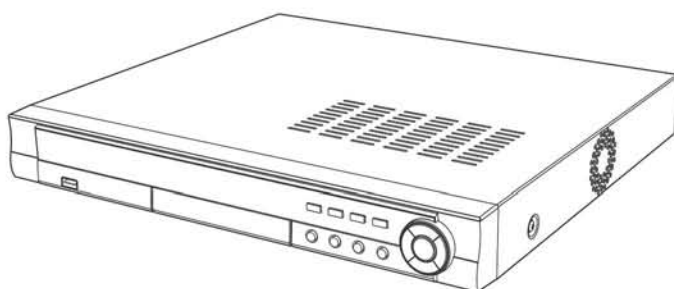


4-CHANNEL DIGITAL VIDEO RECORDER

USER'S MANUAL





WARNING

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



**WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.**



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

COMPLIANCE NOTICE OF FCC:

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE, IN WHICH CASE USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.

WARNING: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

The information in this manual is believed to be accurate as of the date of publication. IDIS is not responsible for any problems resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.

Important Safeguards

1. Read Instructions

All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions

The safety and operating instructions should be retained for future reference.

3. Cleaning

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

4. Attachments

Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

5. Water and/or Moisture

Do not use this equipment near water or in contact with water.

6. Placing and Accessories

Do not misplace this equipment other than upright position. This equipment has an open frame SMPS (Switching Mode Power Supply), which may cause a fire or electric shock if anything is inserted into the unit through the ventilation holes on the side of the equipment.

Do not place this equipment on an unstable cart, stand or table. The equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment.



This equipment and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

7. Power Sources

This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer or local power company.

8. Power Cords

Operator or installer must remove power and TNT connections before handling the equipment.

9. Lightning

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

10. Overloading

Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

11. Objects and Liquids

Never push objects of any kind through openings of this equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

12. Servicing

Do not attempt to service this equipment yourself. Refer all servicing to qualified service personnel.

13. Damage requiring Service

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

- A. When the power-supply cord or the plug has been damaged.
- B. If liquid is spilled, or objects have fallen into the equipment.
- C. If the equipment has been exposed to rain or water.
- D. If the equipment 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 equipment to its normal operation.
- E. If the equipment has been dropped, or the cabinet damaged.
- F. When the equipment exhibits a distinct change in performance — this indicates a need for service.

14. Replacement Parts

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

15. Safety Check

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

16. Field Installation

This installation should be made by a qualified service person and should conform to all local codes.

17. Correct Batteries

Warning: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

18. Tmra

A manufacturer's maximum recommended ambient temperature (Tmra) for the equipment must be specified so that the customer and installer may determine a suitable maximum operating environment for the equipment.

19. Elevated Operating Ambient Temperature

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

20. Reduced Air Flow

Installation of the equipment in the rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

21. Mechanical Loading

Mounting of the equipment in the rack should be such that a hazardous condition is not caused by uneven mechanical loading.

22. Circuit Overloading

Consideration should be given to connection of the equipment to supply circuit and the effect that overloading of circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

23. Reliable Earthing (Grounding)

Reliable grounding of rack mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

Table of Contents

Chapter 1 — Introduction.....	1
Features.....	1
Package Contents.....	1
Rear Panel Connectors.....	2
Factory Reset.....	3
Front Panel Controls	3
Chapter 2 — Operation.....	4
Turning on the Power.....	4
Live Viewing.....	5
Recording.....	5
Playback	6
Searching.....	7
PTZ Control.....	8
Chapter 3 — Configuration	10
Overview.....	10
Main Setup.....	11
Appendix	15
WebGuard.....	15
Minibank self player	18
Factory Default Settings.....	19
System Log	20
Troubleshooting	21
Connector Pin Outs.....	21
Specifications.....	22

Chapter 1 — Introduction

FEATURES

Your color digital video recorder (DVR) provides recording capabilities for 4 camera inputs. It provides exceptional picture quality in both live and playback modes, and offers the following features:

- 4 Composite Input Connectors
- Compatible with Color (NTSC or PAL) and B&W (CCIR and EIA-170) Video Sources
- Records up to 30 NTSC Images per Second (25 PAL Images per Second)
- Continuous Recording in Disk Overwrite Mode
- Continues Recording while Playing Back and Transmitting to Remote Site
- Various Record Modes: Schedule (Continuous, Event) and Manual
- Multiple Search Engines (Date/Time, Calendar, Event)
- “Loop-Through” Video Connectors
- Alarm Input and Output Connections
- Built-in Buzzer
- Live or Recorded Video Access via Internet Explorer Web Browser

PACKAGE CONTENTS

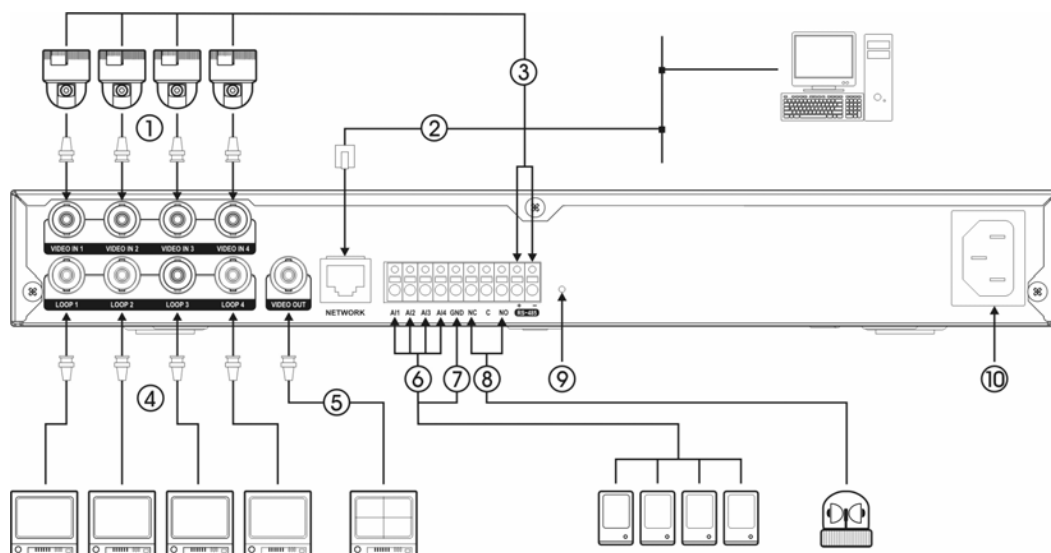
The package contains the following:

- Digital Video Recorder
- Power Cord
- User’s Manual (This document)

CAUTION: ROUTE POWER CORDS SO THAT THEY ARE NOT A TRIPPING HAZARD. MAKE CERTAIN THE POWER CORD WILL NOT BE PINCHED OR ABRADED BY FURNITURE. DO NOT INSTALL POWER CORDS UNDER RUGS OR CARPET. THE POWER CORD HAS A GROUNDING PIN. IF YOUR POWER OUTLET DOES NOT HAVE A GROUNDING PIN RECEPTACLE, DO NOT MODIFY THE PLUG. DO NOT OVERLOAD THE CIRCUIT BY PLUGGING TOO MANY DEVICES IN TO ONE CIRCUIT.

REAR PANEL CONNECTORS

No special tools are required to install the DVR. Refer to the installation manuals for the other items that make up part of your system. Your DVR should be completely installed before proceeding.



- ① Video In: Connect the coaxial cables from the video sources.
- ② Network: Connect a Cat5 cable with an RJ-45 jack.
- ③ RS-485 Port: Connect a PTZ camera. Refer to *Appendix – Connector Pin Outs* for details.
- ④ Loop: Connect the video source to another video-out device through loop BNC connectors if necessary.
- ⑤ Video Out: Connect the SPOT monitor.
- ⑥ Alarm In: Connect alarm-in devices. The threshold voltage for NC (Normally Closed) is above 4.3V and for NO (Normally Open) is below 0.3V, and it should be stable at least 0.5 seconds to be detected.
- ⑦ GND: Connect the ground side of the alarm input to the GND connector.
- ⑧ Alarm Out: Connect an alarm-out device to NC (Normally Closed) and C (Common) connectors or NO (Normally Open) and C (Common) connectors. Permitted current is up to 0.5 A for 125 VAC, 1 A for 30 VDC.
- ⑨ Factory Reset Switch: Use this switch on rare occasions that you want to return all the settings to the original factory settings. Refer to the **Factory Reset** section for details.
- ⑩ Power Cord: Connect the power cord to the DVR and then to the wall outlet.

NOTES:

- The Loop BNC connectors are auto terminated. Do NOT connect a cable to the Loop BNC unless it is connected to another terminated device because it will cause poor quality video.
- To make connections on the Alarm Connector Strip, press and hold the button and insert the wire in the hole below the button. After releasing the button, tug gently on the wire to make certain it is connected. To disconnect a wire, press and hold the button above the wire and pull out the wire.
- This Network Port is not connected with cables or wires intended to connect to the outdoor directly.

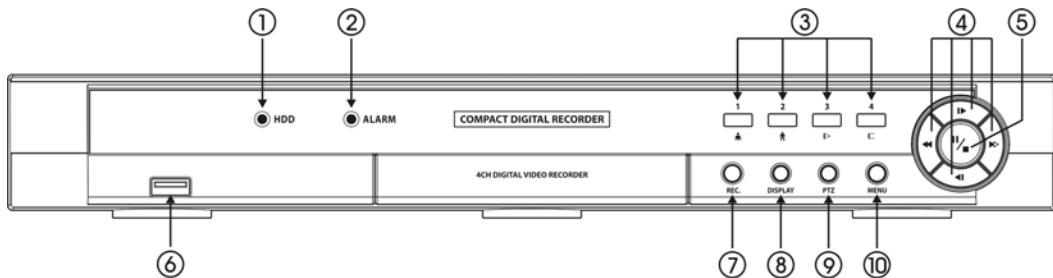
FACTORY RESET

To reset the unit, you will need a straightened paperclip:

1. Turn the DVR off.
2. Turn it on again.
3. While the DVR is initializing, poke the straightened paperclip in the unlabeled hole to the right of the RS-485 connector.
4. Hold the switch until the LEDs on the Front Panel flashes three times and are lit.
5. Release the reset switch. All of the DVR's settings are now at the original settings it had when it left the factory.

NOTE: When using the Factory Reset, you will lose any setting you have made. If you want to use the same DVR name registered on the DVRNS server after initializing the system using the factory reset, you need to contact the DVRNS server manager.

FRONT PANEL CONTROLS



- ① HDD LED: The LED flickers when the DVR is recording or searching video on the hard disk drive.
- ② ALARM LED: The LED is lit when alarm output or internal buzzer is activated.
- ③ Camera Buttons (1-4): Pressing the button displays the selected camera in full screen. In PTZ mode, pressing the 1 or 2 button zooms in or out, and the 3 or 4 button focuses near or far.
- ④ Playback/Arrow Buttons: Pressing the button controls playback of recorded video in playback or searching mode. Pressing the button moves to another item or changes a selected number value in Main Setup menu. Pressing the button pans or tilts a PTZ camera in PTZ mode.
- ⑤ Pause/Stop Button (⏸): Pressing the button pauses or stops playing video in playback or searching mode. Pressing the button selects an item or completes the entry you have made in Main Setup menu. Pressing the button freezes or releases the current screen in live-viewing mode.
- ⑥ USB Port: Connecting the USB flash drive allows you to upgrade the software and to import or export DVR settings.
- ⑦ REC Button: Pressing the button toggles manual recording On and Off. The DVR continues recording independently of the recording schedule while manual recording is On.
- ⑧ MENU Button: Pressing the button launches or closes the Main Setup menu in live-viewing or recording mode, Search Menu in playback or searching mode, or PTZ menu in PTZ mode.
- ⑨ PTZ Button: Pressing the button enters or exits PTZ mode.
- ⑩ DISPLAY Button: Pressing the button toggles screen mode between quad and sequence.

Chapter 2 — Operation

TURNING ON THE POWER

Connecting the power cord to the DVR turns on the unit. The unit will take approximately 60 seconds to initialize.

The DVR provides five operation modes: live viewing, recording, playback, searching and PTZ mode. When the DVR operates first, it displays quad screen and starts recording. Refer to *Appendix – Factory Default Settings* for details of system setting values.



The description of OSD icons is as follows:

- Recording mode
- CAM1** Camera title
- PTZ** PTZ mode
- ✱ Freeze mode
- 🔒 Event detection (alarm input or motion)
- 📺 Video loss
- 📅 Sequence mode
- ⏮ ⏪ ⏩ ⏭ Playback mode

How to change the password...

The default password is 4321 (camera buttons) and you can change the password. You will be asked the password when entering Main Setup menu, clearing data, changing the system date/time and password. Refer to *Chapter 3 – Configuration → Main Menu → Advanced Setup → System → Set Password* for changing password.

How to change the system date/time...

You can change the system date/time. Refer to *Chapter 3 – Configuration → Main Menu → Advanced Setup → System → Date/Time* for changing the system date/time.

LIVE VIEWING

To Change Screen Mode

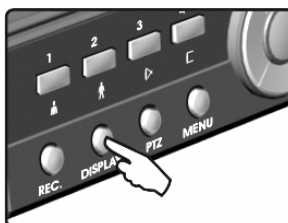
- Full-screen

Pressing a camera button in quad screen mode displays that camera in full screen.



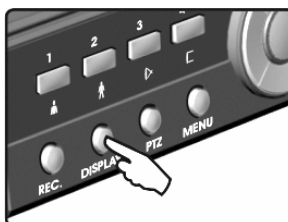
- Quad screen

Pressing the DISPLAY button in full screen mode displays four cameras at once.



- Sequence screen

Pressing the DISPLAY button in quad screen mode displays four cameras in sequence. Pressing the DISPLAY button again in sequence screen mode returns to the quad screen mode.



- Freeze screen

Pressing the $\frac{1}{2}$ (Pause/Stop) button freezes the current screen. Pressing the button again releases the freeze screen mode.



RECORDING

When you turn the DVR on, it starts recording according to the default recording schedule. Recording can also be made manually regardless of the recording schedule by pressing the REC button on the front panel.

To Enter Recording Mode

- Schedule recording (Main Menu → Schedule)
 - On: Enables schedule recording.
 - Setup: Sets up the recording mode for each hour.
 - C (Continuous Record: Records continuously.)
 - E (Event Record: Records when detecting events.)
 - (Off: Does not record.)



- Manual recording
 - Pressing the REC button toggles manual recording On and Off. The DVR continues recording independently of the recording schedule while manual recording in On.



NOTES:

- Schedule recording and Manual recording works independently each other.
- Refer to *Chapter 3 – Configuration → Main Setup → Schedule* for further information on setting schedule recording.

PLAYBACK

Once video has been recorded, you can view it. When playing video for the first time, the DVR will display the most recent image. When playing video subsequent times, the DVR will start playing video from the last recalled image.

To Enter Playback Mode

Pressing the playback buttons (▶▶, ▶▶▶, ◀◀ or ◀◀◀) in live-viewing mode enter playback mode and play recorded video.



Playback buttons on the front panel perform the following functions as described below:

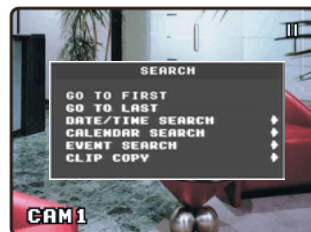
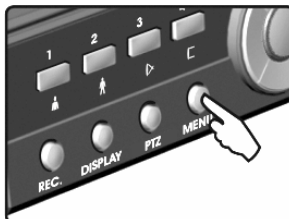
- ▶▶ Step Forward
- ▶▶▶ Forward Play (toggles the playback speed from ▶, ▶▶, ▶▶▶ and ▶▶▶▶)
- ◀◀ Step Backward
- ◀◀◀ Backward Play (toggles the playback speed from ◀, ◀◀, ◀◀◀ and ◀◀◀◀)
- ⏸ Pause or Stop

SEARCHING

The DVR provides various search engines: Date/Time, Calendar and Event, and also supports clip copying a video segment.

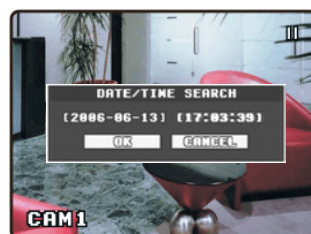
To Enter Searching Mode

Pressing the MENU button in playback mode enters Search mode and displays the Search Menu. Select the desired search mode in the search menu. Selecting Go To First/Go To Last goes to the first/last recorded image.



- Date/Time search

Changing the desired date and time to search for and clicking the OK button displays the recorded image of that date and time. Pressing the playback button plays the recorded video.



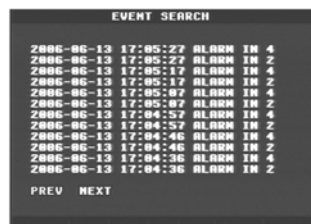
- Calendar search

Days with recorded video on the calendar and hours in which video was recorded on the timetable will be highlighted. Selecting the desired date or time and clicking the GO button display the recorded image of that date or time. Pressing the playback button plays the recorded video.



- Event search

Selecting the event log to search for displays the recorded image of that event. Pressing the playback button plays the recorded video. Refer to *Chapter 3 – Configuration → Main Setup → Advanced Setup* for further information on setting event recording.



- Clip Copy

Define the period of video to copy by selecting FROM and TO and adjusting the date and time. Selecting FIRST copies video from the first recorded image, and LAST copies video to the last recorded image. Select a camera to copy video, and designate a file name for the video. Entering a file name and selecting the START button starts copying. The video will be automatically saved in an .exe file in a USB flash drive. The copied images can be viewed on computers. Refer to the *Appendix – Minibank Self Player* for instructions on how to review the images you have copied



PTZ CONTROL

PTZ control is available for only PTZ cameras that allow pan, tilt, zoom, focus or preset etc.

To Enter PTZ Mode

- ① Connect a PTZ device to the DVR and select the PTZ model at Main Menu → Advanced Setup → PTZ Setup. When the PTZ model is selected, the PTZ icon appears on the screen.



- ② Pressing the PTZ button enters PTZ mode.



To Control PTZ Cameras

- Pan and tilt

Selecting the PTZ camera to control and pressing the arrow buttons in PTZ mode pans or tilts the selected camera.



- Zoom

Selecting the PTZ camera to control and pressing the camera button 1 in PTZ mode zooms in and pressing the camera button 2 zooms out.



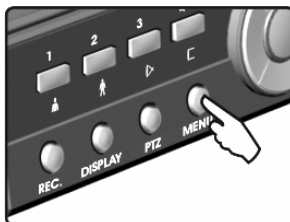
- Focus

Selecting the PTZ camera to control and pressing the camera button 3 in PTZ mode focuses near and pressing the camera button 4 focuses far.



To Run Preset

- ① Pressing the MENU button in PTZ mode displays the PTZ menu.



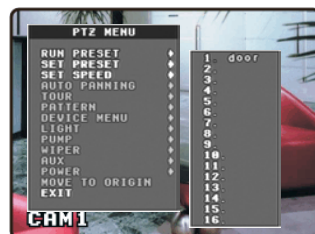
- ② Move to SET PRESET in the PTZ menu and select it by pressing the $\frac{1}{2}$ button. Pressing the $\blacktriangleright\blacktriangleright$ button displays the preset name box.



- ③ Pressing the $\frac{1}{2}$ button again displays a virtual keyboard. Enter the preset name by pressing the arrow buttons and $\frac{1}{2}$ button, and then press the OK button.



- ④ Move to PRESET RUN in the PTZ menu and select it by pressing the $\frac{1}{2}$ button. Pressing the $\blacktriangleright\blacktriangleright$ button displays the preset name box.



- ⑤ Selecting the desired preset name by pressing the $\frac{1}{2}$ button moves to the selected preset number view.

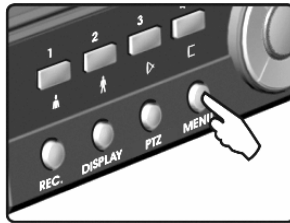


NOTE: Depending on the camera specifications, some features on the PTZ menu may not be supported. Refer to the camera manufacturer's instructions for the proper settings.

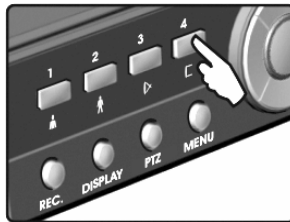
Chapter 3 — Configuration

OVERVIEW

How to Enter Main Setup Menu



- ① Pressing the MENU button in live-viewing mode enters a Main Setup menu. Entering a Main Setup menu is password protected.



- ② Enter the password by pressing the camera buttons 1 to 4, and a Main Setup screen appears. The default password is 4321.

How to Select Items



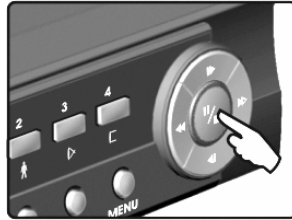
Move to the desired item by pressing the arrow buttons (⏪, ⏩, ⏴, and ⏵). Pressing the ⏸ (Pause/Stop) button selects the item.

How to Change Values



Select the desired item and press the arrow buttons (⏪ and ⏩) to increase or decrease the value. Pressing the ⏸ button completes the entry.

How to Enter Characters



- ① Select the desired item and press the **"/"** button, and a virtual keyboard displays.



- ② Move to the desired character by pressing the arrow buttons, and enter the selected character by pressing the **"/"** button. Pressing the OK button saves the characters you entered. Selecting SB makes a space, SHIFT toggles between the upper and lower case keyboards, BS backspaces, and DEL deletes entered characters.

MAIN SETUP



NOTE: Refer to the *Appendix – Factory Default Settings* for the further information about system default settings.

Schedule



- On/Off: Enables or disables schedule recording.
- Setup: Sets schedule mode. Select the desired time to set up schedule and change the schedule mode value. The schedule modes are as follow:
 C (Continuous Record): Records continuously.
 E (Event Record): Records when detecting motion or alarm events if each event is set to ON.
 - (Off): Does not record.

NOTES:

- Schedule recording and Manual recording work independently each other.
 - Refer to the following *Advanced Setup* section for the further information on setting event recording.
-

Record Quality/Speed

- **Record Quality:** Sets the same record quality for all camera channels.
- **Record Speed:** Sets the same record speed for all camera channels. The higher ips (images per second) is, the faster recording speed is. You can set the record speed for each camera channel separately at the following *Advanced Setup*. If the record speed is different from each channel, **Record Speed** displays

Advanced Setup

• **System**

Date/Time: Sets the system date and time.

OSD: Enables or disables OSD (On Screen Display).

Set Password: Changes password.

• **Storage**

Overwrite: When it is set to Yes, it overwrites over the oldest recorded image when the disk is full.

Clear Data: Erases all data including recorded video.

• **Record:** Sets recording ips for each camera channel.• **Motion**

Detect: When it is set to ON and detects motions, the DVR alerts you to the event by activating an internal buzzer or external alarm. It also records the motion detection image while in the recording mode.

Sens: Adjusts sensitivity to motion. The higher the number is, more images it detects as events.

Zone: Sets the motion detection zone by using the arrow buttons and $\frac{1}{2}$ (Pause/Stop) button.

• **Alarm**

In: Sets alarm-in device type (Off: inactivate, NO: Normally Open, NC: Normally Closed).

Out: When it is set to ON, alerts by activating alarm during 10 seconds when any event occurs.

• **Buzzer:** When it is set to ON, alerts by activating an internal buzzer when any event occurs.**NOTES:**

- If you set a date and time that is older than some of your recorded images, any images with dates and times later than the new setting will be deleted. The clock will not start running until you have restarted the unit, so you may wish to set the time last.
 - The total RECORD IPS of all channels cannot be over 30 ips (25 for PAL).
-

TIP: If you want to be alerted by activating an alarm and make the DVR to record the image when someone opens a front door, set as follows:

1. *Main Setup* → *Schedule*

- Set the Schedule to ON.
- [Setup] Set the schedule mode to C (Continuous Record) or E (Event Record) for the desired time.

2. *Main Setup* → *Advanced Setup* → *Alarm or Motion*

- [Alarm – In] Set to NC or NO.
- [Motion – Detect] Set to ON.
- [Motion – Zone] Set the detection zone around the front door activated by selecting the blocks.

3. *Main Setup* → *Advanced Setup* → *Buzzer or Alarm*

- [Buzzer – Beep] or [Alarm – Out] Set to ON.
-

Network Setup



- **Type**

Manual: When using a static IP address for network connection, select Manual, and enter the network parameters manually.

DHCP: When the DVR is networked through DHCP, select DHCP. The DVR reads the IP address from DHCP (Dynamic Host Configuration Protocol) network.

ADSL: When the DVR is networked through ADSL, select ADSL. Enter the ID and password for network connection, and the DVR receives the IP address.

- **DVRNS:** When set to ON, DVRNS (DVR Name Service) function is available and allows you to connect to the DVR with the dynamic IP address or the domain name at the remote site.
Server/Port: Enters the IP address (or domain name) and port number of the DVRNS server obtained from your network administrator.
NAT: Uses the NAT (Network Address Translation) Device. Refer to the NAT manufacturer's instructions for the proper network settings using NAT.
DVR Name: Enters the DVR name to register on the DVRNS server, and check if the name is available by selecting DVRNS NAME CHECK.

NOTES:

- Ask your network provider for your network connection type.
- If the DVR is configured for DHCP or ADSL network, the IP address of the DVR might change whenever the unit is turned on.
- You can use the domain name instead of IP address of the DVRNS server if you already set up the DNS server during the Network setup.
- The DVRNS server settings on your DVR should match the settings on the registered DVRNS server. Any changes on the DVRNS server might cause improper operation.
- When entering no name or a name already registered on the DVRNS server during the DVRNS setup, an error message displays.
- If you want to use the same DVR name registered on the DVRNS server after initializing the system using the factory reset, you need to contact the DVRNS server manager.
- The DVR name you entered should be checked by selecting DVRNS NAME CHECK during the DVRNS setup, otherwise the DVRNS changes will not be saved.
- The DVRNS registration will be limited to one DVRNS server. The DVR cannot be registered to multiple DVRNS servers. Please contact your network administrator when you want to register the DVR to another DVRNS server.

PTZ Setup



- **ID:** Sets PTZ camera ID.
- **Protocol:** Selects a PTZ device.
- **Baud rate/Data bit/Stop bit/Parity:** Sets port speed, data bit, stop bit and parity of the connected device. Refer to the PTZ device manufacturer's instructions for the proper settings.

System Information



- **System**
Version: Displays the system version.
Language: Displays the system language.
- **Upgrade:** Connecting the USB flash drive containing the upgrade package file (.rui) to the USB port on the front panel and selecting the desired file upgrades the software.
- **Storage**
Recorded: Displays the time information of recorded data.
Status: Displays the storage status.
S.M.A.R.T.: Displays the storage condition if the installed hard disk drive supports S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) monitoring program.
- **Import Setup:** Connecting the USB flash drive containing the setup file to the USB port on the front panel and selecting the desired file loads the DVR settings.
- **Export Setup:** Connecting the USB flash drive to the USB port on the front panel and naming the settings saves the current DVR settings in .cfg file format.
- **System Log:** Displays the system logs. Refer to *Appendix – System Log* for the details of system log information.

NOTES:

- You cannot upgrade the software while HDD is not installed.
 - If the file system on the USB flash drive is not FAT16 or FAT32 format, format device using FAT16 or FAT32 format.
 - If the DVR senses S.M.A.R.T. Alert, the S.M.A.R.T. Alert popup message will appear. Once the S.M.A.R.T. Alert popup message displays, replacing the hard disk drive is recommended, usually within 24 hours.
 - Even after changing the DVR settings by loading saved settings, the DATE/TIME setting will NOT be changed.
 - If you want to change the network settings when loading the saved settings, check INCLUDE NETWORK SETUP. Otherwise, the network settings will NOT be changed.
-

Shutdown

Selecting SHUTDOWN in the Main Setup screen shuts the system down. You need to confirm that you want to shut the system down.

Appendix

WEBGUARD

WebGuard allows you to access a remote DVR, monitor live video images and search recorded video using Internet Explorer web browser anytime from virtually anywhere.

Computer system requirements for using the WebGuard program are:

- Operating System: Microsoft Windows® 98, Microsoft Windows® 2000, Microsoft Windows® XP or later.
- CPU: Intel Pentium III (Celeron) 600MHz or faster
- RAM: 128MB or higher
- VGA: RAGE 128MB or higher
- Internet Explorer: Version 6.0 or later

Start Internet Explorer on your local PC, and enter <http://www.dvronline.net> in the address field. Entering the login information and then clicking the [LOGIN] button logs in WebGuard.

- DVR Address: Enter the IP address of the remote DVR to connect.
- ID/Password: Enter the password of the DVR. Entering the user ID is not required.
- Port Setup: Click the Port Setup button and select the mode between the WATCH (Web monitoring) and SEARCH (Web search). Do NOT change the default port settings.
- Save Cookie: Check the box if you want to save the login information temporarily.

NOTES:

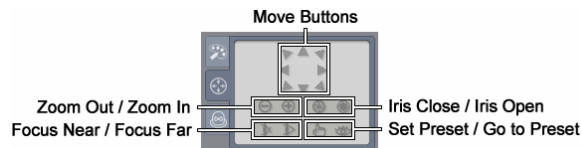
- WebGuard only works with Microsoft Internet Explorer and will NOT work with Netscape.
- When running the updated WebGuard for the first time, Internet Explorer might occasionally load the information of the previous version. In this case, delete the temporary internet files by selecting Tools → Internet Options → General tab, and then run WebGuard again.

Web Monitoring Mode

The WebWatch is a remote web monitoring program that allows you to monitor live video transmitted in real-time from the remote DVR.



- ① Log Out: Click the to log out the WebGuard program.
- ② WebSearch: Click the to access to the web search mode.
- ③ WebWatch Logo: Position the mouse pointer on the logo to see the version of the WebGuard program.
- ④ DVR Information: The DVR Information window displays the time information of the remote DVR and login information of WebGuard.
- ⑤ Display Mode: Select the desired display mode.
- ⑥ Camera Buttons: Select the camera to be viewed.
- ⑦ PTZ Control: Click the to control pan, tilt and zoom of the camera from a remote site.



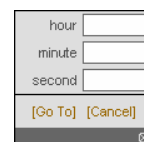
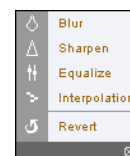
- ⑧ Event Status Window: The event status window at the bottom displays a list of events that were detected from the remote site.

Web Search Mode

The WebSearch is a remote web search program that allows you to search recorded video on the remote DVR.



- ① Log Out: Click the to log out the WebGuard program.
- ② WebWatch: Click the to access to the web monitoring mode.
- ③ WebSearch Logo: Position the mouse pointer on the logo to see the version of the WebGuard program.
- ④ DVR Information: The DVR Information window displays the time information of recorded data on the remote DVR and login information of WebGuard.
- ⑤ Zoom/Brightness Adjust/Image Processing: Click the to zoom out or zoom in the recorded image. Click the to adjust the brightness of the recorded images. Click the to blur, sharpen, equalize and interpolate playback images.
- ⑥ Playback Function Buttons: The Playback Function Buttons include fast backward, pause, play, fast forward, go to the first image, go to the previous image, go to the next image, and go to the last image.
- ⑦ Display Mode: Click the desired display mode.
- ⑧ Time-lapse Search: Click the to enter the time-lapse search mode which allows you to search for recorded data by time and then play back images found within the time parameters. The Timetable window located at the bottom displays the time information for the image of the date selected on the calendar. Clicking a specific time displays the image recorded at that time on the screen. Selecting the allows you to display an image from a specific time.
- ⑨ Event Search: Click the to enter the event search mode which allows you to search for event log entries using specific conditions and play back the images associated with those event entries.
- ⑩ Save/Print: Click the to save the current image in a bitmap or JPEG file format or to save any video clip of recorded data as an executable file. Click the to print the current image on a printer connected to your computer.
- ⑪ Timetable: The Timetable displays recorded data of the selected camera by time (in hour segments).



NOTES:

- Image processing works only in the pause mode.

MINIBANK SELF PLAYER

Disconnect the USB flash drive from the DVR and connect it to your PC. You do not need to install any special software on your personal computer to review the video. The copied clip contains the Player program. Double click the target clip to start the Player program.



- ① **Monitoring Screen:** It displays the backed up images. Click the right mouse button on the image to zoom in and click the right mouse button while holding the Ctrl key to zoom out. Scrolling the mouse wheel up or down on the image also zooms in or out. Clicking the right mouse button on the image while holding the Shift key switches the screen size. Click and hold the left mouse button and drag the image to move its position.
- ② **Video Format:** Double clicking the logo at the top left corner while holding the Shift key switches video formats when you are experiencing improper image display.
- ③ **Save Button:** Click to save the current image in a bitmap file format to the local hard disk drive.
- ④ **Print Button:** Click to print the current image on the printer connected to your computer.
- ⑤ **Backup File Information window:** It displays information regarding the backup file. Location displays the site description of the DVR where the backup was made. Record displays the time span of the video backup file. Encryption displays whether the backup file has been tampered with. Normal means the file has not been tampered with, Wrong means the system has detected tampering, and no mark means the user cancelled the encryption check.
- ⑥ **Current Image Information window:** It displays information about the current image. Camera Title displays the camera name of the current image, and Time displays the date and time the image was recorded.
- ⑦ **Image Search Slide Bar:** It displays the current playback position. The user can move the playback position by clicking the mouse and dragging along the slide bar.
- ⑧ **Playback Function Buttons:** It include fast backward, backward, play, pause, fast forward, go to the first image, go to the previous image, go to the next image, and go to the last image buttons.

- ⑨ **Mute Button:** Click to mute the recorded audio.
- ⑩ **Brightness Revert Button:** Click to reload to the original image.
- ⑪ **Brightness Control Slide Bar:** Click to adjust the brightness of the backup images by clicking the mouse and dragging along the slider bar. Minute brightness changes can be made by using the arrow buttons located at each end of the bar.
- ⑫ **OSD (On-Screen Display) Button:** It switches the OSD option. The OSD information includes camera location and date/time.
- ⑬ **Quit Button:** Click to exit the Player program.

NOTES: It is suggested that the computer used for the Player program has at least an 800MHz Pentium III. If your CPU is slower than this, minibank files recorded at maximum speed with very high image quality will be played back slowly.

FACTORY DEFAULT SETTINGS

MENU	ITEM	PARAMETER	DEFAULT SETTING
SCHEDULE		ON / OFF	ON
	SETUP	C (Continuous record) / E (Event Record) / -	C
RECORD QUALITY		VERY HIGH / HIGH / STANDARD / LOW	STANDARD
RECORD SPEED		7.5 / 6.25 / 6 / 5 / 4 / 3 / 2 / 1 / OFF (NTSC) 6.25 / 6 / 5 / 4 / 3 / 2 / 1 / OFF (PAL)	7.5 (NTSC) 6.25 (PAL)
ADVANCED SETUP	SYSTEM DATE/TIME	[YYYY-MM-DD] [H-M-S]	Current Date/Time
	SYSTEM OSD	YES / NO	YES
	SYSTEM SET PASSWORD	-	4321
	STORAGE OVERWRITE	YES / NO	NO
	RECORD IPS	30 ~ 1 / OFF (NTSC) 25 ~ 1 / OFF (PAL)	7.5 (NTSC) 6.25 (PAL)
	MOTION	DETECT: ON / OFF SENS: 1 / 2 / 3 / 4 / 5 ZONE: 16x12 blocks	OFF 3 16x12 blocks
	ALARM	IN: NC / NO / OFF OUT: ON / OFF	OFF OFF
	BUZZER BEEP	ON / OFF	ON
NETWORK	TYPE	MANUAL / ADSL / DHCP	MANUAL
	DNS SERVER	-	192.168.1.1
	DVRNS	ON / OFF	OFF
PTZ	ID	0 ~ 99	0
	Protocol	Supported PTZ models	NONE
	BAUD RATE	300 ~ 115200	9600
	DATA BIT	7 / 8	8
	STOP BIT	1 / 2	1
	PARITY	NONE / EVEN / ODD	NONE

SYSTEM LOG

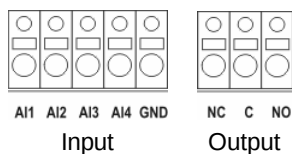
LOG MESSAGE	DESCRIPTION
LOGIN (L)	System login from the local site.
LOGOUT (L)	System logout from the local site.
LOGIN (W)	System login from the remote site (WebWatch).
LOGOUT (W)	System logout from the remote site (WebWatch).
LOGIN (S)	System login from the remote site (WebSearch).
LOGOUT (S)	System logout from the remote site (WebSearch).
SETUP S (L)	System setup began at the local site.
SETUP E (L)	System setup ended at the local site.
PB START	Playback began.
PB END	Playback ended.
BANK CLEAR	Data bank deleted.
BANK BAD	Data bank is bad.
REC START	Schedule recording began.
REC END	Schedule recording ended.
REC(M) START	Manual recording began.
REC(M) END	Manual recording ended.
TIME CHANGED	System time changed.
SYS UPGRADE	System upgraded.
DISK FULL	Disk is full.
RECORD BAD	Recording is bad.
SHUTDOWN	System shutdown.
REBOOT	System restarted.
VIDEO LOSS	Video input lost.
DISK# BAD	Disk is bad.
SMART FAIL	S.M.A.R.T. is bad.
DVRNS OK	DVRNS notify succeeded.
DVRNS ERR (1)	DVRNS network error.
DVRNS ERR (2)	DVRNS network connection failed.
DVRNS ERR (3)	DVRNS protocol error.
DVRNS ERR (4)	Invalid packet information.
DVRNS ERR (5)	The DVR name already exists.
DVRNS ERR (6)	DVRNS database error.
DVRNS ERR (7)	Unknown error.
PORT CHANGE	Network port number changed.
DISK RECOVER	Disk recovery succeeded.
DISK RECOVER F	Disk recovery failed.

TROUBLESHOOTING

PROBLEM	POSSIBLE SOLUTION
No Power	• Check power cord connections. • Confirm that there is power at the outlet.
No Live Video	• Check camera video cable and connections. • Check monitor video cable and connections. • Confirm that the camera has power. • Check camera lens settings.
Live Video Very Bright	If a cable is attached to the “Loop” connector, make certain it is connected to a properly terminated device.
DVR has stopped recording	If hard disk drive is full, you will either need to delete video or set the DVR to the Overwrite Mode.
DVR displays an error message stating that the last recorded image date and time is later than the current date and time setting of the DVR.	The DVR will automatically reset the time and date of the unit, according to the time and date of the last recorded image. If this is not the correct time and date, reset the time and date manually. If the correct time and date is earlier than the last recorded image, any video with a later time and date will be lost when resetting the correct time and date.

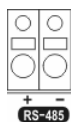
CONNECTOR PIN OUTS

I/O Connector



AI (1 to 4)	Alarm Inputs 1 to 4
GND	Chassis Ground
NC	Normally Closed
C	Common
NO	Normally Open

RS485 Connector



Master Unit	Slave Unit
+ → To	→ TX+
- → To	→ TX-
+ → To	→ RX+
- → To	→ RX-

SPECIFICATIONS

VIDEO	
Signal Format	NTSC or PAL (auto detect)
Video Input	Composite: 4 looping inputs, 1 Vp-p, auto-terminating, 75 Ohms
Monitor Outputs	Composite: One (BNC), 1 Vp-p, 75 Ohms
Video Resolution	720x480 (NTSC), 720x576 (PAL)
Playback/Record Speed (images per second)	30ips (NTSC), 25ips (PAL)
INPUTS/OUTPUTS	
Alarm Input	4 TTL, NC/NO programmable, 4.3V threshold
Alarm Output	1 relay out, terminal block, NC & NO, 0.5A @ 125VAC, 1A @ 30VDC
Internal Buzzer	80dB at 10cm
Network Connectivity	10/100 Base Ethernet
CONNECTORS	
Video Input	Composite: 4 BNC
Video Loop	Composite: 4 BNC
Monitor Output	Composite: 1 BNC
Alarms	Terminal block
Ethernet Port	RJ-45
RS-485 Serial Port	2 connector terminal block
USB Port	1 on front panel (2.0)
STORAGE	
Primary Storage	EIDE hard disk drive
GENERAL	
Dimensions (W x H x D)	13.38" x 1.83" x 2.38" (340.0mm x 46.5mm x 314.5mm)
Unit Weight	6.67 lbs. (3.03kg)
Shipping Weight	9.88 lbs. (4.49kg)
Shipping Dimensions (W x H x D)	17.32" x 6.22" x 16.14" (440mm x 158mm x 410mm)
Operating Temperature	41°F to 104°F (5°C to 40°C)
Operating Humidity	0% to 90%
Power	100-240 VAC, 0.8-0.4A, 50/60Hz
Approval	FCC, CE, CB, UL

Specifications are subject to change without notice.

WEEE (Waste Electrical & Electronic Equipment)

Correct Disposal of This Product

(Applicable in the European Union and other European countries with separate collection systems)



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.