor types.

⑤ [Control Output Port]

- Control output for connecting control devices for channels 1~4.

**[Caution]**

- Since control devices use output in a contact point format without polarity at the control output port, do not connect AC 110V ~ 220V of the power cable or supply DC power.
- When controlling DC power, it is recommended that you cut the (-ve) line.

⑥ [RS-422 Output Port for P/T/Z Control]

- RS-422/RS-485 output for controlling P/T/Z cameras.

⑦ [Video Output Port]

- Video output for connecting with CVBS monitor.
- Supports both NTSC and PAL video format depending on the input.

⑧ [VGA Output Port]

- VGA output for connecting with CRT VGA monitor.

⑨ [S-Video Output Port]

- S-Video output for connecting with SVGA monitor.
- Supports both NTSC and PAL video format depending on the input.

⑩ [Audio In]

- Audio input for recording .
(For audio recording, it is recommended to use any microphone with an amplifier. A microphone without amplifier may not record audio well enough if the audio input signal is too low.)

⑪ [Audio Out]

- Replay of recorded Audio.

⑫ [External modem terminal] *NOT AVAILABLE IN EUROPEAN MODELS*

- Provide a connection to the external modem for a remote access.

⑬ [LAN]

- Ethernet 10/100 connection port for connecting the system through network.

⑭ [Cooling Fan]

- Cooling fan for system ventilation.

⑮ [Mouse]

- Input for using a mouse with the system.
- If the mouse has a scroll wheel, the wheel can be used as system's jog/shuttle dial.

[Note] Support for Scroll Mouse

- The scroll mouse types supported by the system are listed in the table below. Scroll mouse types other than those listed below may not be supported by the system . Please check.

• Applicable Wheel Mouse List

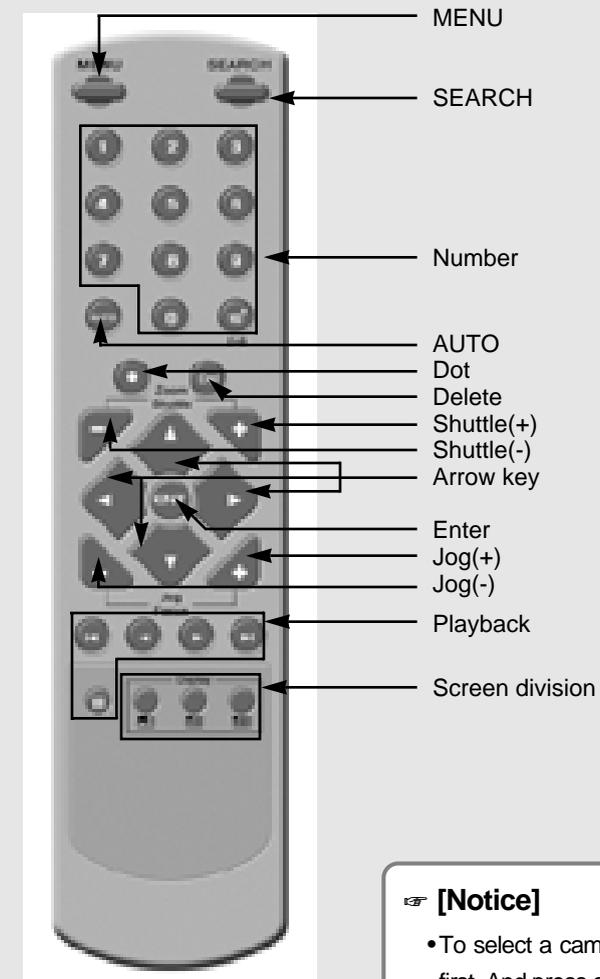
No.	Mouse Name	Model Name or Type	Support wheel feature	Place of Manufacture	Remarks
1	SOLID YEAR	SYW1320 SOLID YEAR	YES	China	
2	A4TECH	SWW-35	YES	China	
3	SAMSUNG	SMP2000WX	YES	CHIC TECH/China	
4	TriGem	M-S48a	YES	Logitech(China)	

⑩ [IMAGE INPUT/OUTPUT SWITCH]

- Image Input/Output terminal options
- NTSC, PAL : Default settings for input video format.
- CVBS, VGA : Image output types; when CVBS is selected, the image will be displayed on the external monitors; when VGA is selected, the image will be displayed on the computer monitors.
(but, when monitor is selected as an image output, it take about 1 minute after power connection to view the image on the VGA monitor. Be sure to wait until the processing window appears.)

1.3 Description of the Remote Controller

Below picture shows the description of each feature in remote control. All the feature is same with the front buttons in the system.



[Notice]

- To select a camera from 10 to 16 press first. And press among ~ .

2. Surveillance Mode

2.1 Screen Layout



[Figure 2-1. Main Surveillance Mode by 4 split screen]

- ① [Camera Number]
 - Displays camera number.
- ② [Camera Name]
 - Displays camera name.
- ③ [Recording Status]
 - Displays camera recording mode enabled.
- ④ [P/T/Z Status]
 - Displays Pan/Tilt camera status enabled.
- ⑤ [Audio Recording Status]
 - Shows audio recording enabled.

Recording Mode	Available Recording Modes and Screen Display	
<ul style="list-style-type: none"> • C : Continuous Recording • M : Motion Recording • S : Sensor Recording • P : Pre-alarm Recording 	• No recording	No Display
	• Continuous Recording	Red REC
	• Motion Recording	Orange REC
	• Sensor Recording	
	• Motion & Sensor Recording	
	• Motion & Pre-alarm Recording	
	• Sensor & Pre-alarm Recording	
• Motion & Sensor & Pre-alarm Recording		

[Table 2-1. Available Recording Modes and Screen Display]

2.2 Enabling full screen and sequence modes



[Figure 2-2. 16-splitscreen mode]



[Figure 2-3. 9-splitscreen mode]



[Figure 2-4. Full screen mode]

[To Select Full Screen mode]

- Press any key 1~16 on the system to enlarge that camera channel and view in full screen.

[To Select Quad screen]

- Press the 4-split screen button to select quad display of cameras 1-4. Press again to move to next quad screen.

[To Select 9 way split screen]

- Press the 9-split screen button to select display of cameras 1-9. Press again to move to next 9 way screen.

[To Select 16 way split screen]

- Press the 16 way split screen button to view all cameras on one screen (DW-716).

[Sequence]

- When full screen is selected, press the Auto key to view all camera channels in sequence. The system will also sequence between quad and 9 way displays. (see page 41 - OSD/Dwell Time for details on changing Auto option).

3. Menu Operation

3.1 Using menu in live mode

Pop-up menu appears when you click right mouse button on surveillance, search or Pan/Tilt mode



[Figure 3-1. Pop-up menu operated by mouse on surveillance mode]

① [MENU]

- Main menu for system setup
- When using mouse, click on 'Menu' icon to go to Setup.
- When using front panel, press 'MENU' button on the front panel.

② [SEARCH]

- Click on "SEARCH" to go to Search mode.
- When using front panel, press "SEARCH" button.

③ [CONTROL]

- Click on "CONTROL" to go to Control menu.
- When using front panel, press "OK" button.

④ [AUTO]

- To go to auto display mode, select single,

quad or 9 channel split screen.

- Press auto display icon to get auto rotation screen. Click to view live image in single, quad, 9ch, and 16ch modes. (See page 41 to setup the dwell time as you wish)

⑤ [Multi Screen]

- You can get 4, 9 or 16(DW-716 only) channel display screen with clicking the icon by mouse or pressing the front panel key.

☞ [Notice] Right mouse click

- Click right mouse button to activate or deactivate pop-up menu in the surveillance mode.
- Clicking right mouse button anywhere in the setup mode will return to sub-menu screen.

3.2 Using menu on PAN/TILT mode

This menu appears by selecting a full channel that supports P/T camera in surveillance mode.



[Figure 3-2. Pop-up menu on Pan/Tilt mode]

① [PIZ]

- Button to go to Pan/Tilt control mode.
- Select any channel that supports Pan/Tilt camera. If you click right mouse button on the image, it changes to full screen.

② [Pan/Tilt]

- Controls the Pan/Tilt camera in Pan/Tilt mode

③ [ZOOM IN/OUT]

- Zoom in or out any supported Pan/Tilt or Speed Dome type camera.

④ [FOCUS IN / OUT]

- Adjust focus of the camera lens.
(This function is not supported on any auto focus cameras)

☞ [Notice] Right mouse click

- Use right mouse click to enter into or exit from the Pop-up menu.

3.3 Using menu on playback mode

This menu appears only when you click right mouse button **while playing back recorded images**.
(See page 23 for how to playback of recorded images.)



[Figure 3-3. Mouse pop-up menu on multiple channel playback screen(DW-716)]



[Figure 3-4. Mouse pop-up menu on single channel playback screen]

- ① Click this button to select time and date to search.
- ② Click this button to start backup.
(Refer to page 24 for details of backup procedure)
- ③ [Playback button]
 - (From the left) First recorded image / play backward / pause / play forward / Last recorded image
(See page 23 Table for details)
- ④ [Direction Key]
 - Using left and right arrow key, you can play backward or forward on frame by frame rate.
 - Using up and down arrow key, you can increase or decrease the size of playback image.

4. Pan/Tilt Camera

4.1 Switching to Pan/Tilt control mode



[Figure 4-1. Enlarged P/T/Z channel]



[Figure 4-2. P/T/Z control mode]

[Pan/Tilt Camera Control]

- Select the camera channel connected to the P/T/Z camera by using the mouse or camera number keys on the front panel. This will display the channel in full screen mode.
- Once the channel is enlarged, press [Enter] to access [P/T/Z control mode]. Pan/Tilt controls may differ depending on the connected camera model.

[Exiting P/T/Z control mode]

- When you have finished with this screen, click [OK] button by mouse or press MENU on the front panel to return to Surveillance mode.

4.2 Pan/Tilt Camera Control

In P/T/Z menu, you can switch the P/T/Z camera controls to manual control, as well as changing Zoom, Focus, and Auto Pan settings.



[Figure 4-3. P/T/Z menu]

① [P/T/Z Model]

- Displays the P/T/Z camera model.

② [P/T/Z function buttons]

- You can enable or disable P/T/Z camera functions by selecting the options you wish to use by using the mouse or the [Directional] and [Enter] key on the front panel.
- Some functions may differ depending on the P/T/Z camera model you are using.

③ [P/T Speed]

- Use the directional keys on the system to set the speed of the movement of the Speed Dome camera when it is to be controlled manually.
- P/T Speed only applies if you are using a Speed Dome camera.

④ [Z/F Speed]

- Use the jog/shuttle on the system to set the camera zoom/focus rate.
- Z/F Speed only applies if you are using a Speed Dome camera.

⑤ [Preset]

- If you have a Speed Dome camera configured with presets, selection of a numbered button will move the camera to that preset position (see [Mode Select] below).
- Preset selection only applies if you are using a Speed Dome camera.

⑥ [Mode Select]

- Mode button is used to set the Speed Dome camera to a preset position.
- Select the [Cursor Mode] button using the [Directional] keys, then press [Enter] to change to [P/T Mode].
- To set the position of the Speed Dome camera to Preset buttons, change the [Cursor Mode] to [P/T Mode], then move the camera position using the directional keys. Once the camera is in the designed position, change the [P/T Mode] back into [Cursor Mode].

4.3 Supported Pan/Tilt Camera List

No.	Manufacturer	Model Name	P/T	P/T Speed	Zoom	Focus	Z/F Speed	Preset	Manual Control and other functions	IRIS	Note
1	KODICOM	KRE-301 RX	YES	NO	YES	YES	NO	NO	YES	NO	
2	UNIMO	KRX-3200 RX	YES	NO	YES	YES	NO	NO	NO	NO	
3	UNIMO	KRX-2101 RX	YES	NO	YES	YES	NO	NO	YES	NO	
4	NIKO	NK-97 SD	YES	YES	YES	YES	NO	YES	YES	NO	
5	SAMSUNG	SPD-1600 SD	YES	YES	YES	YES	YES	YES	YES	NO	
6	SAMSUNG	SCC-641	YES	YES	YES	YES	NO	YES	YES	NO	
7	PANASONIC	WV-CS854	YES	YES	YES	YES	YES	YES	YES	NO	
8	DONG-YANG	DRX-501A	YES	NO	YES	YES	NO	NO	YES	NO	
9	SUNG-JIN	CCR-20G RX	YES	NO	YES	YES	NO	NO	YES	NO	
10	PELCO	PELCO-D SD	YES	YES	YES	YES	NO	YES	YES	NO	
11	PELCO	C1489M-D SD	YES	YES	YES	YES	NO	YES	YES	NO	
12	HONEYWELL	GC-755	NO	NO	YES	YES	YES	YES	NO	NO	
13	PHILIPS	LTC SD	YES	YES	YES	YES	YES	YES	NO	NO	
14	ORION	KRE-303	YES	NO	YES	YES	NO	NO	YES	NO	
15	TOA(CBC)	C-CC554 SD	YES	YES	YES	YES	YES	YES	YES	NO	
16	ITA	ITA-MPC1	YES	YES	YES	NO	YES	YES	YES	NO	
17	Vision	Vision360v1	YES	YES	YES	NO	NO	YES	YES	NO	
18	HITRON	FASTRAX	YES	YES	YES	YES	NO	YES	YES	NO	
19	SAMSUNG	SCC-93IT	NO	NO	YES	YES	YES	YES	YES	NO	
20	DONG-YANG	DSC-203	YES	YES	YES	YES	YES	YES	YES	NO	
21	Sensormatic	Sensormatic	YES	NO	YES	YES	NO	YES	YES	NO	
22	CTN	HD-0670	YES	YES	YES	YES	YES	YES	YES	NO	

[Table 4-1. Supported Pan/Tilt camera list]

5. Search

5.1 Accessing Search Mode

To access Search mode, press **Search** button on the system. You will then be asked to enter password as shown below :



[Figure 5-1. Password screen]

- Use the [number] keys to enter the correct 4-digit password, then press [Enter] (The system has no password under factory settings).
- If you forget your password, you will not be able to access Search mode, or change your password. We strongly recommend that you either write down your password and keep it safe or use a password that you are sure to remember. (See page 34 for instructions on how to change password).
- To return to Surveillance mode, press [Search] button at anytime.

5.2 Search mode display

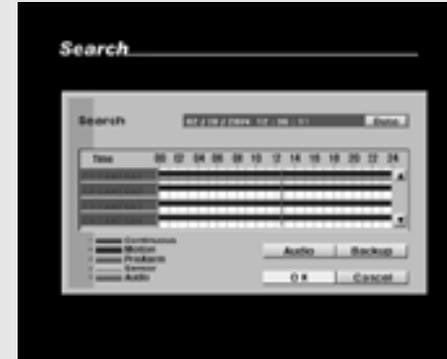
After you enter the correct password, the Search mode display will appear as shown below. You can select from the different options by using the mouse or the [directional] keys.



[Figure 5-2. Search mode display]

- In Search mode display, you can select the time and date and the camera channels you wish to view.
- To choose the date you wish to view, select the [Date] button. This will display a calendar. From there, select the day you wish to view (see pages 20 for details).
- The recording for each camera will be displayed in the time graph.
- If a camera is connected to an Audio input, the system will replay both video and audio at the same time.
- After selecting the time, date and camera number, press [OK] button to view the recording.
- When the system is replaying the recording, you can enlarge any channel into full screen mode (see page 23 for details).
- Press the [Up] and [Down] (▲ ▼) arrow button to select any channel to search.

5.2.1 Graph color display



[Figure 5-3. Graph color display]

- Recorded data shown on the time graph will be displayed in different colour depending on the recording type enabled (see Table 5-1 below).

Color	Description	Display
• Purple	Continous Recording	
• Blue	Motion-detection Recording	
• Green	Pre-alarm Recording	
• Orange	Sensor Recording	
• Red	Audio Recording	

[Table 5-1. Graph color description]

5.3 Selecting date and time

5.3.1 Selecting date



[Figure 5-4. Selecting [Date] button]

- To select the date you wish to view, use the directional keys to select [Date] button, then press **Enter**. This will display a calendar (refer to page 3 for information on system keys).



[Figure 5-5. Calendar display]

- [Changing Year/Month]
 - Press the arrow buttons () above the calendar to change year/month.
- [Selecting Date]
 - Use the directional keys to select the date and press **Enter**.
 - Dates containing recorded data are displayed in orange color (see table 5-2 for color descriptions).
- [Selecting Hour/Minute/Second]
 - Use the shuttle Dial on the system or the mouse wheel to change hour/minute/second.

[Note] Jog and Shuttle Dial

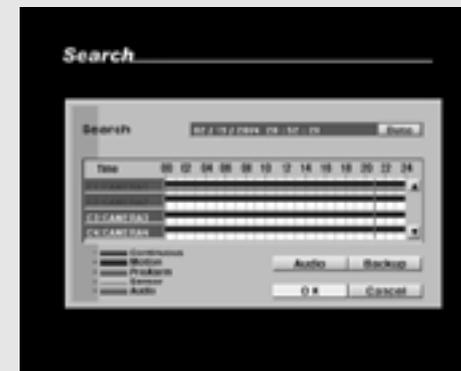
- Jog** Dial: Changes hour/minute/second or any other setup value precisely.
- Shuttle** Dial: Changes hour/minute/second or any other setup value quickly.

Color	Description	Example
• Orange	Date with Recorded Data	10
• Red	Holidays/Weekends	10
• Black	Date without Data	10
• Yellow Box	Selected Date	10
• Blue Box	Cursor Location	10

[Table 5-2. Calendar date colors]

- After selecting the date you wish to view, press the [OK] button to return to Search mode display. The system will display the selected date's recording in the time graph.

5.3.2 Selecting cameras and changing search bar line



[Figure 5-6. Selecting cameras and graph bar line]

[Selecting cameras]

- Use the mouse or the directional keys to select cameras from the graph. After selection, if you press [OK] button the system will display the selected cameras' recorded data.

[Changing graph bar line]

- To shift the search bar line, use the jog or shuttle dial on the system or the mouse wheel. This will shift the bar left or right. Shifting the search bar line will change the time of the recording you wish to view.

5.3.3 Audio Output



[Figure 5-7. Selecting audio]

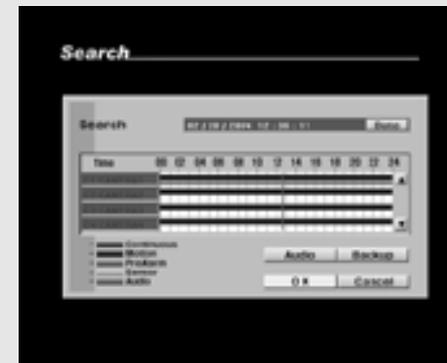
[Audio]

- The system can play the video with any recorded sound, provided an audio recording device is connected to that channel.
- To play the recording with sound, use the mouse or the directional keys on the system to select the [Audio] button, then press **Enter**. Once selected, you will listen to any recorded audio.

[Note]

- DW-709/716 support only one audio channel.

5.3.4 Playback



[Figure 5-8. Search mode display]



[Figure 5-9. Search mode playback(DW-716)]

	Move to the very beginning of the date's recording
	Reverse Play
	Stop
	Forward Play
	Move to the very end of the date's recording.

[Table 5-3. Search mode playback buttons]

[Playback recorded data]

- After selecting the date, time, and the cameras, press [OK] button to play the recording using the mouse or the **Enter** key.

[Full Screen]

- To enlarge a channel during playback, use the number keys 1~16 on the system to select the channel you wish to enlarge.
- When a channel is selected, use **▲▼ (zoom in/zoom out)** keys to increase or decrease the screen size.

[Changing playback speed]

- To play the recording, press or button.
 - (Reverse Play) : Play the recording in reverse. When pressed again, the recording will play faster.
 - (Forward Play) : Play the recording forward. When pressed again, the recording will play faster.
- (Pressing the **play** button during fast play or reverse play will return the playback speed to normal forward play.)

[Switching to Search mode display]

- To return to Search mode display, press the **Enter** button at anytime.



[Caution]

- Recording frame rate might vary depending on the number of installed camera or system load.

6. Backup

6.1 Saving backup to local drive

From Search screen display, select [Backup] button to save a backup copy of the recording using the system's CD-RW, USB HDD, or a portable hard drive such as USB memory stick. The backup files can be saved as AVI, BMP, JPEG, or KDB (Kaltech Data Base) formats.

6.1.1 Still Image backup



[Figure 6-1. Selecting [Backup] button]



[Figure 6-2. Backup options display(DW-716)]

- When the system is playing the recording, press **Pause** to select the frame you wish to save, then press **Enter** (see page 23 for playback controls).
- As shown in Figure 6-1, press [Backup] button to view backup options display (Figure 6-2).

- ① [Backup mode - Still Image]
 - To select BMP or JPEG backup mode, use the mouse wheel or the directional keys to highlight [Backup Mode] then use the jog/shuttle to change the option.
- ② [Start Time] and [End Time]
 - The time and date input function is automatically disabled. The image saved will be the image selected and paused on the Search screen.
- ③ [Select Media]
 - Select the media used for saving backup.
 - When Still Image mode is selected, it is recommended to save to the Local USB drive.
- ④ [Camera]
 - When Still Image mode is selected, only those cameras that were selected in Search mode will be saved. Camera channels that do not contain any data will be disabled.



[Figure 6-3. Backup progress bar(DW-716)]

6.1.2 Video backup



[Figure 6-4. Backup options display(DW-716)]

[Note]

- To play a backup file saved in AVI format, the latest DivX Codec must be installed on the PC you are using. If you do not have DivX Codec installed, please use the Internet resources to download the required Codec.
- KDB(Kaltech Data Base) backup enables to backup of the video with audio data. However, the other types of backup such as AVI, BMP, JPG do not include audio.
- When the is archived to CD-RW in KDB format the viewer software will be copied automatically to the CD. (For more information on the viewer program please refer to page 91.)

- Press [OK] button to begin backup. You will see the backup progress through the progress bar.
- When no USB drive is connected, the system will return to Search mode display.
- Once backup is complete, the system will return to Search mode display.

- ① [Backup mode - Video]
 - To select KDB (Kaltech data base) or AVI backup mode, use the mouse or the directional keys on the system to highlight [Backup mode], then use the mouse wheel or the jog/shuttle to change the option.

- ② [Start Time] and [End Time]
 - Select the starting time and ending time of the recording you wish to save.
 - To change the [Start Time] and [End Time], use the mouse or the directional buttons to highlight [Input] button, then click left mouse button or press **Enter** (see page 26 for details).

- ③ [Select Media]
 - Select the media used for saving backup.
 - Press the [Select] button to choose different media types (see page 26 for details on selecting Local Drive backup).

- ④ [Camera]
 - Select the camera number that contains the recording you wish to save.
 - When saving backup in KDB format, you can select multiple camera channels.
 - When saving backup in AVI format, you can only select one camera channel.
 - When saving backup in Video mode, you will see  displayed on the corresponding camera channels in Surveillance mode.



[Figure 6-5. Start Time]



[Figure 6-6. End Time]

[Start Time] and [End Time] setup

- To select [Start Time] and [End Time], use the mouse or the directional keys to select the time and date, then use the mouse wheel or the shuttle to select the start and end times of the recording you wish to copy.
- Press [Enter] button to apply the select times.



[Figure 6-7. Selecting Local Drive]

[Selecting Media]

- Use the mouse wheel or the jog/shuttle to select Local USB, Local CD-RW, or Remote Drive.
- To save backup using a local drive, select Local USB or Local CD-RW (see page 28 for remote backup).
- USB Hard Disk Drive and USB memory stick can be connected to the USB port for back up. When saving backup using Local USB, the system will automatically scan for a connected USB drive.

☞ [Note] Supported USB versions

- DW-709/716 supports USB 1.1. USB 2.0 devices are also supported but at USB 1.1 speed.
- Recommended portable USB Hard Disk Drives include Iomega and Noble.
- It is possible to burn the image data onto CD-RW or CD-R media up to 100 times, but it varies depending on the image size.



[Figure 6-8. Message on insufficient storage space]

[Storage space shortage]

- When the storage space for USB HDD or memory, CD-RW is running short, a warning message will be shown as left.
- A window will appear to ask whether to change backup media or not.
- [Yes]
Backup will start when you click [Yes] after changing the backup media.
- [No]
Backup will not progress when you click [No] and will go to the previous menu.

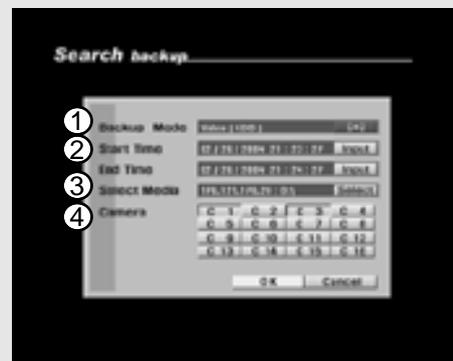
☞ [Notice]

- Recording speed might be slower while the backup using USB HDD, CD-RW, or remote backup is going on.
- Do not plug out the USB cable or turn off USB devices during backup. It may cause a problem in the system.

6.2 Saving backup using remote drive



[Figure 6-9. Selecting [Backup] button]



[Figure 6-10. Backup options display(DW-716)]

Note

- When saving a backup as a still image (JPEG or BMP), you cannot select Drive as backup.

- From Search screen, select [Backup] button to save a backup copy of the recording using a remote drive. The backup files can be saved as AVI, BMP, JPEG, or KDB (KODI COM data base) formats.

① [Backup mode - Video]

- To select KDB (Kaltech data base) or AVI backup mode, use the **mouse** or the directional keys on the system to highlight [Backup mode], then use the mouse wheel or the jog/shuttle to select the option.
- You can **only** select **Video mode** when backing up to a remote drive.

② [Start Time] and [End Time]

- Select the start time and end time of the recording you wish to backup.
- To change the [Start Time] and [End Time], use the mouse or the directional buttons to highlight [Input] button, then click left mouse button or press **Enter** (see page 29 for details).

③ [Select Media]

- Select the media used for saving backup.
- Press the [Select] button to choose from different media types (see page 29 for details on selecting Remote Drive backup).

④ [Camera]

- Select the camera number that contains the recording you wish to save.
- When saving backup in KDB format, you can select multiple camera channels.
- When saving backup in AVI format, you can only select one camera channel.
- When saving backup in Video mode, you will see  displayed on the corresponding camera channels in Surveillance mode.



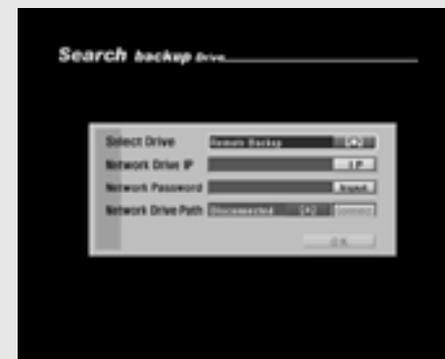
[Figure 6-11. Start Time]



[Figure 6-12. End Time]

[Start Time] and [End Time] setup

- To select [Start Time] and [End Time], use the mouse or the directional keys to select the time and date, then use the mouse wheel or the jog/shuttle to select the start time and end time of the recording you wish to backup.
- Press [Enter] button to apply the selected times.



[Figure 6-13. Remote Drive setup]

[Select Media - Remote Drive]

- Use the mouse wheel or the jog/shuttle to select Remote Drive.
- If the system is connected through LAN or Internet line, you can save a remote drive backup by entering the correct IP address.
- When saving a remote drive backup, the receiving PC or fileserver must have Center Program installed with Backup Server Program running.
- To save a remote drive backup, you will need the IP address and the password of the receiving PC or fileserver.
- To enter IP address and password, use the directional keys to highlight [Input] button, then press **Enter**.



[Figure 6-14. Entering IP]



[Figure 6-15. Entering password]

[Network Drive IP] and [Network Password]

- To enter the Network Drive IP address and Network password, use the mouse or the directional keys and **Enter** button to select the numbers and letters. Press [OK] button to apply the selected IP address and password.



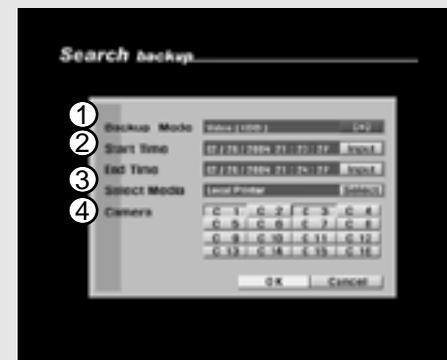
[Figure 6-16. Remote drive setup]

[Connecting]

- Press the [Connect] button to connect the system to the receiving PC or fileserver. Once connected, you will be able to select Network Drive path.
- Depending on the connection status, the system will display either "Connect", "Disconnect", or "Connect fail" message.

6.3 Printing Still Image

- It is possible to print out the recorded image using the printer that supports PostScript. Choose the camera to print out while playing back the recorded and press [OK].
If you click [Backup] button in the search screen below image will appear.



[Figure 6-17. Search Backup (DW-716)]

① [Save image]

- Select BMP or JPEG to print out in still image.
- Backup method can be selected by moving mouse pointer over backup mode menu and rolling wheel or using directional keys in the DVR.

② [Start Time] and [End Time]

- Time of the paused image will be shown.
- When Still Image mode is selected, [Start Time] and [End Time] will indicate the time when the selected frame is recorded. [Input] button will be disabled.

③ [Select Media]

- Use the **mouse** or the **directional** keys on the system to print a still image and then click **left mouse button** or press **Enter**
- Select Local Printer

④ [Camera]

- Select the camera number that contains the recording you wish to save.
- When printing out in BMP or JPEG only selected cameras during playback will be activated.

[Local Drive-Local Printer]

- Use the **mouse wheel** or the **jog/shuttle** on the system to select Local Printer and press [OK] button.



[Figure 6-18. Local Printer Selection]

7. System Setup

7.1 Accessing Setup mode

To access Setup mode, press Setup button on the system. You will then be asked to enter password as shown below:



[Figure 7-1. Password screen]

- Use the number keys to enter the correct 4-digit password, then press Enter (The system has no password under factory settings).
- If you forget your password, you will not be able to access Setup mode, or change your password. We strongly recommend that you either write down your password and keep it safe or use a password that you are sure to remember.
- See page 34 for instructions on how to change password.
- To return to Surveillance mode, press MENU button again.

7.2 Setup menu

After you enter the correct password the Setup menu will appear as shown. You can select different options using the mouse or the directional keys.



[Figure 7-2. Setup menu]

- You can change various system functions in Setup Mode to customize the system's recording settings.
- See page 33, Table 7-1 for brief outline of the settings you can change.
- To return to Surveillance mode, press Menu button or click right mouse button.

Main Menu	Setting Options	Description
• System Setup	Password	Change and set system password.
	Site Information	Change site code, date display type, and time.
	Software Upgrade	Update system program
	Log Information	Show recorded log information
	OSD/Dwell Time	Turn OSD on/off, and set automatic channel rotation setting
	System management	Change system hardware settings
	System Shutdown	Shutdown or restart the system
• Recording Setup	Recording setup	Set brightness, frame rate, and audio recording.
	Motion Detection	Set motion detection area and beep sound of each camera.
	Recording Schedule	Select recording mode and set camera schedule.
	Quality / Resolution	Set the recording channel size and resolution.
• Camera Setup	Camera Name	Change camera name.
	P/T/Z Model	Select Pan/Tilt camera model.
	Sensor Setting	Set sensor connection to the system.
	Sensor/Control link	Change sensor and control connection and options.
	Sensor/Camera link	Change sensor and camera connection and options.
• Communication Setup	Network	Select network type.
	ID/PASSWORD	Logging in ADSL require ID/PASSWORD.
	Site IP	Enter IP address of the system.
	Subnet Mask	Enter subnet mask address of the system.
	Gateway	Enter gateway address of the system.
	Center IP	Enter IP address of the Center PC.
	Center Telephone Number	Enter telephone number of the Center PC.(Not in Europe)
	Transfer Time	Change the time the system transfers data when alarm sensors are triggered.
	Alarm Sensor	Select the alarm sensors.
	• Backup Setup	Backup Schedule

[Table 7-1. Setup menu options]

7.3 System Setup

7.3.1 Password



[Figure 7-3. Password Setup]

- Select [Password] in system Setup menu to change password.



[Figure 7-4. Password setup]

- To change password, enter the correct [Old Password], then enter [New Password] and [Confirm] by entering the new password again. Then select [OK] button to apply the new password.
- Only 4 digit numerical figure can be input for password setting.

7.3.2 Site Information



[Figure 7-5. Site Information]

- In [Site Information], you can change the [Site Code], [Date Type], and [Time Setup] options.



[Figure 7-6. Site Information setup]

[Language]

- Select the language you wish to use.

[Site Code]

- You can assign an ID code to the system to make it recognizable when multiple systems are connected through network.

[Date Type]

- You can change the date display format.

[Time Setup]

- You can change the date and time (see page 36 for details).

[Note]

- This system is equipped with high performance crystal clock and might have 20 ppm of time difference. Therefore, it might have a little bit of time difference from the international standard time. Please make sure to check correctness of the time. For detailed time adjustment, refer to the manual.

[Site Code]

- You can assign an ID code to the system to make it recognizable when multiple systems are connected through network.
- The Site Code comprises 6 digits. When entering Site Code, you can enter a maximum of 6 digits. Default is "000001"
- Use the mouse or the directional keys to type in the Site Code. Once you select [OK] button, the new Site Code will apply immediately.



[Figure 7-7. Site Code setup]



[Figure 7-8. Date Type setup]

[Date Type]

- You can change the date display format.
- Available date format is listed below:
yyyy/mm/dd, yyyy-mm-dd, yyyy.mm.dd
mm/dd/yyyy, mm-dd-yyyy, mm.dd.yyyy
dd/mm/yyyy, dd-mm-yyyy, dd.mm.yyyy



[Figure 7-9. Date/Time setup]

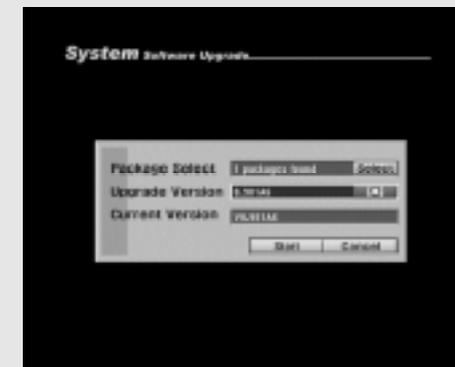
[Time Setup]

- You can change the date and time.
- Check the time zone of your region, then use the mouse wheel or the jog/shuttle to set the [Time Zone].
- To change year/month/day and time, use the mouse or the directional keys on the system to highlight the option you wish to change, then use the mouse wheel or the jog/shuttle to change the option. If Daylight Saving applies in your region, select the [Daylight Saving] option.

7.3.3 Software Upgrade



[Figure 7-10. Software Upgrade]



[Figure 7-11. Software Upgrade menu]

 [Caution]

- When upgrading is in progress, do not switch off the system or unplug the portable storage device containing the upgrade package until the upgrade is complete. Otherwise, the system may malfunction.

- In [Software Upgrade] menu, you can update your system program to new software versions when they become available.

[Package Select]

- You can upgrade the system program by using a portable storage device to be recognized by DW-709/716. The upgrade package must be in a folder called "upgrade". Connect the storage device containing an upgrade package to the USB port, then press [Select]. The system will display the number of packages found.

[Upgraded Version]

- After a portable storage device is connected, you can select the [Upgrade Version] using the mouse wheel or the jog/shuttle on the system.

[Current Version]

- You can view the current system program version.
- Check to make sure the upgrade package version is better than the current version, then select [Start] to begin the upgrade.

7.3.4 Log Information



[Figure 7-12. Log Information]



[Figure 7-13. Log Information]

- In [Log Information] menu, you can view the log information on Setup history, Search history, network connection history, and backup history.

[Time]

- Displays selected date and time.

[Setup]

- Displays log information on any changes made to Setup menu.

[Search]

- Displays log information on Search history.

[Network]

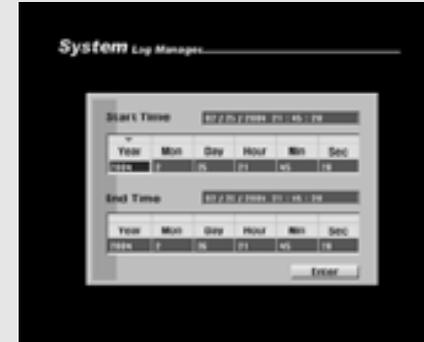
- Displays log information on network connection history.

[Backup]

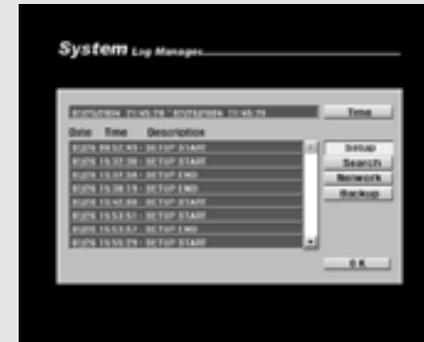
- Displays log information on backup history.

[OK]

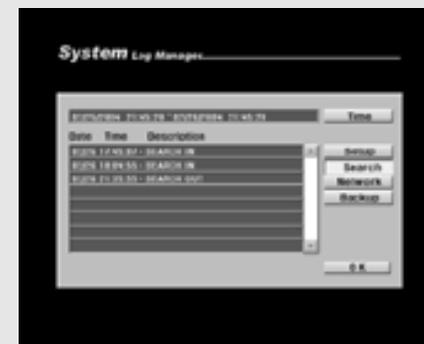
- Select [OK] button to return to Setup menu.



[Figure 7-14. Selecting Time]



[Figure 7-15. Log Information – Setup history]



[Figure 7-16. Log Information – Search history]

[Time]

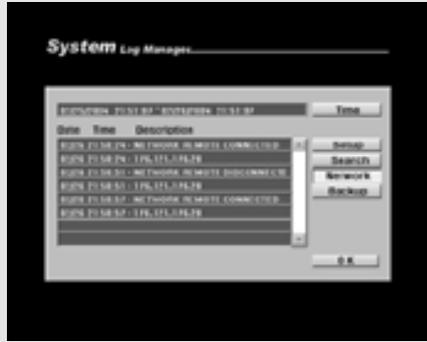
- Select [Time] to change time to view log information recorded on different date/time.
- Change [Start Time] and [End Time] using the mouse and mouse wheel or the directional keys and the jog/shuttle, then press [OK] button. The system will display the log information recorded during this period.

[Setup]

- The system records the date and time whenever the Setup mode was accessed and changed.
- Select [Setup] button to view the log information on Setup mode history. You will see “SETUP START” when Setup mode was accessed and “SETUP END” when Setup mode was exited.

[Search]

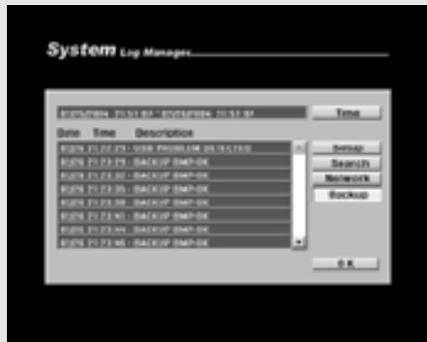
- The system records the date and time whenever Search mode was accessed for viewing the recording.
- Select [Search] button to view the log information on Search mode history. You will see “SEARCH IN” when Search mode was accessed and “SEARCH OUT” when Search mode was exited.



[Figure 7-17. Log Information – Network connection history]

[Network]

- Whenever the system is connected through network by remote Center program, the system will record the IP address and the date and time the connection is made.



[Figure 7-18. Log Information – Backup history]

[Backup]

- Whenever the system saves a backup, it records the date, time, and the location of the backup saved.



[Figure 7-19. Exiting Log Information menu]

[OK]

- Select [OK] button to return to Setup menu.

7.3.5 OSD/Dwell Time



[Figure 7-20. OSD/Dwell Time]



[Figure 7-21. OSD/Dwell Time setup]

- You can change the options on OSD-On Screen Display-and sequence time function.
- You can turn the display settings in Surveillance mode on or off, such as [Camera Name], [Recording], [Audio], [P/T/Z], and [Date/Time] displays.
- Select [OSD All] to turn all screen displays on or off.
- You can set the channel sequence time from 1 second to 60 seconds by changing the value of [Dwell Time] by using the mouse wheel or the jog/shuttle.

7.3.6 System Management



[Figure 7-22. System management]



[Figure 7-23. Selecting Network Management]

- System Management allows you to check network connection status, certify Dynamic DNS (DDNS), Options, change Video input Type, and format HDD.

- Use the mouse wheel or the jog/shuttle to select [Network Management], [DDNS Authentication], [Video-In Type], and [HDD Format] options.
- After selecting the option you wish choose, press [OK] button.



[Figure 7-24. Selecting Network Management]



[Figure 7-25. Network Management]

- Select “Network Management” to check the network status or to restart DDNS authentication and click [OK] button.

[Assigned IP]

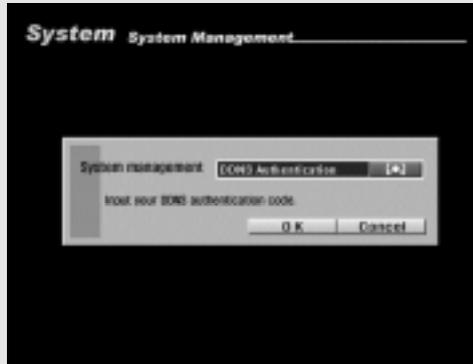
- Assigned IP displays the system’s IP address used for remote backup and remote monitoring.

[Connection Status]

- Connection Status indicates whether the current assigned IP address can be used to connect to the Internet. If it is possible, the system will display “OK” in the progress bar. Otherwise, the system will display “Failed”.

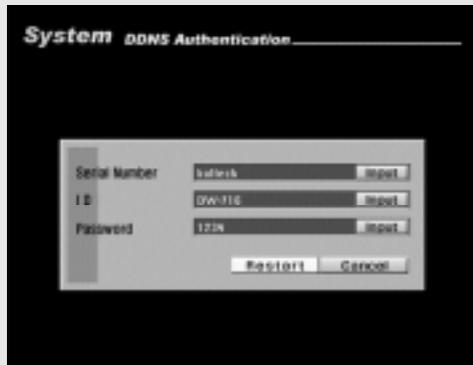
[DDNS Restart]

- Receive a new DDNS authentication
- DDNS authentication allows you to use Internet using the IP address (ADSL, DHCP).



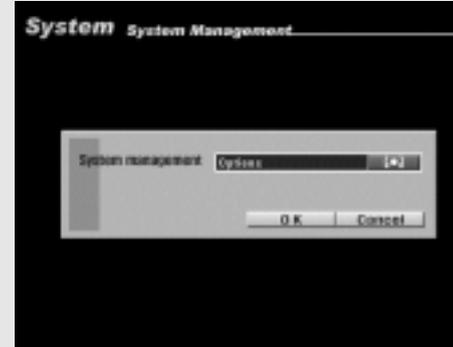
[Figure 7-26. Selecting DDNS Authentication]

- To use the DDNS service, select “DDNS Authentication” and click the [OK] button.



[Figure 7-27. DDNS Authentication]

- [Authentication Number]
- Enter the DDNS authentication number.
- [ID]
- Enter DDNS ID.
- [Password]
- Enter DDNS password.



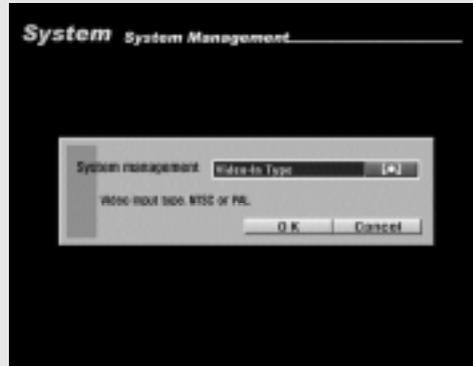
[Figure 7-28. Selecting Options]

- Select “Options” to set a warning beep in case of video loss or to set the watermark in video data and click the [OK] button.



[Figure 7-29. Video Beep delay time]

- [Video Loss Beep delay time]
- Sounds the beep and sets its delay time in case of video loss.



[Figure 7-30. Selecting Video-In Type]

- Select the video-in type to check the type of image input and click the [OK] button.



[Figure 7-31. Video In Type]

- [Video Type]
- Select the video input type of the image source.



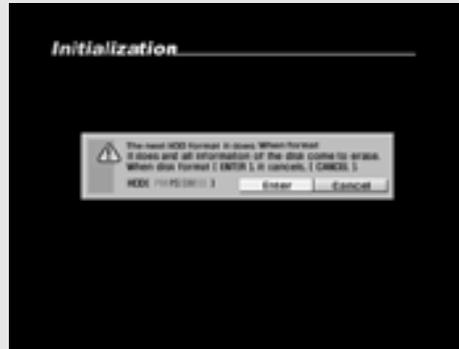
[Figure 7-32. Selecting HDD Management]

- To renew the HDD installed in the system, select “HDD Management” and click the [OK] button.



[Figure 7-33. HDD table]

- The table shows the system’s built-in HDDs and their information. You can install up to HDD into the system.
- From the table, you can select the HDD you wish to format, then select [OK] button. The system will display a confirmation message shown in Figure 7-34



[Figure 7-34. Confirmation message]



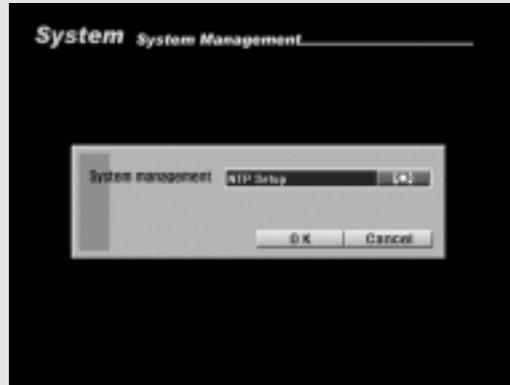
[Figure 7-35. HDD format progress]

- The system will display a warning message. To confirm and proceed with formatting the selected HDD, press **[OK]** button. To cancel format and return to HDD table, select **[Cancel]** button.

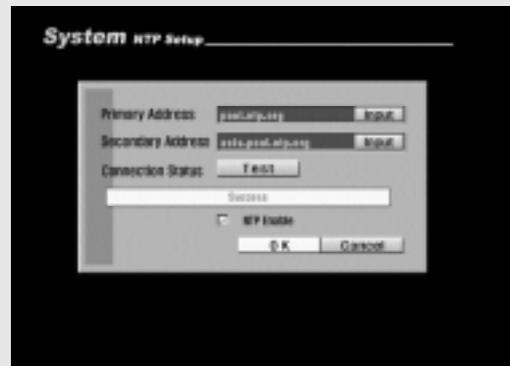
- You can view the HDD format progress through the progress bar.
- The system will restart once the format is complete.

**[Caution]**

- Any newly installed HDD must be formatted.
- Formatting will erase all data stored in the selected HDD. Please make sure you have saved all important data before proceeding with HDD format (see page 24 for details on saving backup).



[Figure 7-36. Selecting NTP Setup]



[Figure 7-37. NTP Setup]

- To receive the international standard time data from the NTP(Network Time Protocol) server and to synchronize the system, select “NTP Setup” and click on [OK] button.

- [Primary Address] and [Secondary Address]
- To input the NTP Server address, click on [Input] button and type in the address of the NTP server.

- [Connection Status]
- To check the connection status with the NTP server in [Primary Address] or [Secondary Address] field, click on [Test] button.
 - When communication is possible with the NTP server, “Success” is displayed on the progress bar. Otherwise, “Fail” is displayed.

- [NTP Enable]
- The operator can decide whether to use NTP feature or not. To use the NTP feature, click on [NTP Enable] button.

Note

- The operator cannot change the time in the Setup menu but can only set the Time Zone while the NTP feature is enabled.
- The NTP server and the system are synchronized every hour.

* NTP Server list

ISO	Area	NTP Server Address
	Worldwide	pool.ntp.org
	Asia	asia.pool.ntp.org
	Europe	eu.pool.ntp.org
	North America	north-america.pool.ntp.org
	Oceania	oceania.pool.ntp.org
	South America	south-america.pool.ntp.org
AT	Austria	at.pool.ntp.org
AU	Australia	au.pool.ntp.org
BE	Belgium	be.pool.ntp.org
CA	Canada	ca.pool.ntp.org
CH	Switzerland	ch.pool.ntp.org
CL	Chile	cl.pool.ntp.org
DE	Germany	de.pool.ntp.org
DK	Denmark	dk.pool.ntp.org
ES	Spain	es.pool.ntp.org
FI	Finland	fi.pool.ntp.org
FR	France	fr.pool.ntp.org
GT	Guatemala	gt.pool.ntp.org
IE	Ireland	ie.pool.ntp.org
IT	Italy	it.pool.ntp.org
JP	Japan	jp.pool.ntp.org
MX	Mexico	mx.pool.ntp.org
MY	Malaysia	my.pool.ntp.org
NL	Netherlands	nl.pool.ntp.org
NO	Norway	no.pool.ntp.org
NZ	New Zealand	nz.pool.ntp.org
PH	Philippines	ph.pool.ntp.org
PL	Poland	pl.pool.ntp.org
PT	Portugal	pt.pool.ntp.org
RU	Russia	ru.pool.ntp.org
SE	Sweden	se.pool.ntp.org
US	USA	us.pool.ntp.org

7.3.7 System Shutdown



[Figure 7-38. System Shutdown]



[Figure 7-39. System Shutdown menu]

- In [System Shutdown] menu, you can safely shutdown, restart or schedule a reboot of the system.
- Use mouse wheel or the jog/shuttle to select [Shutdown], [Restart], or [Add Schedule], then press [OK] button.

[Shut down]

- Shut down the system.

[Restart]

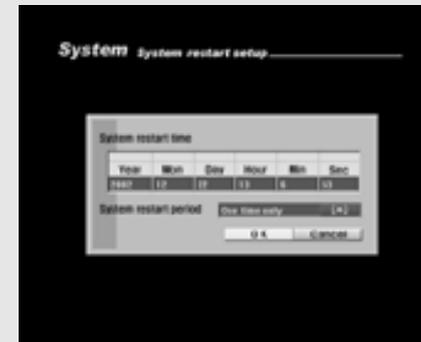
- Restart the system.

[Add schedule]

- Add automatic reboot schedule (see page 53 for details).

[Note]

- Press and hold ENTER button at the front panel for 3 seconds to restart the system.



[Figure 7-40. System restart schedule]

[Add schedule]

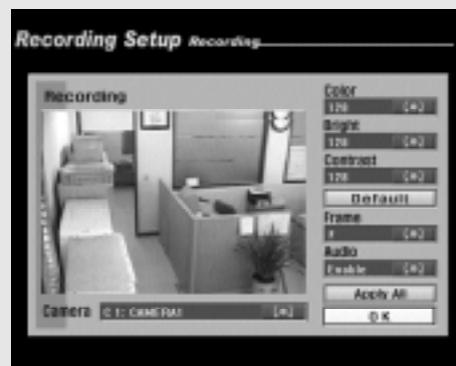
- You can set the time and the system will automatically restart.
- Use the mouse wheel or the jog/shuttle to select [System Restart Period]. You can assign the system to automatically restart [One time only], [Daily], [Every 2 days], [Every 3 days], [Weekly], [Every 2 weeks], [Every 3 weeks], or [Monthly].
- Restarting the system on regular basis may help to stabilize the system performance.

7.4 Recording Setup

7.4.1 Recording Setup



[Figure 7-41. Recording setup]



[Figure 7-42. Recording setup]

[Note]

- Recording frame rate may vary depending on the number of installed cameras or system load.

- In [Recording] setup menu, you can change the color, brightness, contrast, and the frame rate for each cameras as well as setting audio recording.

[Color/Brightness/Contrast]

- You can set the color, brightness, and contrast of the selected camera.
- Use the mouse wheel or the jog/shuttle to set the value of each option between 0~255.

[Default]

- Select [Default] button to set the color, brightness, and contrast to their default value.

[Frame]

- You can set the recording frame rate between 1~30 fps(25fps in PAL) for each camera using the jog/shuttle dial on the system. The total recording frame rate can not exceed 120 fps (100fps in PAL).

[Audio]

- To record sound with the selected camera, switch the [Audio] option to “ON” using the jog/shuttle on the system.
- Audio recording is supported for one camera channel only. Setting the [Audio] option to “ON” will automatically switch all other channels to “OFF”.

[Apply All]

- Click the [Apply All] button to apply the current camera setting to all cameras.

[Camera]

- Use the jog/shuttle on the system to select other cameras for set up.

7.4.2 Motion Detection



[Figure 7-43. Motion Detection]



[Figure 7-44. Motion-detection setting]

- In [Motion Detection] menu, you can set motion detection area, set motion sensitivity, and enable or disable alert sound(beeping).

[Setting Motion Detection]

- To set Motion Detection area, highlight a block of the area of the channel screen by using the directional keys, then press Enter key to select the block.
- The channel screen is divided into 48 blocks. You can select as many blocks as you wish up to 48.

[Sensitivity]

- You can set the motion-detection sensitivity of each camera to “LOWEST”, “LOW”, “NORMAL”, “HIGH”, or “HIGHEST”.

[Full Motion]

- To set the whole channel screen to motion-detection area, switch the [Full Motion] option to “ON”. To cancel the whole screen from motion-detection area, switch the option to “OFF”.

[Beep]

- To hear a ‘beep’ warning sound when the system detects movement in motion-detection area, set the [Beep] option to “ON”. To hear no warning sound, set the option to “OFF”.

[Apply All]

- Click the [Apply All] button to apply the current camera setting to all cameras.

[Camera]

- Use the jog/shuttle on the system to select other cameras for set up.

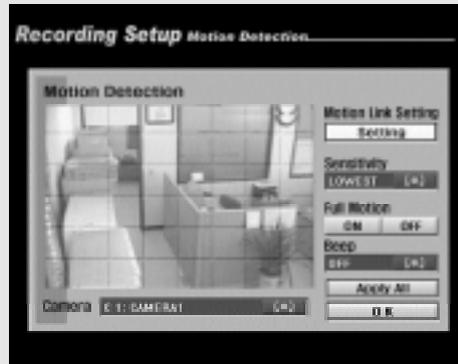
[OK]

- Press [OK] button to accept any changes made and return to Setup menu

7.4.3 Motion Link Setting

[Motion link setting]

- You can set a motion-link recording for each camera.
- When the camera detects movement in the motion-detection area, the linked camera will begin recording as well, regardless of its recording schedule.
- To use Motion-link recording, the camera detecting the movement must be set to Motion-Detection recording in the schedule. If the camera's schedule is set to Continuous Recording, Motion Link will be disabled.
- In Surveillance mode, when the camera detects movement in its motion-detection area, the linked camera channel will flash 'REC' and begin recording.



[Figure 7-45. Motion Link setting]



[Figure 7-46. Motion Connection Setup Screen(DW-716)]

- To access Motion Link setting, use the mouse or the directional keys to select [Setting]. The system will display Motion link setup as shown in Figure 7-46.

[Motion Camera]

- Select the camera that will detect the movement in its motion-detection area by using the mouse wheel or the jog/shuttle on the system.

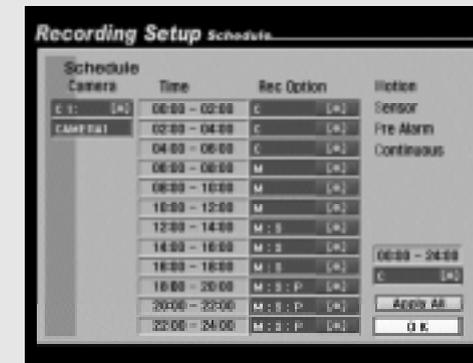
[Link Camera]

- Select the cameras that will be linked to the [Motion Camera] by using the mouse or the directional keys. You can link multiple cameras to the [Motion Camera].

7.4.4 Schedule



[Figure 7-47. Schedule]



[Figure 7-48. Schedule Setup]

- In [Schedule] menu, you can set automatic schedule for each camera and their recording mode.

[Camera]

- Use the mouse wheel or the jog/shuttle to select the camera to change its schedule.

[Recording Mode]

- You can select a recording mode for the selected camera by using the mouse or the direction keys to highlight the time you wish to set, then use the mouse wheel or the jog/shuttle to change the recording mode.
- Available recording modes are listed on the table below. You can also set non-recording period per camera if you wish to.

[Apply All]

- Click the [Apply All] button to apply the current camera setting to all cameras.

Recording Mode	Available Recording Modes	Schedule Setup Display	Channel Display
<ul style="list-style-type: none"> • C: Continuous Recording • M: Motion Recording • S: Sensor Recording • P: Pre-alarm Recording 	• No Recording	NONE	None
	• Continuous Recording	C	Red REC
	• Motion Recording	M	Orange REC
	• Sensor Recording	S	
	• Motion & Sensor Recording	M : S	
	• Motion & Pre-alarm Recording	M : P	
	• Sensor & Pre-alarm Recording	S : P	
• Motion & Sensor & Pre-alarm Recording	M : S : P		

[Table 7-2. Recording modes]

7.4.5 Quality/Resolution



[Figure 7-49. Quality/Resolution]



[Figure 7-50. Quality/Resolution setup]

- In [Quality/Resolution] menu, you can change the video quality and resolution by using the mouse wheel or the jog/shuttle.
- Any changes made to quality and resolution will apply to all cameras.

[Quality]

- You can change the video quality to “LOWEST”, “LOW”, “NORMAL”, “HIGH”, and “BEST”.

[Resolution]

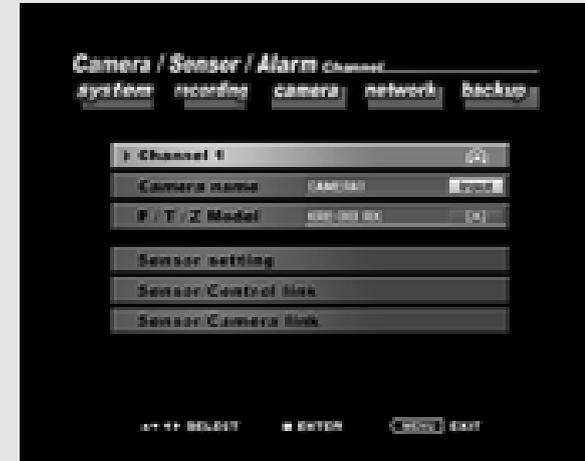
- You can change the video resolution to 352 X 240 or 740 X 240 (PAL : 352 X 288, 704 X 288)

[OK]

- Select [OK] button to accept any changes made and return to Setup menu.

7.5 Camera Setup

- In [Camera] setup menu, you can setup Pan/Tilt mode and change the connection setting between sensors and controls.



[Figure 7-51. Camera Setup menu]

[Selecting channel]

- Select a camera channel you wish to change its options on P/T/Z model type, sensor settings, sensor/control link settings, sensor/camera link settings and camera name.
- Use the mouse wheel or the jog/shuttle on the system to select a camera channel.

[Camera Name]

- You can enter a name for the selected camera (see page 60 for details).

[P/T/Z Model]

- You can select a P/T/Z model for a camera, provided the camera supports

P/T/Z function.

- Use the mouse wheel or the jog/shuttle on the system to select a Speed Dome or an RX-Receiver model name.

[Sensor setting]

- You can change the settings for each sensor (see page 61 for details).

[Sensor/Control Link]

- You can link the control devices to a sensor (see page 62 for details).

[Sensor/Camera Link]

- You can link the sensor to activate camera(s) (see page 63 for details).

7.5.1 Camera name



[Figure 7-52. Camera name option]



[Figure 7-53. Selecting camera name]

- Press [Input] button next to [Camera name] option to give the selected camera a name.

[Selecting camera name]

- Use the mouse or the directional keys and Enter key to enter the camera name.
- You can only enter up to 8 characters.
- Press [OK] to accept camera name and return to Camera setup menu.

7.5.2 Sensor setting



[Figure 7-54. Sensor setting]



[Figure 7-55. Sensor setting]

- In [Sensor setting] menu, you can select a sensor type for any of 4 connected sensors, and enable or disable alarm sound.

[Sensor]

- Use the mouse wheel or the jog/shuttle to select a sensor.

[Sensor Type]

- Use the mouse wheel or the jog/shuttle to select "Normally Open" or "Normally Close" sensor types.
- Normally Close type = If the door/object with the sensor installed is not closed, the sensor will trigger.
- Normally Open type = If the door/object with the sensor installed is not opened, the sensor will trigger.

[Beep]

- When sensors are triggered, the system will produce "beep" alarm sound through its internal speakers. Select "ON" to enable alarm, and select "OFF" to disable it.

7.5.3 Sensor/Control link



[Figure 7-56. Sensor/Control link]



[Figure 7-57. Sensor/Control link setup]

- In [Sensor/Control link] menu, you can link a sensor with controls and set control time.

[Sensor]

- Use the mouse wheel or the jog/shuttle to select a sensor.

[Control]

- You can link a sensor with control devices. When a sensor is triggered, the linked control device(s) will automatically activate.

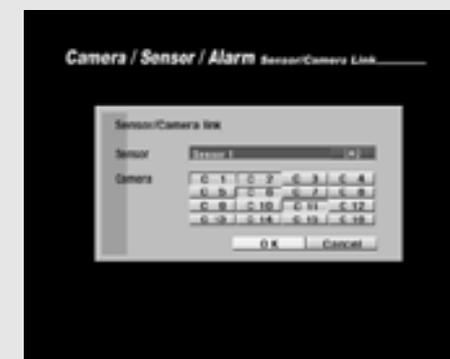
[Control Time]

- You can set how long the control devices will stay activated. The value can be changed in 10 seconds segments up to maximum of 300 seconds.
- Use the mouse wheel or the jog/shuttle to change [Control Time].

7.5.4 Sensor/Camera Link



[Figure 7-58. Sensor/Camera Link]



[Figure 7-59. Sensor/camera link setup(DW-716)]

- In [Sensor/Camera Link] menu, you can link cameras to Sensors.

[Sensor]

- Select the sensor you wish to link by using the mouse wheel or the jog/shuttle.

[Camera]

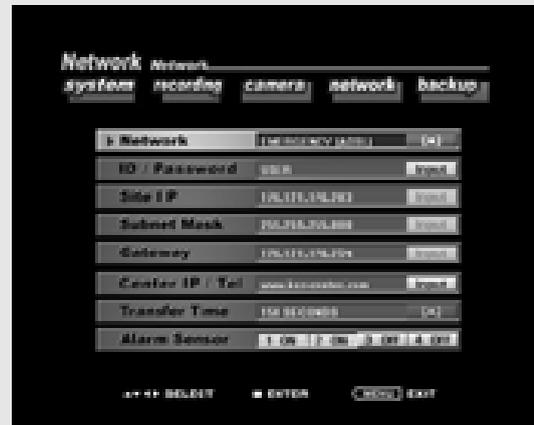
- Select the cameras you wish to link with the selected sensor by using the mouse or the directional keys and Enter key.
- When the sensor is triggered, its linked camera(s) will automatically begin recording.

 **[Note]**

- To have the cameras automatically record when a sensor is triggered, the schedule for the linked cameras must be set to "S", "S:P", "M:S", or "M:S:P" (see page 55 for details on schedule setup).

7.6 Network Setup

- In [Network] setup menu, you can set the system's IP address in order to connect to the Center Program, as well as setting up Center IP address and telephone number, recording transfer time, and alarm sensor transfer.



[Figure 7-60. Network Setup Screen]

[Network]

- The system supports network connection through LAN using IP address, as well as DHCP, ADSL, and modem. **(Modem set up not available in Europe)**
- Select the network option you wish to use by using mouse or the jog/shuttle.
- LAN is the standard network connection for DW-709/716.

[ID/PASSWORD]

- Logging in ADSL require ID/ PASSWORD.

[Site IP]

- Enter the system's IP address for connecting DW-709/716 to a remote Center via LAN (see page 65 for details).

[Subnet Mask]

- You can enter the system's subnet mask in order to communicate with the Center program when connected through LAN (see

page 66 for details).

[Gateway]

- You can enter the system's gateway address in order to communicate with the Center using LAN.

[Center IP]

- Input the IP address of the Center PC in order to transfer the recorded data to Center through LAN (see page 66 for details).

[Center Tel Number]

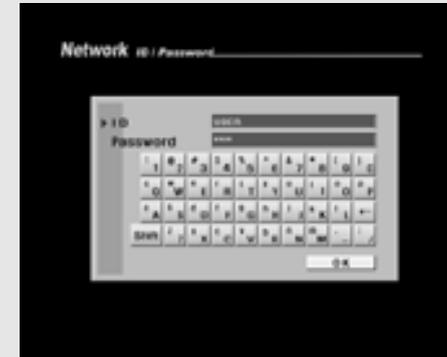
- You can enter the telephone number of the computer with the Center Program installed in order to transfer the recording to Center through modem (see page 67 for details). **(Not in Europe)**

[Transfer Time]

- Transfer Time determines how long the system will transfer the recording to the computer with the Center software installed when connected via LAN.
- You can set the [Transfer Time] in 30 seconds segments up to maximum of 150 seconds by using the mouse wheel or the jog/shuttle.

[Alarm Sensor]

- You can designate any sensors connected to DW-709/716 into Alarm sensors by selecting the sensor numbers on [Alarm Sensor] option.
- When an Alarm sensor is triggered, the system will automatically transfer the recording data to the remote Center connected to the system via the network.



[Figure 7-61. ID/Password setup]

[ID/Password setup]

- When using ADSL or VDSL network, you must enter the ID and password of remote back up server.
- Use the mouse or the directional keys and **Enter** key to enter the ID and password.



[Figure 7-62. Site IP Address setup]

[Site IP address setup]

- When using LAN, you must enter the system's IP address or domain address.
- Use the mouse or the directional keys and **Enter** key to enter the IP address.



[Figure 7-63. Subnet Mask/Gateway setup]

[Subnet mask/Gateway setup]

- To use Subnet mask or Gateway, you must enter the IP address.
- The IP address must match with the Subnet mask and Gateway of the Center PC.
- Use the mouse or the directional keys to enter IP address.



[Figure 7-64. Center IP address setup]

[Center IP address setup]

- When using LAN, you must enter the IP address of the computer installed with the Center Program.
- Use the mouse or the directional keys and **Enter** key to enter the IP address.



[Figure 7-65. Center Tel No. setup]

[Center Tel No. setup] (Not in Europe)

- When using modem, you must enter the telephone number of the computer installed with the Center Program.
- Use the mouse or the directional keys and **Enter** key to enter the telephone number.

7.7 Backup Schedule



[Figure 7-66 Backup Schedule]



[Figure 7-67. Backup schedule setup]

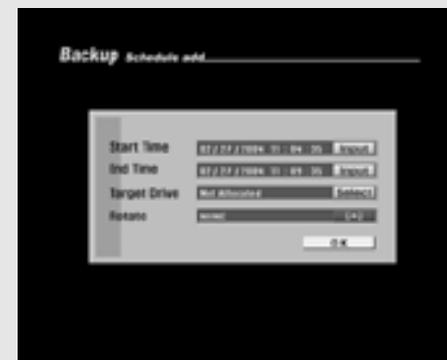
- In [Backup Schedule] menu, you can set up a system backup schedule so that the system will automatically save backup copies of specific recordings.

- Backup Schedule programs the system to save a backup copy of the recorded data to a designated storage device set by the schedule.
- You can only schedule the system to save a backup copy of the recording that will be recorded in the future. You cannot schedule the system to save a backup that has been recorded before the current date. To do this, you must access the Search mode (see page 24 for saving backup).

7.7.1 Adding Backup schedule



[Figure 7-68. Adding backup schedule]



[Figure 7-69. Adding backup schedule]

- To add a backup schedule to the list, select [Add] button.

- To add a backup schedule, you must set the [Start Time] and [End Time], [Target Drive], and [Rotate] options.



[Figure 7-70. Start Time setup]

[Start Time / End Time]

- To select [Start Time] and [End Time], use the mouse or the directional keys to select the time and date, then use the mouse wheel or the shuttle to select the time period of the recording you wish to save.
- Select [OK] button to apply the selected times.



[Figure 7-71. End Time]

[Target Drive]

- Select the target drive that will be used for saving the backup of the recording
- You can select remote Drive or local USB for backup.



[Figure 7-72. Selecting Target Drive]

[Note]

- Archiving images onto CD-RW is supported only in playback mode.



[Figure 7-73. Remote Drive setup]

[Target Drive - Remote Drive]

- Use the mouse wheel or the jog/shuttle to select Remote Drive.
- If the system is connected through LAN or Internet line, you can save a remote drive backup by entering the correct IP address.
- When saving a remote drive backup, the receiving PC or fileserver must have the Center Program installed with Backup Server Program running.
- To save a remote drive backup, you will need the IP address and the password of the receiving PC or fileserver.
- To enter IP address and password, use the directional keys to highlight [Input] button, then press Enter.



[Figure 7-74. Remote Drive IP Address]

[Saving Point - Remote Drive IP]

- To set the [Remote Drive], enter the IP address of the remote place that is connected to the network where the center program and the remote backup server are installed.
- Enter the IP address of the remote site by pressing direction keys and Enter key on the front part of the system



[Figure 7-75. Remote Drive Password]

[Network Drive IP] and [Network Password]

- To enter the Network Drive IP address and Network password, use the mouse or the directional keys and Enter button to select the numbers and letters. Press [OK] button to apply the selected IP address and password.



[Figure 7-76. Remote Drive setup]



[Figure 7-77. Remote Drive Setup]



[Figure 7-78. Remote Drive setup]

[Connecting]

- Press the [Connect] button to connect the system to the receiving PC or fileserver in order to save a remote drive backup. Once connected, you will be able to select Network Drive path.
- Depending on the connection status, the system will display either “Connect”, “Disconnect”, or “Connect fail” message.

[OK]

- Once you have entered the [Network Drive IP], [Network Password], and [Network Drive Path], select [OK] button to return to Backup Schedule list.

[Rotate]

- You can schedule the system to save a backup of the selected time in daily, weekly, monthly, or yearly basis. To do so, use the mouse wheel or the jog/shuttle to select a rotation cycle.

[OK]

- Once you have selected the [Start Time], [End Time], [Target Drive], and [Rotate], press [OK] button to add it to backup schedule list.



[Figure 7-79. Backup Schedule list]

[Backup Schedule List]

- You will see the added schedule on the Backup Schedule list. Select [OK] button to accept the schedule and return to Setup menu.

7.7.2 Deleting Backup Schedule



[Figure 7-80. Deleting backup schedule]



[Figure 7-81. Deleting backup schedule]

- To delete a schedule from the list, select the schedule you wish to delete by using the directional keys and **Enter** key. Then select [Del] button to delete the schedule.

- Select [OK] button to accept the schedule and return to Setup menu.

8. Controls – Manual Control

8.1 Switching to Control Mode

If you wish to use the control devices manually, select the 16-splitscreen mode in Surveillance mode, then press Enter key. You will then be able to select the control devices you wish to use manually.



[Figure 8-1. 16-splitscreen mode(DW-716)]



[Figure 8-2. Control Screen]

[Control]

- Use the mouse or the directional keys and **Enter** key to select the control device numbers you wish to control manually.

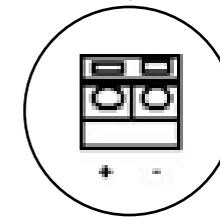
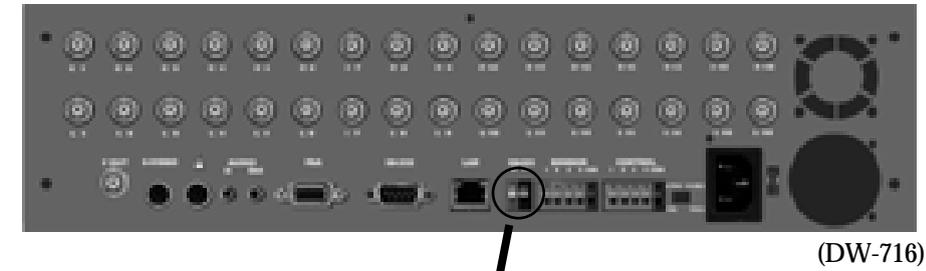
[Exiting Control mode]

- Press [OK] button to return to Surveillance mode.

2. Installation

- 1. Pan/Tilt Connection**
- 2. Connecting LAN/PSTN Communication Lines**
- 3. RX Receiver (KRE-303) Connection Diagram (optional)**
- 4. External Sensor Connection (Input)**
- 5. Control Port Connection (Output)**
- 6. Adding HDD**
- 7. HDD Smart Check**

1. Pan/Tilt Connection



RS-422 Signal Cable Connection Port
(Used for connecting RX-Receiver)

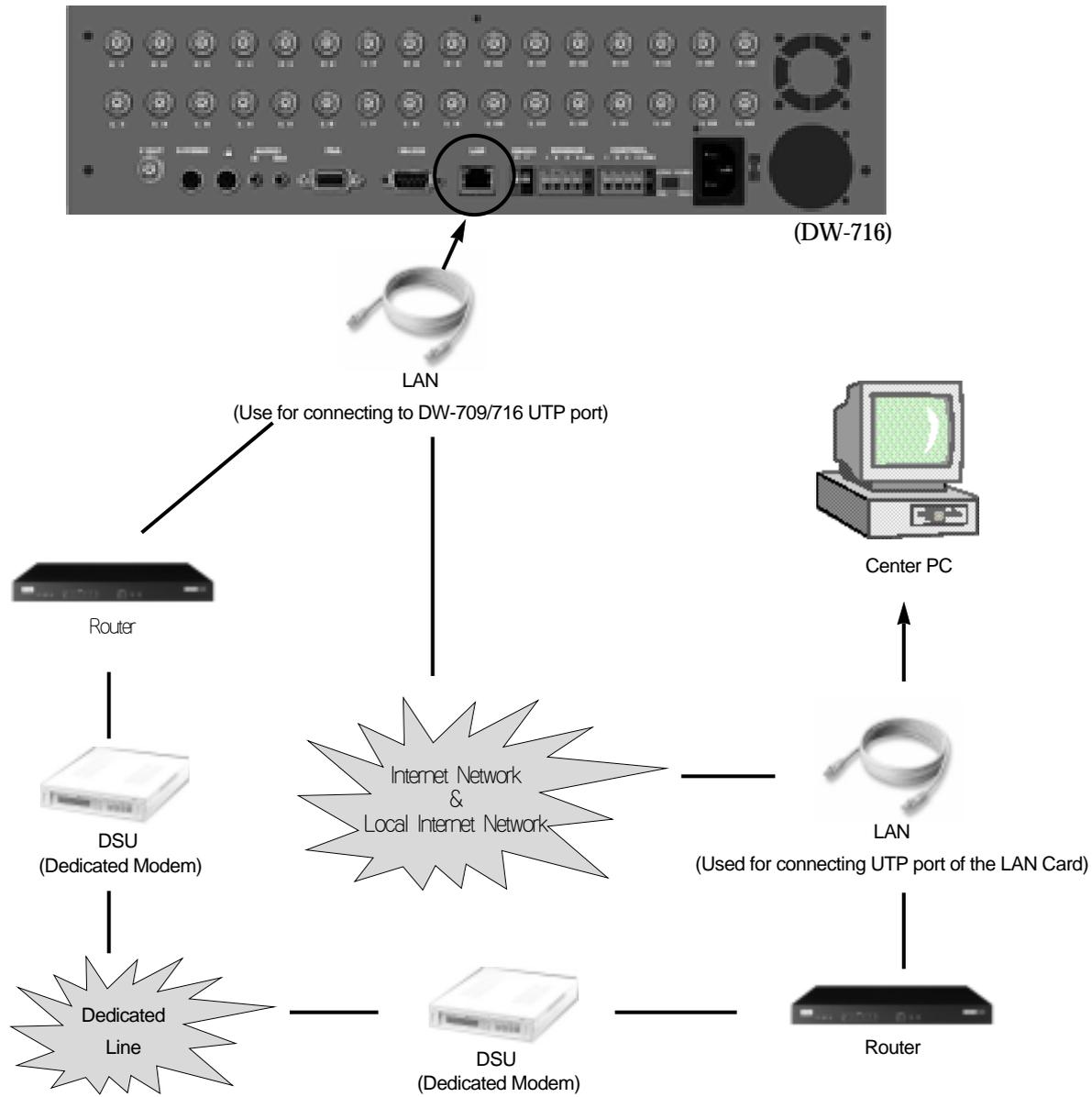


[Caution]

- Please beware of (+ve) and (-ve) poles of the signal cable when connecting. A Wrong connection may cause malfunction to the system.
- If you wish to use an RX-receiver not manufactured by Kaltech, please contact your dealer beforehand.

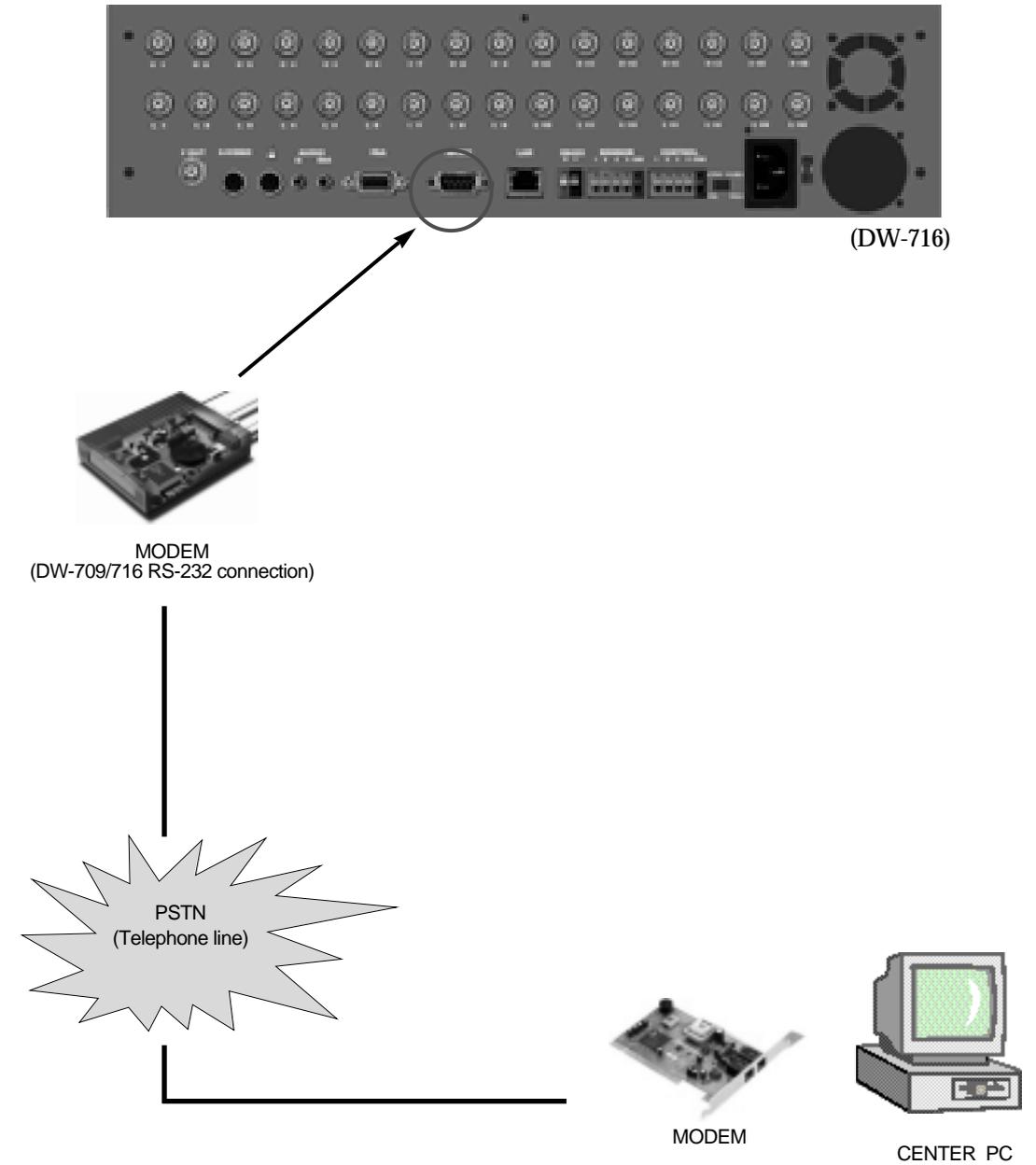
2. Connecting LAN/PSTN Communication Lines

2.1 LAN and Dedicated Line Connection



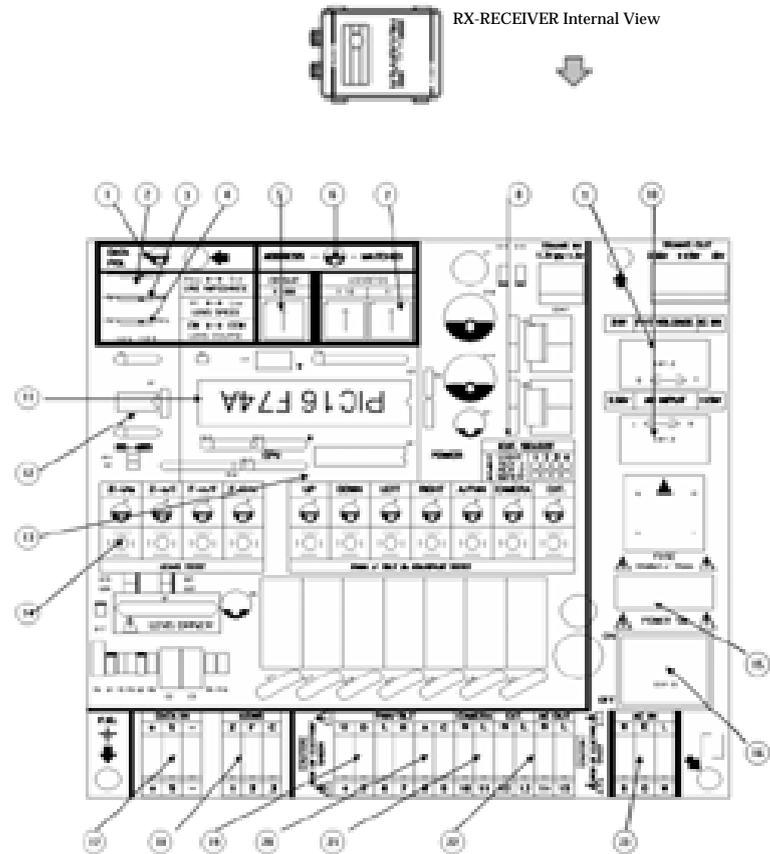
LAN/PSTN Communication

2.2 PSTN (telephone line) Connection (options) (Not available Europe)



LAN/PSTN Communication

3. RX Receiver (KRE-303) Connection Diagram (optional)



3.1 Part Name and Description

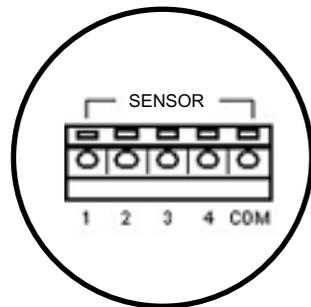
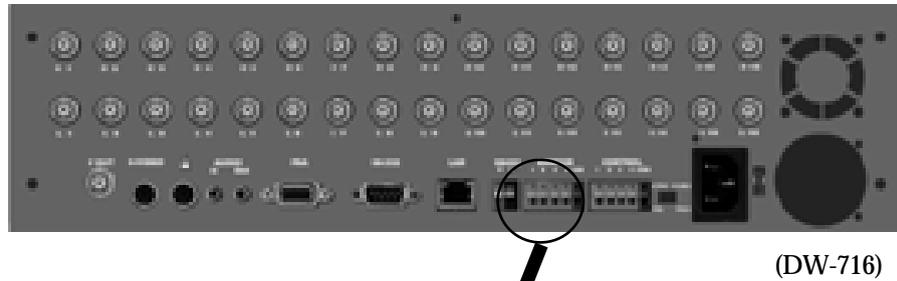
1. Turns "ON" when polarity of data lines connected correctly.
2. Used for ON-OFF of the cross resistance according to the international standard, EIA-485.
3. DC±6V when it is LOW, DC ±12V when it is HIGH.
4. Used for reversing the polarity of ZOOM/FOCUS control output.
5. Used along side with MATRIX CARD, else it is "0"
6. Turns "ON" when summoned camera number from DVR or TX match.
7. Created from the left in order of "100/10/1"
8. Output of EXT is adjustable from DVR depending on the condition at site.
9. P/T control voltage output is classified into AC24V and input voltage. The default is AC24V.
10. Input voltage selection switch for AC 110V/220V. The default is AC220V.
11. High end commercial usage only, PIC 16F74
12. Can be replaced with National N75176-Japan or Maxim MAX485 IC-USA.
13. Used to check the condition of PAN/TILT and ON-OFF output.
14. Used to check the condition of MOTORIZED ZOOM LENS output.
15. Input power is 250V/10A when AC 110V is selected, and is 250V/5A when AC220V is selected.
16. Main power switch capable of ON-OFF on 2 lines at the same time.
17. Data input terminal capable of receiving RS-485EIA signal; be cautious of polarity.
18. 3 lines per output, in order of ZOOM(1)/FOCUS(2)/COMMON(3)
19. Arranged in order of UP/DOWN/LEFT/RIGHT/AUTO PAN/COMMON (4,5,6,7,8,9 consecutive)
20. Power output related to camera and its housing; AC voltage output.
21. LIGHT/AUX 1,2/AUDIO - Maximum of 1KW of AC voltage output
22. AC power source used for installation/repair, usable by connecting to wall outlet.
23. Used in main power input terminal of AC 110V, or alternate power of 220V.



[Caution]

The voltage of the light controlling output port is the same as the AC input voltage. The operating voltage of the camera lens is fixed to DC 12V.

4. External Sensor Connection (Input)



Connect one of the two signal lines from the sensor (infrared sensor, magnetic) to COM port, and connect the other signal line to the desired sensor number.

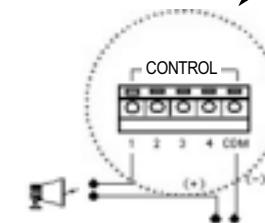
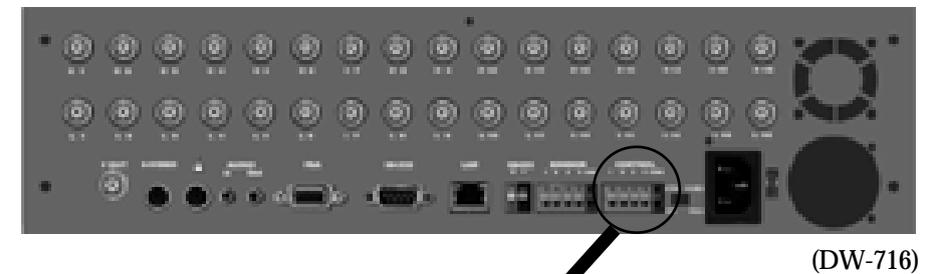
(Set the sensor “NC, NO” type in “Set Camera” menu See Page 59 for details on Sensor type setting)



[Caution]

Use a separate adapter to supply power to each sensor.

5. Control Port Connection (Output)



Alarm Light, Amplification Siren, External Relay, Etc.

External Power (DC12V)

- During automatic control of an external sensor, the control output port is “interworked” (the value set in “Set Camera” menu) and “COM” port is connected.
- In normal occasions, the control output is kept in “NO” status.
- When control is triggered, the control output changes to “NC” status.



[Caution]

- The operating voltage should be maximum 12V, 300mA.
- When controlling lights and other devices operated by AC power, use a separate external relay.

6. Adding HDD

6.1 Installing new HDD



[Figure 6-1. HDD Format]



[Figure 6-2. HDD Format progress]

- Turn the system off and install the new HDD into the system.
- Turn the system back on and wait for the HDD format message.
- The message will ask you to confirm HDD format. HDD format is a necessary procedure before using the newly installed HDD.
- Press [Yes] button to being formatting the new HDD. Pressing [No] button will cancel HDD format and shutdown the system.

- Once the system begins formatting the HDD, you can view the progress through the progress bar.
- Once HDD is complete, the system will restart.



[Caution]

- You are recommended to check both the original HDD and the new Hdd Interface jumper and set the MASTER and SLAVE.
- Any newly installed HDD **must** be formatted
- Remember that formatting will erase any data stored on the new HDD. Please make sure you have saved any important data before proceeding with HDD format.

6.2 Checking HDD Database



[Figure 6-3. HDD Table]

- If the newly installed HDD database does not correspond with the original HDD, the system will display the HDD table.
- If the database of the HDDs do not correspond, you must format either the system's original HDD or the newly installed HDD.
- From the table, you can select the HDD you wish to format, then select [OK] button. The system will display a confirmation message shown in Figure 6-4.
- Select [Cancel] button to exit HDD table screen.



[Figure 6-4. HDD confirm message]

[All Format]

- Press [All Format] button to format all existing HDDs.
- The system will display a warning message. To confirm and proceed with formatting the selected HDD, press [OK] button. To cancel format and return to HDD table, select [Cancel] button.



[Figure 6-5. HDD Format progress]

- You can view the HDD format progress through the progress bar.
- The system will restart once the format is complete.



[Caution]

- Any newly installed HDD must be formatted
- Remember that formatting will erase all data stored on the selected HDD. Please make sure you have saved all important data before proceeding with HDD format (see page 24 for details on saving backup).

7. HDD Smart Check

7.1 HDD Smart Check

This is a function to notify the user possibilities of HDD crash in advance.

This, by advance warning, is to protect the HDD from losing data or crashing that may come from bad sector or overheating.



[Figure 7-1. Main surveillance screen]

① [HDD warning icon]

- When the installed HDD has a problem such as bad sector or overheated DVR will beep or this icon  will appear.
- It is strongly recommended to replace HDD when the HDD warning icon  appears or beeps.
- The beep will appear every 10 seconds.

Appendix

1. Viewer for KDB data
2. Specification
3. FAQ
4. Product warranty

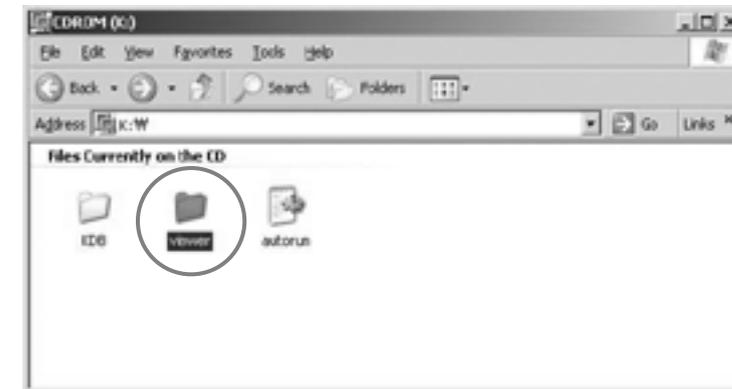
[Caution]

- HDD smart check function works only when the HDD in use supports S.M.A.R.T
- Check whether the HDD installed supports S.M.A.R.T.
- Avoid using old HDD or low capacity HDD.

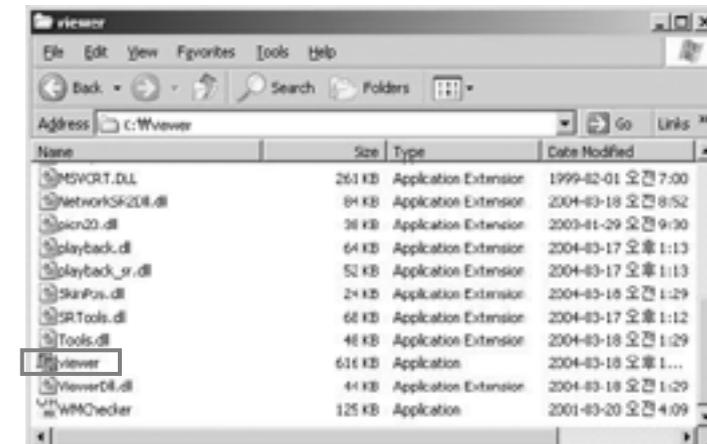
1. Viewer for KDB data

1.1 How to run Viewer

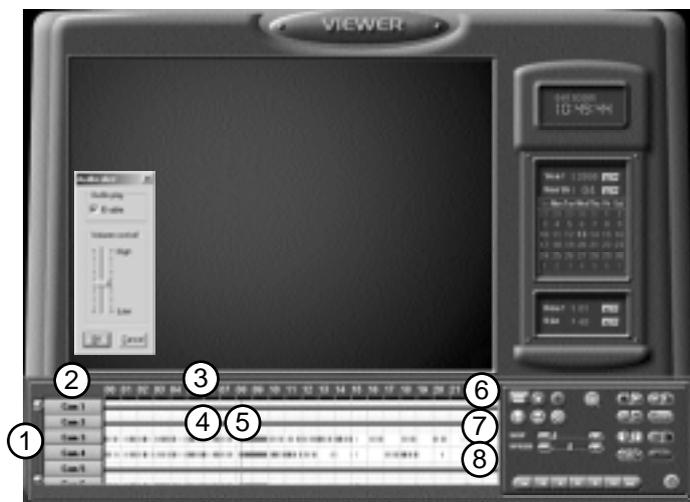
- ① When you insert the CD containing KDB (Kaltech Data Base) data in CD-RW, it will start by autorun. If you do not have autorun on your PC, you can access the viewer file by double clicking the Viewer folder.



- ② The Viewer will work when you double-click "Viewer.exe"



1.2 Viewer Main screen



① [Scroll button for camera]

- Scroll up or down to show camera buttons.

② [Camera]

- Select camera number(s) you wish to search.

③ [Time indication bar]

- It indicates time of stored data.
- To enlarge the time scale, click on the time indication bar.

④ [Indication for stored amount]

- This function indicates recording type and stored data in graphical colour form as below ;
Pink bar indicates 'Continuous Recording',
Blue bar indicates 'Motion Recording',
Dark Yellow bar indicates 'Sensor Recording',
Green bar indicates 'Pre Alarm', and there will be no graphic bar if nothing was recorded.

⑤ [Search Bar]

- This indicates time line for searching data.

- Move the line to the left or right to start searching.

⑥ [Split Screen setup]

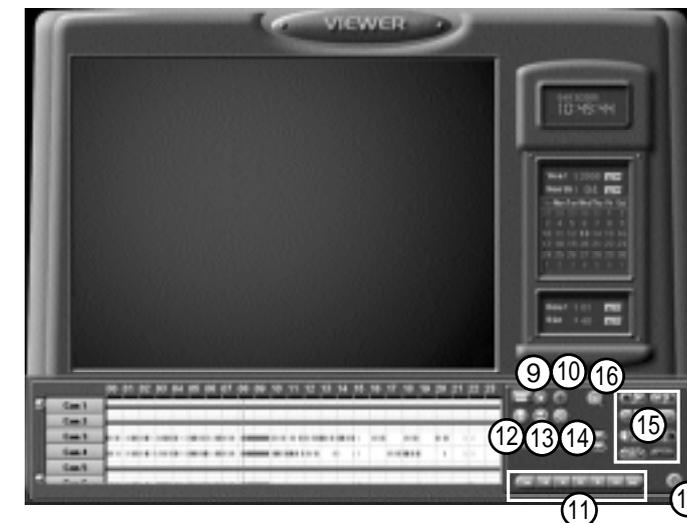
-  When you click the button, split mode from search screen will automatically change according to the number of cameras you choose in a form of 4, 9, or 16(DW-716) split screen.

⑦ [SKIP]

- Move the slides to the right if you wish to increase search speed.
- The number of images to be skipped are set by an internal value of the DW-709/716 software. The value is not the number of images to be skipped.

⑧ [SPEED]

- Move the slides to the right to increase the speed of replaying saved image.



⑨ [Zoom]

-  Increases screen size by up to x4.

⑩ [Digital Zoom]

-  [Zoom In]
Click right mouse button to increase the selected part of the image by up to x17(when recorded by high resolution)

-  [Zoom Out]
Click right mouse button to reduce zoom ratio.

-  [Move]
Click right mouse button and drag to "move around inside" the stored image.

⑪ [Playback]

- Be sure to select the camera, time and date to search.
- Adjust SKIP and SPEED ratio as you wish.

-  Go to first saved image for selected date
-  Reverse play frame by frame
-  Reverse playback
-  Stop
-  Forward playback
-  Forward play frame by frame
-  Go to last saved image for the selected date

⑫ [Backup]

-  While you are searching recorded data, select the image to backup and click . The "Backup" window will appear.

⑬ [Print]

-  Print the selected image.
It is possible to print BMP or JPEG images.

⑭ [Audio Play Configuration]

- When you want to playback audio, select the channel with recorded audio. (Audio recording and replay is supported for only one channel)

- When you click the 'Audio Play' icon  , the audio play configuration window appears as right.
- Check on "Enable" .
- Adjust the volume properly using 'Volume control'.

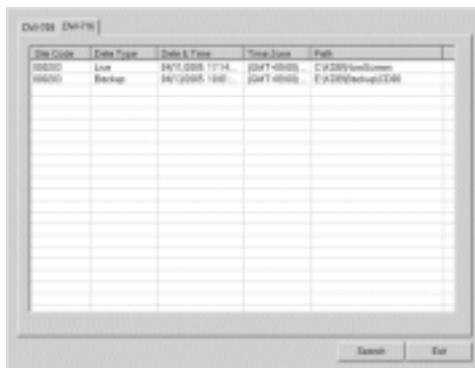


⑮ [Adjustment of playback image]

- Image quality, such as brightness, contrast, colour, sharpness, rotate, mirror, outline and twist function during playback can be adjusted.

⑯ [Search Sheet]

- When you click the icon  for searching the backup data, a window as below will appear.
- Select DW-709 or DW-716 which contains backup data, then select the site you wish to search and click 'Search' to start.



⑰ [Quit]

- Exit the Viewer program.

2. Specification

▶ System Specification

- HDD : Max. HDD x 4
- O/S : Embedded Linux
- LAN : Ethernet 10/100 MB
- Modem : 56Kbps. External-type modem is supported. (Optional, but not available in Europe)

▶ Video Input

- 9Ch(DW-709) or 16Ch(DW-716) Composite Video (NTSC/PAL)

▶ Video Output

- General Monitor Spot Output (BNC)
- S-Video Output Port
- VGA Output Port
- Video Loop Through Port for Each Video Input

▶ Recording Frame

- DW-709 : NTSC(Max 117 Frame/Sec), PAL(Max 99 Frame/Sec)
- DW-716 : NTSC(Max 112 Frame/Sec), PAL (Max 96 Frame/Sec)

▶ Audio Recording

- 1Channel Audio Support

▶ Compression Method : Engine-X

▶ Display Mode

- x1, x4, and x9 Screen Division (DW-709 - NTSC : 270 Frame/Sec, 9Ch Multi-media Monitoring
PAL : 225 Frame/Sec, 9Ch Multi-media Monitoring
- x1, x4, x9, and x16 Screen Division (DW-716) - NTSC : 480 Frame/sec, 16Ch Multi-media Monitoring
PAL : 400 Frame/sec, 16Ch Multi-media Monitoring

▶ Auto Switching

- Automatic channel rotation in order of x1, x4, x9 and x16(DW-716) Screen Division

▶ Playback Display Mode

- Playing in split screen mode up to 16-splitscreen(DW-716) is possible
- Enlarging an image to full screen is possible

▶ Sensor Input

- 4 channel input

▶ Alarm Output

- 4 alarm output

▶ **Motion Detection** - Yes▶ **Camera/Sensor link** - Yes▶ **Pan/Tilt/Zoom Control**- Yes▶ **Backup**

- Auto/Manual backup through USB portable storage device, CD-RW or remote drive through network

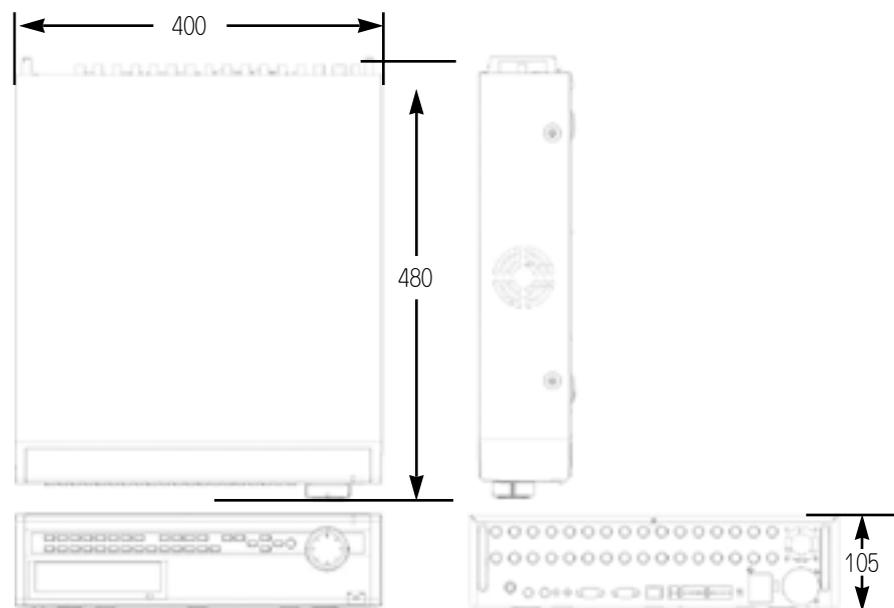
▶ **Power :**

- The rated voltage might vary depending on the specification of the power supply.

Model	Input Voltage
ENP-0812A	AC 100-127V/200-240v, 60/50Hz, 4A/2A
ENP-2320	AC 115-230V, 60-50Hz, 4-2A

▶ **Weight** : 10.14Kg(HDD x 4)▶ **Dimensions**

- Body (mm): 400 (W) x 480 (L) x 105 (H)



3. FAQ

1

The system power does not turn on.

- ☞ Check if the power cable is connected correctly.
- ☞ Check if the input voltage is correct.
- ☞ If the system power does not turn on when the power cable is connected correctly, please contact the service center.

2

The system power is turned on, but no video data is displayed on the monitor.

- ☞ Check if the monitor power cable is connected properly
- ☞ Check to make sure the monitor is turned on.
- ☞ Check if the video output cable of DW-709/716 DVR is properly connected to the monitor.
- ☞ Unplug the power cable and plug in again.
- ☞ For VGA monitor, it takes about a minute to boot. Be sure not to turn off the system until booting is completed.

3

The camera numbers are displayed on the screen, but camera images are not displayed.

- ☞ Check if the camera video output is connected to DW-709/716 DVR system correctly.
- ☞ Check if the power cable on the camera is connected correctly.
- ☞ Check if the video cable connecting the camera to DW-709/716 DVR system has a problem.
- ☞ This problem can occur because of weak video signal if the video data is transferred by the video data distributor when the video is connected to multiple systems. Connect the camera directly to DW-709/716 DVR.
- ☞ Turn off DW-709/716 system and turn it on again.

4

The camera video is shown on the screen, but the system doesn't record video.

- ☞ Check to make sure the recording mode in the recording setting mode is not set to "NONE".
- ☞ Turn off the DW-709/716 DVR and turn it on again.

5

It is impossible to search through the recorded video.

- ☞ Check if there is a recorded video data at the time that you are trying to search on the table.
- ☞ If there is no recorded video data, check to make sure the recording mode in the recording setting mode is not set to "NONE".

6

Audio data recorded with video data is not playing.

- ☞ Check if the audio recording option is correctly set to the camera you wish to record audio.
- ☞ Check if the audio play option in the Searching mode is selected.
- ☞ Check if the microphone and speaker port on the rear of DW-709/716 system are connected correctly.
- ☞ Check if the connected microphone is working properly.
- ☞ Check if the connected speaker is working properly.

7 Color of some camera videos are strange or videos are shown abnormally.

- ☞ Check if the camera connected to the system has a problem. Check to make sure the camera is not damaged by trying another camera into a working video output.
- ☞ Check if the video system setting is the same with your camera system. Depending on your region, the camera system can support either PAL, or NTSC. Depending on the camera system, the video process can differ greatly, therefore it can be difficult to recognize the video data if the video system setting is different from the camera system.

8 There are a lot of (screen) noise on the image.

- ☞ Check if the video signal output from the camera has a problem. Check to make sure the camera is not damaged by trying another camera into a working video output.
- ☞ Check if the video cable connecting the camera and DW-709/716 DVR is cut, cross-wired, or shorted.
- ☞ Check if there is a high voltage wire around the video cable connecting the camera to DW-709/716 DVR system. It can cause the noise problem to decrease video quality.
- ☞ Check if the video cable connecting the camera to DW-709/716 DVR system is the correct video cable. When a normal power-supplying cable is used instead of the video cable, screen noise can be generated.

Sometimes the system restarts itself.

- ☞ The system can restart itself due to watchdog function when any problem occurs to DW-709/716.

The connected sensor is not operating.

- ☞ Check if the type of sensor in camera setting is the same with the connected sensor.
- ☞ Check if the system is set to use the sensor in recording schedule window in the recording setting menu.
- ☞ Check if the power cable of the sensor is properly connected.
- ☞ Check if the signal cable of the sensor is properly connected.

The connected control device is not operating.

- ☞ Check if the system is set to use the control device in the camera setting menu.
- ☞ Check if the power cable of the controller is properly connected.
- ☞ Check if the signal cable of the controller is properly connected.

Warranty Guide

The quality of this product is guaranteed by strict quality control processes and testing. If the product becomes non operational the warranty may be in operation. The warranty period is valid for 1 year from the date of purchase.

Warranty Guide

- Check the Product Warranty Sheet to make sure it is still in effect.
- Check the problem again and contact the dealer you purchased the unit from.
- About product repair, exchange, or refund, we follow the "compensation regulation for customer's loss" announced by "the Economic Planning Board". (Korea only)

Warranty

- If the product becomes non operational the warranty may be in operation. The warranty period is valid for 1 year(s) from the date of purchase.
- Service fee and replacement parts will be charged in below cases:
 1. Damaged the user's carelessness.
 2. Damaged due to a natural disaster.
 3. Damaged due to the user not following the instructions and cautions written in the user's guide.
 4. Damaged due to incorrect power voltage, and/or frequency being used.
 5. If the Product Warranty sheet is expired.
 6. Damaged due to an engineer not employed by Kaltech modifying the system.
- If your system is damaged after the expiration of the warranty period, free repair service will not be available. If you wish the system to be repaired, a service fee and replacement parts will be charged on a time & materials.

Product Warranty

Product/ Model Name		
Serial Number		
Purchasing Dealer		
Purchasing Date		
Warranty Period		1 year(s) from the purchasing date.
Customer	Name	
	Address	

- ▶ The Product Warranty Sheet will not be issued again.
- ▶ The Product Warranty Sheet must be filled on the same day as the product's purchase.
- ▶ This document must be shown in order to receive the free repair service.

- Tech Support : 886-446-3595
- Fax : 813-888-9555
- E-Mail : Helpdesk@kaltech.net

