

FUSION III DVR

Digital Recording and Transmission System

User Guide

Revisions

Issue	Date	Revisions
1	06/06	Initial Release
2	08/06	Updated for content
3	09/06	Updated for content
4	01/07	Updated for content
5	08/07	Updated for Version 3.5
6	11/07	Updated layout
7	02/08	Updated for content
8	05/08	Updated for Version 3.6
8b	09/09	Updated for content

Warnings and Safeguards

FCC Compliance Statement

INFORMATION TO THE USER: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

USERS OF THE PRODUCT ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES CONCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNALS. HONEYWELL VIDEO SYSTEMS SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS PRODUCT IN VIOLATION OF CURRENT LAWS AND STATUTES.

National Power Deviation Standards

AUSTRALIA / NEW ZEALAND

COMPONENTS COMPLY WITH THE RELEVANT PORTIONS OF IEC 60950 OR THE APPLICABLE COMPONENT STANDARD OR THE RELEVANT AUSTRALIAN / NEW ZEALAND STANDARD.

AC POWER DISTRIBUTION SYSTEMS CLASSIFIED AS TT OR IT ARE NOT ALLOWED INTENDED FOR USE ON A TN SYSTEM.

Rated Current of Equipment (A)	Nominal cross-sectional area (mm ²)
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0.2	<=	3 0.5*
3	<=	7.5 0.75
7.5	<=	10 (0.75) 1.00
10	<=	16 (1,0) 1.5
16	<=	25 2.5
25	<=	32 4
32	<=	40 6
40	<=	63 10
63	<=	80 16
80	<=	100 25
100	<=	125 35
125	<=	160 50
160	<=	190 70
190	<=	230 95

DENMARK

CERTAIN TYPES OF CLASS I APPLIANCES MAY BE PROVIDED WITH PLUG NOT ESTABLISHING EARTHING CONTINUITY WHEN INSERTED INTO DANISH SOCKET-OUTLETS.

"VIGTIGT !

LEDEREN MED GRØN/GUL ISOLATION MÅ KUN

TILSLUTTES EN KLEMME MÆRKET

(IEC 417, NO. 5019) ELLER (IEC 417, NO. 5017)

FOR TILSLUTNING AF DE ØVRIGE LEDERE, SE MEDFØLGENDE INSTALLATIONSVEJLEDNING

SUPPLY CORD OF SINGLE-PHASE EQUIPMENT HAVING A RATED CURRENT NOT EXCEEDING 13 A SHALL BE PROVIDED WITH A PLUG ACCORDING TO THE HEAVY CURRENT REGULATIONS, SECTION 107-2-D1. CLASS I EQUIPMENT PROVIDED WITH SOCKET-OUTLETS WITH EARTH CONTACT OR WHICH ARE INTENDED TO BE USED IN LOCATIONS WHERE PROTECTION AGAINST INDIRECT CONTACT IS REQUIRED ACCORDING TO THE WIRING RULES SHALL BE PROVIDED WITH A PLUG IN ACCORDANCE WITH STANDARD SHEET DK 2-1A OR DK 2-5A. IF POLY-PHASE EQUIPMENT AND SINGLE-PHASE EQUIPMENT HAVING A RATED CURRENT EXCEEDING 13 A IS PROVIDED WITH A SUPPLY CORD WITH A PLUG, THIS PLUG SHALL BE IN ACCORDANCE WITH THE HEAVY CURRENT.

GERMANY

(GESETZ UBER TECHNISCHE ARBEITSMITTEL (GERATESICHERHEITSGESETZ) [LAW OF TECHNICAL LABOUR EQUIPMENT {EQUIPMENT SAFETY LAW}], OF 23RD OCTOBER 1992, ARTICLE 3, 3RD PARAGRAPH, 2ND SENTENCE, TOGETHER WITH THE "ALLGEMEINE VERWALTUNGSVORSCHRIFT ZUR DURCHFÜHRUNG DES ZWEITEN ABSCHRITTS DES GERATESICHERHEITSGESETZES" [GENERAL ADMINISTRATIVE REGULATION ON THE EXECUTION OF THE SECOND SECTION OF THE EQUIPMENT SAFETY LAW], OF 10TH JANUARY 1996, ARTICLE 2, THE PARAGRAPH, ITEM 2).

KOREA

PLUGS FOR THE CONNECTION OF THE APPARATUS TO THE SUPPLY MAINS COMPLY WITH THE KOREAN REQUIREMENT (KSC 8305).

EMC - THE APPARATUS SHALL COMPLY WITH THE RELEVANT CISPR STANDARDS.

SWITZERLAND

SUPPLY CORDS OF EQUIPMENT HAVING A RATED CURRENT NOT EXCEEDING 10 A SHALL BE PROVIDED WITH A PLUG

COMPLYING WITH SEV 1011 OR IEC 60884-1 AND ONE OF THE FOLLOWING DIMENSION SHEETS:

SEV 6532-2.1991, PLUG TYPE 15, 3P+N+PE 250/400 V, 10 A

SEV 6533-2.1991, PLUG TYPE 11, L+N 250 V, 10 A

SEV 6534-2.1991, PLUG TYPE 12, L+N+PE 250 V, 10 A

IN GENERAL, EN 60309 APPLIES FOR PLUGS FOR CURRENTS EXCEEDING 10 A. HOWEVER, A 16 A PLUG AND SOCKET/OUTLET SYSTEM IS BEING INTRODUCED IN SWITZERLAND, THE PLUGS OF WHICH ARE ACCORDING TO THE FOLLOWING DIMENSION SHEETS, PUBLISHED IN FEBRUARY 1998:

SEV 5932-2.1998, PLUG TYPE 25, 3P+N+PE 230/400 V, 16 A

SEV 5933-2.1998, PLUG TYPE 21, L+N 250 V, 16 A

SEV 5934-2.1998, PLUG TYPE 23, L+N+PE 250 V, 16 A

UNITED KINGDOM

THE CURRENT RATING OF THE CIRCUIT SHALL BE TAKEN AS 13 A, NOT 16 A.

RATING OF CIRCUIT UNDER TEST WAS TAKEN TO BE 20 A.

APPARATUS WHICH IS FITTED WITH A FLEXIBLE CABLE OR CORD AND IS DESIGNED TO BE CONNECTED TO A MAINS SOCKET CONFORMING TO BS 1363 BY MEANS OF THAT FLEXIBLE CABLE OR CORD AND PLUG, SHALL BE FITTED WITH A "STANDARD PLUG" IN ACCORDANCE WITH STATUTORY INSTRUMENT 1786: 1994 - THE PLUGS AND SOCKETS ETC. (SAFETY) REGULATIONS 1994, UNLESS EXEMPTED BY THOSE REGULATIONS. NOTE: "STANDARD PLUG" IS DEFINED IN SI 1786: 1994 AND ESSENTIALLY MEANS AN APPROVED PLUG CONFORMING TO BS 1363 OR AN APPROVED CONVERSION PLUG.

RACK MOUNT INSTRUCTIONS

- A) Elevated Operating Ambient – 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 maximum ambient temperature (T_{ma}) specified by the manufacturer.
 - B) Reduced Air Flow – Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
 - C) Mechanical Loading – Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
 - D) Circuit Overloading – Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
 - E) Reliable Earthing – Reliable earthing 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).
-

UL Notice

Underwriters Laboratories Inc. has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested for fire, shock and casualty hazards as outlined in UL's Standard for Safety UL 60950-1. UL Certification does not cover the performance or reliability of the security or signaling aspects if this product.

UL MAKES NO REPRESENTATIONS, WARRANTIES OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING RELATED FUNCTIONS OF THIS PRODUCT.

CE Notice

This product is in conformity with the following European Directives:

ELECTROMAGNETIC COMPATIBILITY DIRECTIVE, 89/336/EEC
(as amended by 92/31/EEC and by Article 5 of 93/68/EEC)

per the provisions of:

EN 55022:1994	EN 55024:1998	EN 61000-4-4:1995
EN 61000-3-2:1995	CISPR 24:1997	EN 61000-4-5:1995
EN 61000-3-3:1995	EN 61000-4-2:1995	EN 61000-4-6:1995
CISPR 22:1997	EN 61000-4-3:2002	EN 61000-4-11:1994

LOW VOLTAGE DIRECTIVE, 73/23/EEC
(as amended by Article 13 of 93/68/EEC)

per the provisions of:

EN 60950-1: 2001

EN 50130-4:1996 Notice

1. Uninterrupted Power supply (UPS)
2. Maximum lengths of wiring connected to the sensor inputs and control outputs are 30 meters.

OPTICAL AND ACOUSTICAL STATEMENTS

VISIBLE LED STATEMENT

The LEDs on this DVR are classified as "Class 1 LED Product" in accordance with EN 60825-1.

LASER SAFETY STATEMENT FOR A CLASS 1 LASER PRODUCT

This DVD-ROM Storage device has been tested and found to comply with the limits for a Class B 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 residential installation. 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. If this equipment does cause harmful interference to radio or television reception, the user can attempt to correct this by following one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

The mass storage system does not product hazardous laser radiation. Because laser light emitted inside the mass storage system is completely confined within the protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation.

Caution Due to the extremely fast rotation speed of the DVD-ROM drive spindle motor (9000 ~ 12000 rpm), the drive's performance could be affected by using substandard discs. These substandard discs may be damaged, or damage the DVD-ROM drive.

- Check each DVD for cracks before using it. If there are cracks on the surface, especially on the border of the center hole, do not use it in the DVD-ROM drive. Using such DVDs can cause irreparable damage to the DVD-ROM drive.
- Do not leave DVDs in direct sunlight or hot, humid locations.
- Always remove DVDs from the drive after use.
- To protect DVDs from scratches, never touch the DVD face or place the DVD face down on a hard surface.
- Do not affix highly adhesive stickers to a DVD.

VISIBLE LED STATEMENT

Lpa < 70 dB operator position, normal operation, per ISO 7779.

IMPORTANT SAFEGUARDS

1. **Read User's Guide** – After unpacking this product, read the user's guide 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's instructions have been adhered to.
4. **Heat** – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products 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 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 DVR, other than the media types approved by Honeywell, 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 fingers 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 the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power-supply cord or plug is damaged.
 - b. If liquid has been spilled, or objects have fallen into the unit.
 - c. If the unit has been exposed to rain or water.
 - d. If the unit 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 unit to its normal operation.
 - e. If the unit has been dropped or the enclosure has been damaged.
 - f. When the unit 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, electric shock or other hazards.
18. **Safety Check** – Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

NOTES ON HANDLING

- When shipping the DVR, 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 aerosol spray, near the DVR. Do not leave rubber or plastic products in contact with the DVR for long periods of time. They will leave marks on the finish.
- The top and rear panels of the DVR may become warm after long periods of use. This is not a malfunction.

NOTES ON LOCATING

- Place the DVR 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 DVR next to a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. If this happens, place the DVR 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 or benzene, as they may damage the surface of the DVR.
 - If using a chemical saturated cloth to clean the unit, follow that product's instructions.
-

NOTES ON MAINTENANCE

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

NOTES ON MOISTURE CONDENSATION

Moisture condensation damages the DVR. Read the following information carefully.

Moisture condensation can occur in the following cases:

- When this product is brought directly from a cool location to a warm location.
- When this product is moved to a hot and humid location from a cool location.
- When this product is moved to a cool and humid location from a warm location.
- When this product is used in a room where the temperature fluctuates.
- When this product is used near an air-conditioning unit vent
- When this product is used in a humid location.

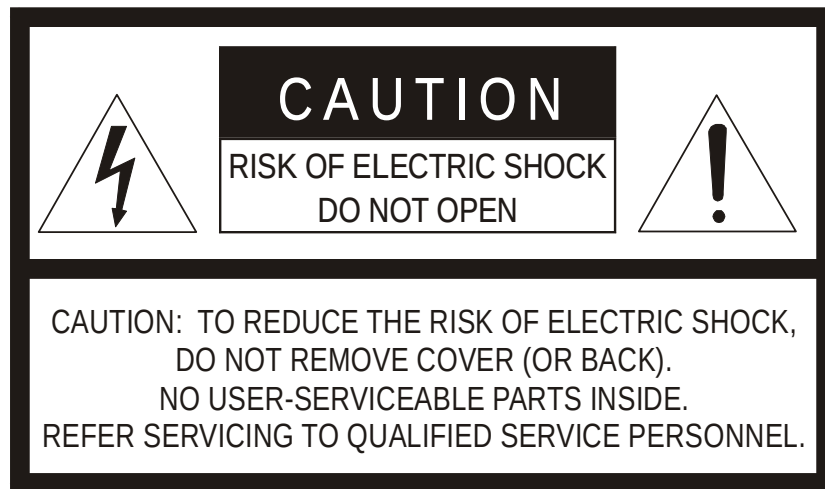
Do not use the DVR when moisture condensation may occur.

If you use the DVR in such a situation, it may damage discs and internal parts. Remove any DVD discs, connect the power cord of the DVR to the wall outlet, turn on the DVR, and leave it for two to three hours. After two to three hours, the DVR will have warmed up and evaporated any moisture. Keep the DVR connected to the wall and moisture will seldom occur.

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.

CAUTION



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Introduction



Product Description

The Honeywell Fusion DVR is a server that performs as a High Definition Digital Recorder. By utilizing the many features of a computer, including processing power, storage capacity, graphics compression, and security features, the DVR unit is more powerful than the analog recorders of the past.

The Honeywell Fusion DVR server software comes pre-configured for fast and seamless integration within the existing IT infrastructure. Designed around Microsoft® Windows® XP, the server software offers unparalleled stability, security, and ease of use. Accordingly, a security investment has never been easier to maintain. Multiple users may simultaneously connect through any network connection for instantaneous live viewing, digital search, and off site video storage. Users can also connect remotely through DSL, Cable Modems, ISDN, or 56K dial-up. This powerful software enables users to establish recording schedules, create motion detection zones, use PTZ controls, and configure alarm inputs and outputs for each of the system's cameras. With the latest advancements in the DVR Server Software, searching and indexing the video archive has never been easier. Video can now be found, viewed, and exported in a number of file formats with just a few clicks.

The Honeywell Fusion DVR is a high performance security product ready to meet today's security demands.

Features

Honeywell's Fusion DVRs include the following features:

- Optimized and Designed for Microsoft® Windows XP® Embedded
- Supports up to 16 Digital Control Outputs (dependant on model)
- Supports up to 16 Alarm Inputs for Alarm Control (dependant on model)
- Remote System Operation & Configuration
- Supports Multiple Simultaneous Remote Connections
- Up to 16 Audio Inputs (dependant on model and optional accessory component)
- Pan / Tilt / Zoom Controls
- Simultaneous Video Search, Playback, and Backup
- Video Indexes for Easy Searching
- Multiple Levels of Security Access
- Up to 32 Looping Outputs (dependant on model)
- Optional POS, ATM and Video Analytics Support
- Analog Spot Monitor Output
- Up to 32 Camera Inputs (dependant on model)
- High Performance, Durable, Rack mount Case
- NTSC and PAL supported
- Up to 8TB of Internal Storage with Removable Hard Drives
- Supports Digital Signatures Authentication
- Continuous Motion Detection, Alarm, Pre-Alarm, and Scheduled Recording Modes
- Hardware Watchdog
- 720x480 / 720x240 / 360x240 NTSC Recording Resolution
720x576 / 720x288 / 360x288 PAL Recording Resolution

Controls and Connections

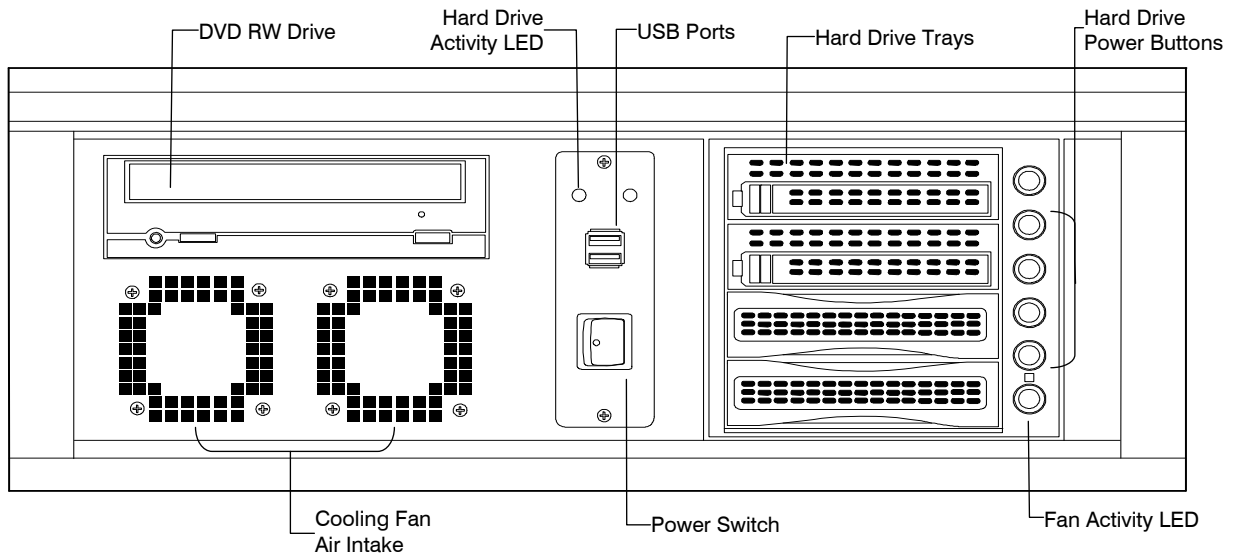
Basic Features

Honeywell's state-of-the-art High Definition Digital Recorders are housed in a high performance and versatile 4U Aluminum Rack-Mount case allowing easy storage of multiple DVRs for enterprise applications. Every Fusion DVR Unit comes equipped with the latest technology.

- Intel® Dual Core Processor (minimum)
- 100/1000 Network Interface Card (NIC)
- 1 GB of System Memory (minimum)
- 8x USB 2.0 Ports
- DVD-RW Recorder
- Full Duplex High-Fi Sound Functionality
- Standard 500 GB Video Storage Drive

Front Panel Controls and LEDs

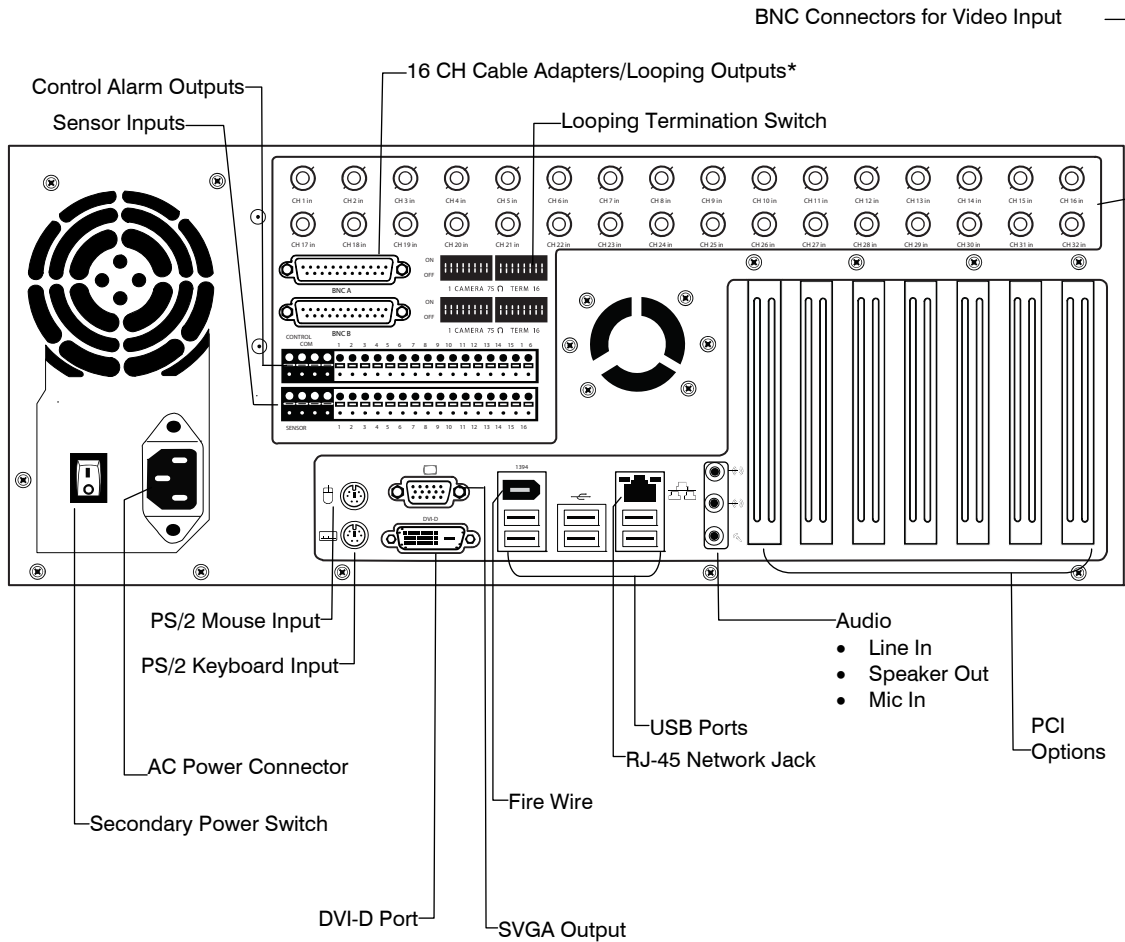
The front panel of the DVR unit contains the devices that will be commonly used for data removal, retrieval, and backup replacement. The most common components and buttons are shown below.



Rear Panel Connectors

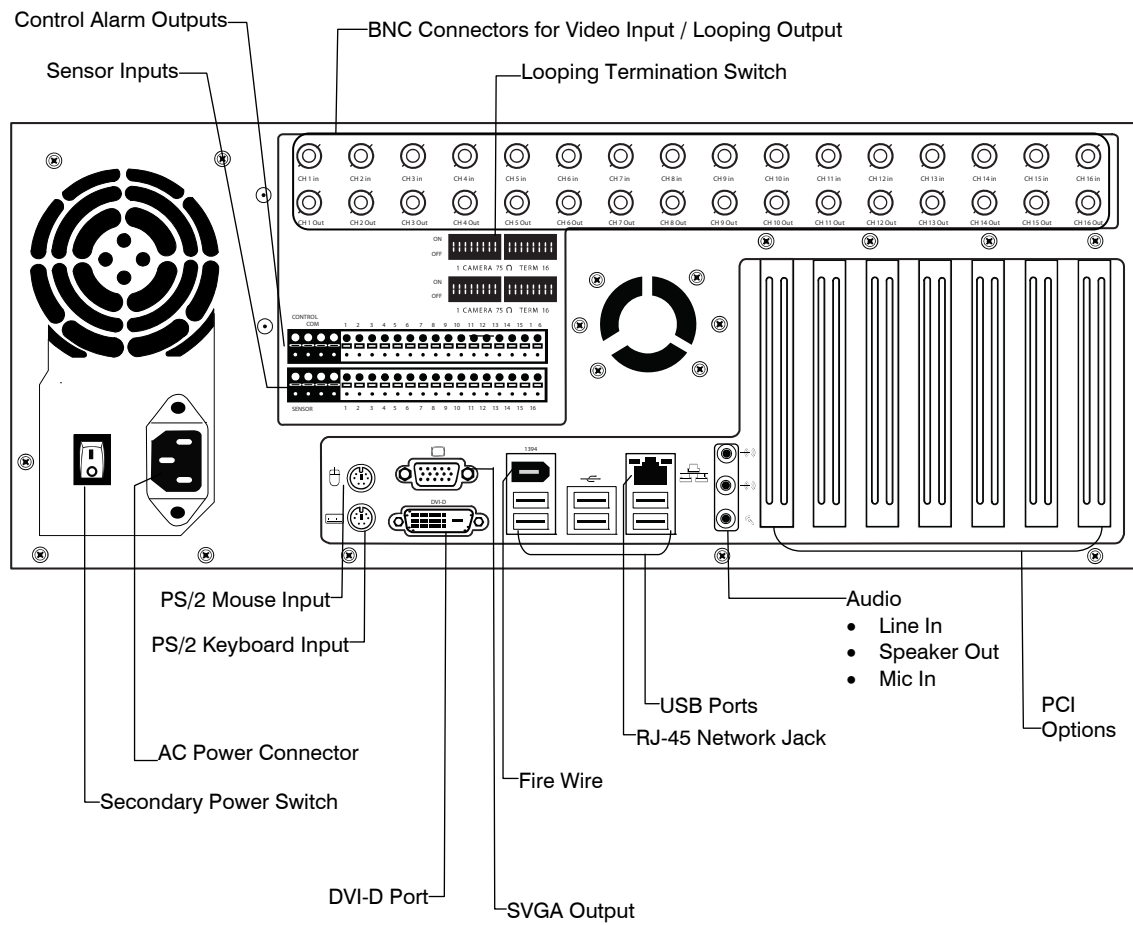
The rear panel of the DVR unit contains virtually all of the necessary connectors. Below is a diagram that outlines the location and description of each connector:

32 Channel



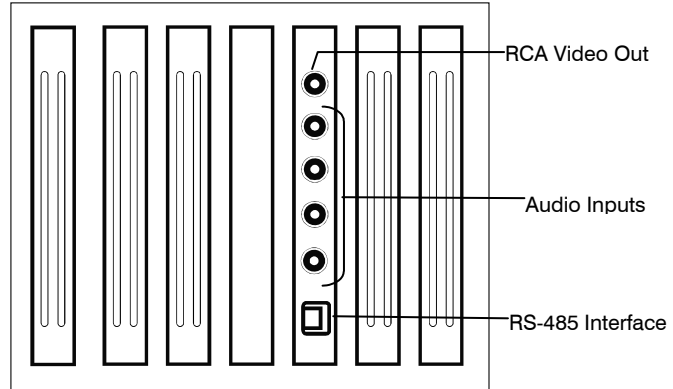
*See Looping Outputs section for illustration.

8/16 Channel

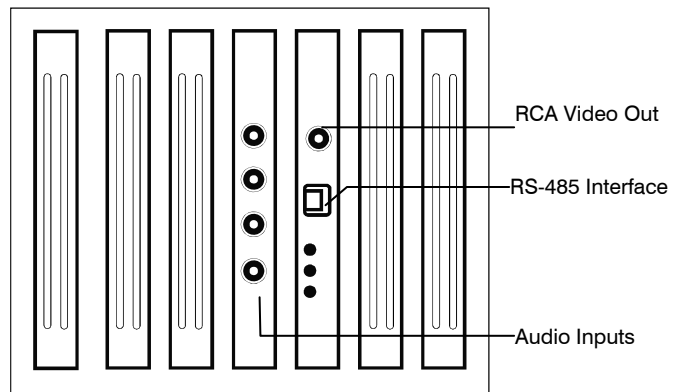


PCI Card Configurations

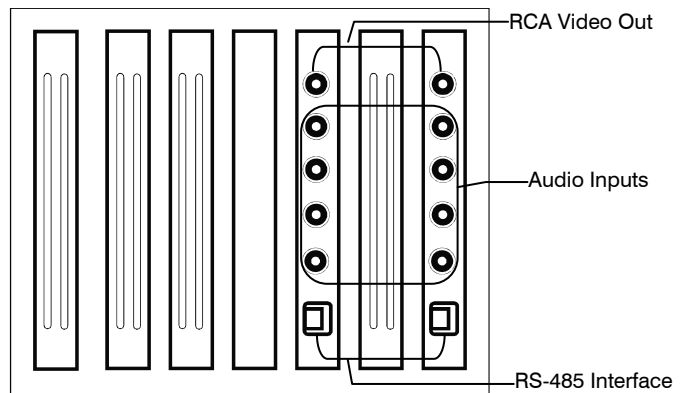
120 IPS 16 Channel



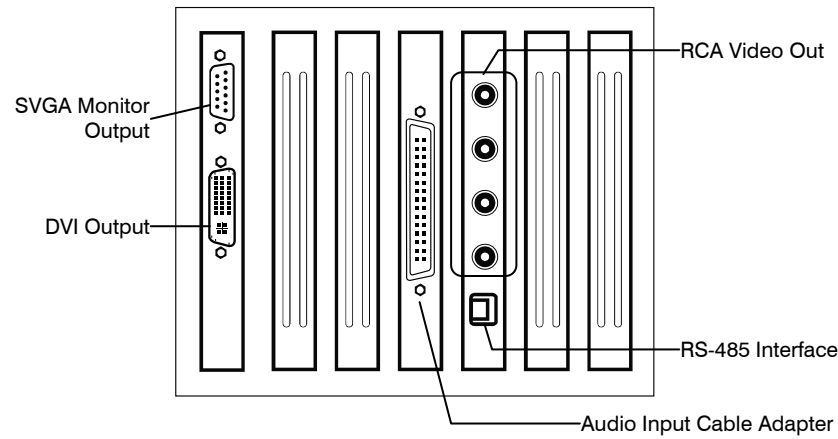
240 IPS 8/16 Channel



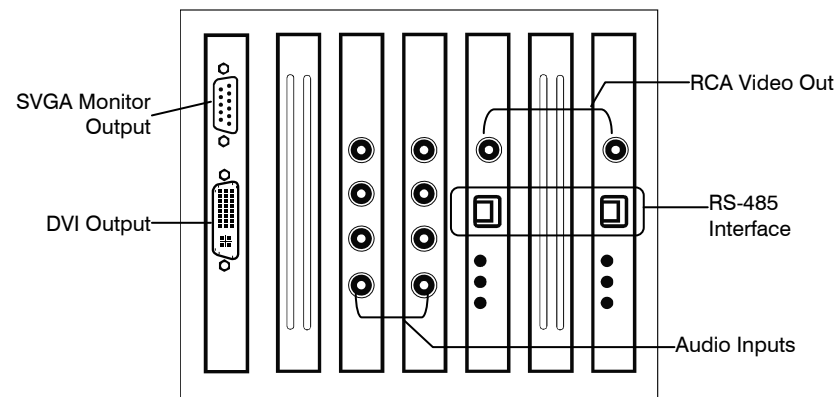
240 IPS 32 Channel



480 IPS 16 Channel



480 IPS 32 Channel



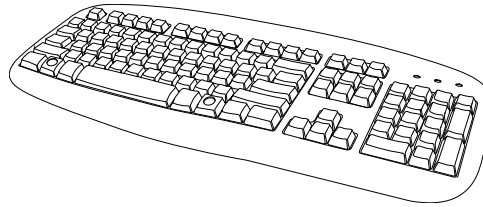
Getting Started

Identifying Included Components

Identify the following components to make sure everything has been properly included with your new DVR. If any of the following items are missing, contact the dealer to arrange for a replacement.

		
Mouse	Keyboard	DVR Key
		
PTZ Adapter	DVR Repair/Software Disc	Power Cord
		
User Guide	Mouse Pad	8 CH Audio Input Cable*
		
16 CH Audio Input Cable**	16 CH Video Looping Output Cable***	RCA Video Adapter
* 8 CH Audio Input cable included with the H.264 models (x2 with the 16 CH model). ** 16 CH Audio Input cable included standard with the 16CH 480/400 IPS models (optional with 16CH audio card upgrade). *** Video Looping Output Cable included with the 32 CH models only.		

Keyboard Setup



To attach the keyboard to the DVR, plug the end of the Keyboard cable into the keyboard PS/2 Port located on the back of the machine. The keyboard PS/2 Port can be identified by the purple color.

Mouse Setup

To attach the mouse to the DVR, plug the end of the mouse cable into the mouse PS/2 Port located on the back of the machine. The mouse PS/2 Port can be identified by the green color.

The mouse uses a cursor called a pointer. Pointers come in many different shapes but are most commonly shaped like an arrow.

The mouse has two buttons: a left button and a right button. Quickly pressing and releasing one of these buttons is called clicking. Sometimes it will be necessary to double-click – or click the same button twice quickly.

In this manual:

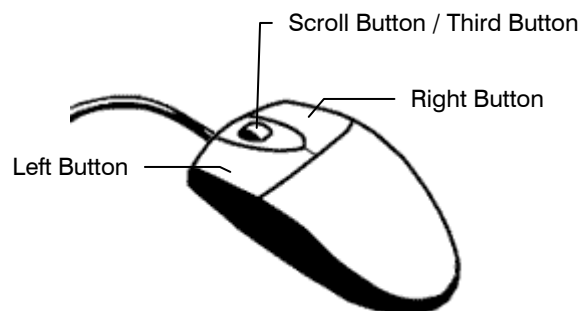
Click means to position the mouse cursor over an item and to single click the left button.

Right-click means to position the mouse cursor over an item and to single click the right button.

Double-click means to position the mouse cursor over an item and to click the left button twice.

Select means to position the mouse cursor over a radio button, check box, or list item and click it.

The scroll wheel in between the two buttons is added to provide easier scrolling capability. By moving the wheel with an index finger, the user can quickly move through multiple pages, lines, or windows. The wheel may also function as a third button allowing the user to quickly click or double-click an icon or a selected item.



Monitor Setup

Attach the Monitor to the rear of the DVR using the VGA cable supplied by the monitor manufacturer. Refer to the monitor manual for detailed information on how to setup and use it.

Note The monitor must be capable of having a screen resolution of 1024 x 768 and display colors of at least 32 Bit.

Power Setup

Attach the AC power cable to the rear of the DVR.

WARNING! To reduce the risk of electrical shock or damage to the equipment:

Do not disable the power grounding plug.
The grounding plug is an important safety feature.

If the electrical plug you are using does not have a ground plug receptacle contact a licensed electrician to have it replaced with a grounded electrical outlet.

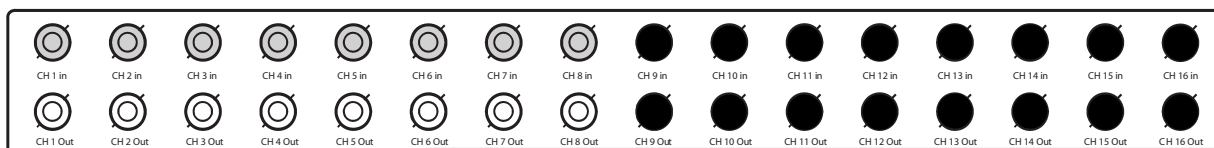
Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.

Disconnect the power from the computer by unplugging the power cord either from the electrical outlet or the computer.

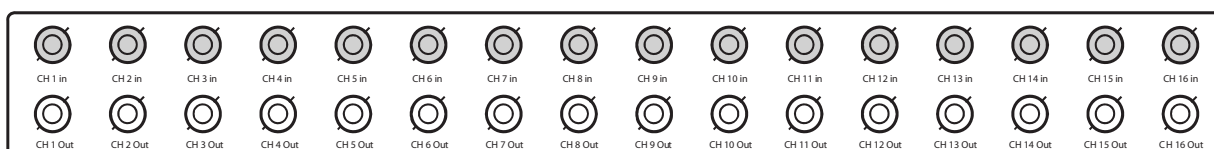
Connecting a Video Source to the DVR

There are different types of Video Sources that can be plugged into the DVR including DVD players, VHS players, and CCTV Cameras. The back of the DVR contains up to 32 video inputs depending on the DVR model. The connectors are standard BNC connectors.

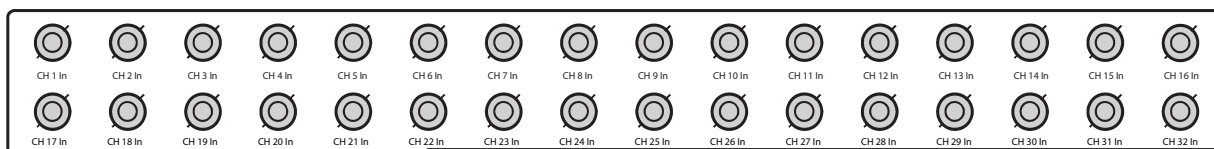
8-Channel DVR



16 Channel DVR



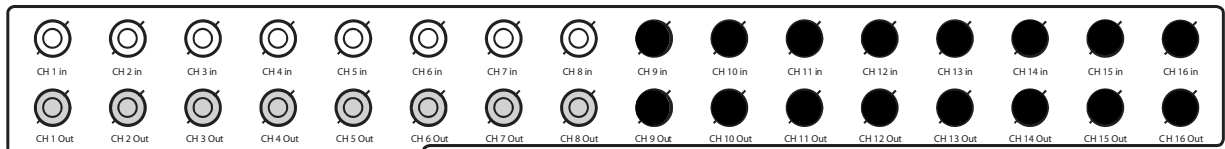
32 Channel DVR



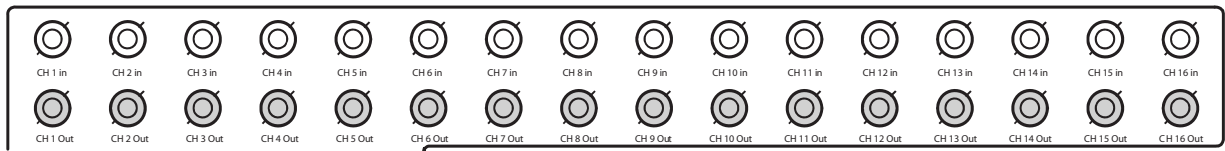
Looping Outputs

The back of the DVR contains up to 32 video outputs, which may be connected to video monitors or VCR's, depending on the DVR model. The connectors are standard BNC connectors and may require termination depending on the destination of the output. Make sure there is a video source connected to the corresponding input and then connect a cable to the Channel Out.

8 Channel DVR

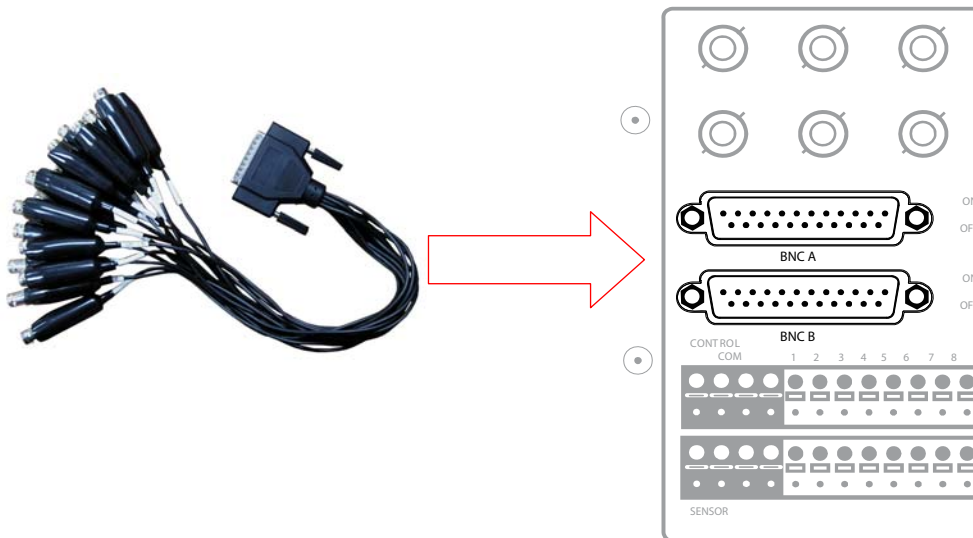


16 Channel DVR



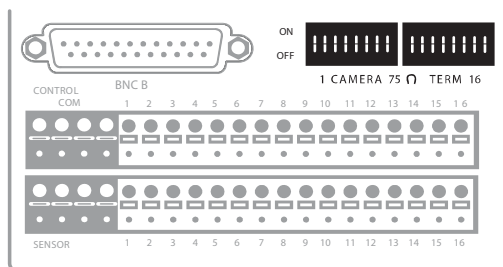
32 Channel DVR

32 Channel DVRs may have up to 32 looping outputs. Connect the included 16 channel video cables to the BNC Expansion Ports



Looping Output Termination

When terminating the outputs becomes necessary, the DVR has built-in termination that allows the user to select individual outputs to be terminated. Generally it is not necessary to terminate the output when using it. It is dependent on if the device, to which the user is connecting it, has internal 75 ohm termination. As a rule, if the image appears distorted or virtually un-viewable, it most likely needs to be terminated.



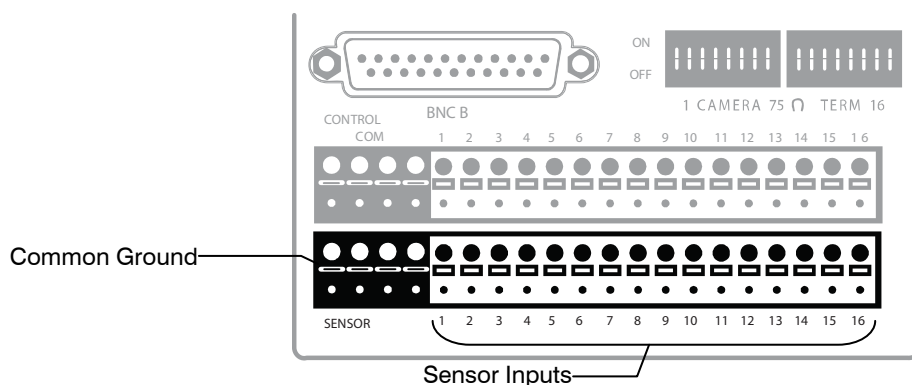
ON Not connected to a monitor (Normal)
OFF Connected to a monitor (Looped)

NOTE: Always leave the dipswitch set to the ON position when the Looping Outputs are not used.

Connecting Sensors to the DVR

Each DVR may have up to 16 Sensor inputs. These inputs can be used with devices such as infrared sensors, motion devices, glass break alarms, door and window trips, and many more. The Sensor inputs can be set to Normally Open or Normally Closed within the Fusion Server software.

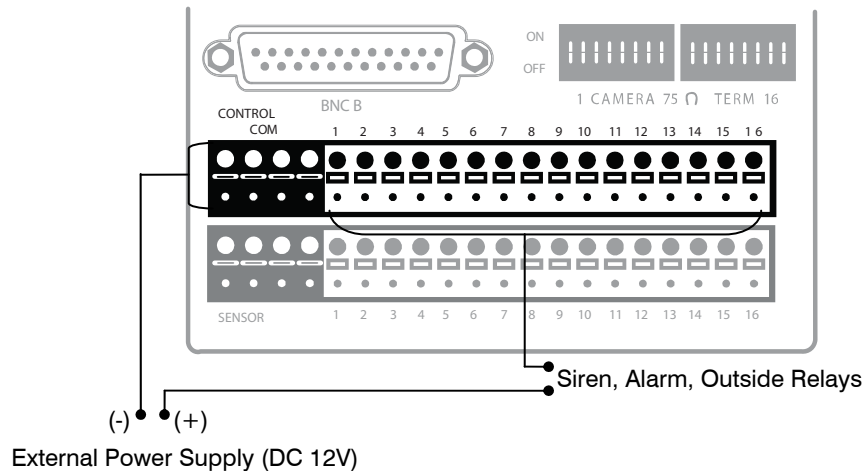
There are 4 Commons (-) and 16 inputs (+). There is no power supplied to the ports so an external power supply must be used if power becomes necessary.



- Normally Open or Normally Closed options are set within the DVR Software.
- There is no power supplied to the ports. These ports are considered to be "Dry Contacts". Use an external power supply if necessary.

Connecting Control Outputs to the DVR

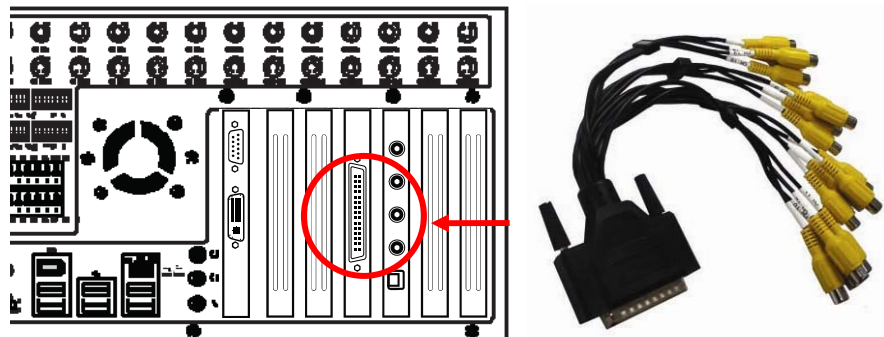
Each DVR may have up to 16 Control Outputs. These outputs can be used to trigger devices such as Sirens, Phone Dialers, Lights, and any other relay activated device.



- Use 12V, below 300mA. For controlling lights or other high current devices, use an external relay.
- Maximum voltage is 24V AC @ 1 amp
- Output uses a Form C Relay (NC-C-NC)

Connecting a 16 Channel Audio Input Cable

The 16 channel audio input cable (standard with the 16Ch 480/400 IPS Fusion DVR) connects to a single serial port in the back of the unit.

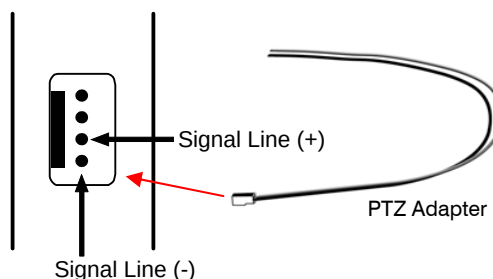


- When connecting the 16 Channel Audio Input Cable, make sure to properly secure the cable to insure there is no loss of audio quality.

Connecting a PTZ Camera

Setting up a PTZ camera is simple. The DVR comes preassembled with an internal PTZ adapter. Honeywell recommends using CAT 5 cable which typically can be run at lengths up to 1500 feet.

Attaching the Four-Wire PTZ Adapter



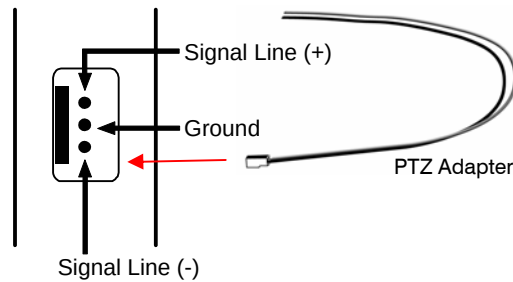
1. Locate the PTZ adapter cable (included in the Fusion accessory box).
2. Connect the wires of the PTZ adapter to the PTZ camera. The red wire should connect to the RX+ on the camera and the brown wire should connect to the RX-.

Note The PTZ adapter has four wires but only two are necessary for this application; the yellow and orange wires are not used currently.

3. Connect the other end of the adapter to the DVR as shown.
4. Assign the PTZ camera an ID number that coincides with the number assigned to it by the DVR in the PTZ Setup Interface.

Example If the camera is plugged into input 5 set the PTZ unit to ID number 5.

Attaching the Two-Wire PTZ Adapter



1. Locate the PTZ adapter cable (included in the Fusion accessory box).
2. Connect the two wires of the PTZ adapter to the PTZ camera. The red wire on the adapter should connect to the RX+ on the PTZ and the white wire should connect to the RX-.
3. Connect the other end of the adapter to the DVR as shown.
4. Assign the PTZ camera an ID number that coincides with the number assigned to it by the DVR in the PTZ Setup Interface.

Example: If the camera is plugged into input 5, set the PTZ unit to ID number 5.

Optional Components

To fully utilize the potential of the DVR, several optional Fusion components are listed below. Contact a dealer for more information.

- | | |
|--|---|
| • USB External Hard Drive | • USB Modem |
| • Fiber Network Interface Adapter | • 4 Port Analog Output Card |
| • Gigabit 10/100/1000 NIC Adapter | • 16 Port Audio Card |
| • Fusion Remote Video Software | • External 1U Chassis SATA Storage up to 8 Terabyte |
| • External 3U Chassis SATA Storage up to 32 TB | • HVR/NVR Upgrade |
| • 4CH Multiplexed Analog Output card | • Internal Raid 5 |
| • Honeywell Video Analytics Software | • IDM (Integrated Data Manager) |
| • Fusion Video Management Software | • SCSI Adaptor |

Turning On the DVR

Once the cables have been properly connected, it is time to turn on the power.

1. Turn on the monitor and any external peripherals (ex. Printers, External Storage Devices, etc.) connected to the DVR.
2. Turn on the main power switch located on the front of the DVR as shown below.

The DVR will run a series of self-tests. After two or three minutes, a series of messages may be displayed as the various hardware and software subsystems are activated. Under normal circumstances the user should not be asked to respond to these messages. If asked to respond to the messages (adding a Printer, Monitor, etc., for the first time) follow the instructions carefully.

Turning Off the DVR

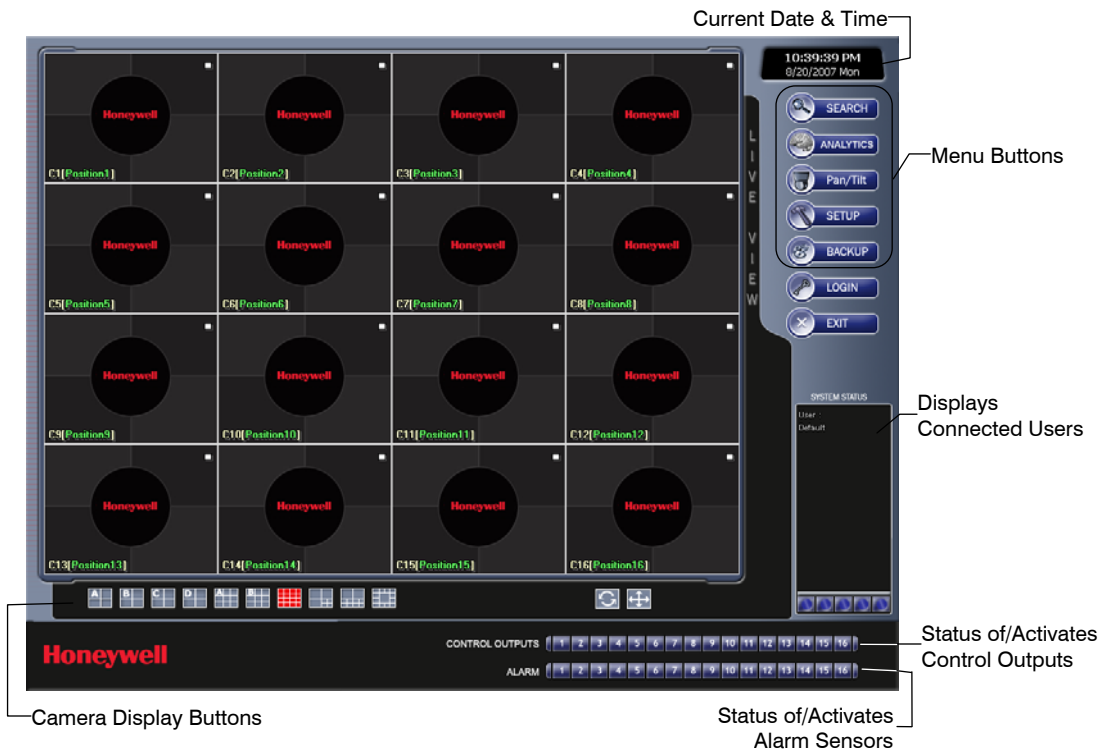
1. Select the Exit button from the main screen.
2. Select Yes. The DVR will shut itself off automatically once this is done. The DVR may take several minutes to shut down completely

Caution Always be sure to follow the proper procedures when turning off the power to the DVR. NEVER disconnect the power to the DVR while it is still running or in the process of shutting down. Doing so can cause data loss, file corruption, system instability and hardware failure.

DVR Basics

Live View Screen

Each time the DVR starts, the program defaults to the Live View screen. The following diagram outlines the buttons and features used on the Live View screen. Become familiar with these options as this is the screen that will be displayed the majority of the time.



Camera View

The Camera status for each camera is displayed next to the camera number (or name) on the Video Display Area.



Recording Status Indicator

	Recording	A red light is displayed when the camera is currently being recorded to the DVR.
	Motion Detection	A green light is displayed when a camera (set to record motion) detects motion.
	Display	A square is displayed when the camera is not being recorded.

Special Recording

There are several different types of DVR “Special Recording” situations. Text is displayed on the camera indicating either sensor or instant when activated..

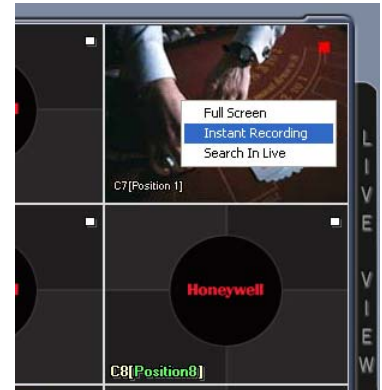
Sensor Displays when a sensor, associated with a given camera, is activated.

Instant Instant Recording is a manual recording activation for the selected camera. Regardless of the recording method, Instant Recording will start the camera recording and also flag the video for future searches using the Index Search feature. INSTANT is displayed when a user activates the Instant Recording option. Double Right-Click to activate and deactivate the Instant Recording option.

Live Camera Options

Right-click a live camera to display these options:

- Full Screen
- Instant Recording
- Search In Live



Camera Display Menu

The Camera Display buttons allow the user to change camera views with 1, 4, 7, 9, 10, 15 or 16 camera view configurations as well as full screen and rotating options.



1st Four Cameras

Displays cameras 1-4 in the Video Display Area.



2nd Four Cameras

Displays cameras 5-8 in the Video Display Area



3rd Four Cameras

Displays cameras 9-12 in the Video Display Area.



4th Four Cameras

Displays cameras 13-16 in the Video Display Area.



1st Nine Cameras

Displays cameras 1-9 in the Video Display Area.



2nd Nine Cameras

Displays cameras 10-18 in the Video Display Area.



Camera Multi-View 1

Displays a grouping of the first 15 cameras in the Video Display Area.



Camera Multi-View 2

Displays the first 16 cameras in the Video Display Area.



Camera Multi-View 3

Displays a grouping of the first 7 cameras in the Video Display Area.



Camera Multi-View 4

Displays a grouping of the first 10 cameras in the Video Display Area.



Full Screen

Displays the current camera display configuration full screen.



Auto-Sequence

Sequences through the Screen Divisions sets of 4, 9, or 16 cameras.

DVR Basics

NOTES:

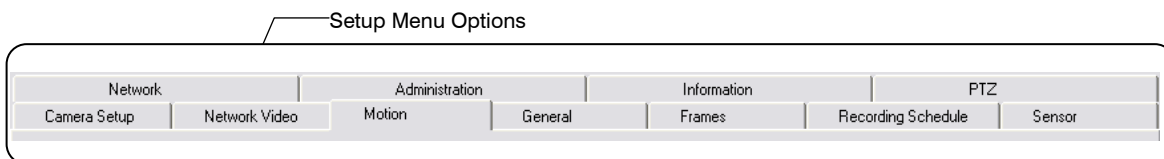
Setup Options

Setup Overview

The Setup options allow optimization of the DVR by adjusting things like camera names, recording schedules and more. It is extremely important to setup the DVR correctly for several reasons:

- **Recording Schedules** – Increase the amount of pertinent recorded video that is saved on the DVR by optimizing the recording schedule. Optimize the type of recording done by adding motion detection to this as well, again increasing the amount of useful video.
- **DVR Access** – By setting up the access passwords, the user has better control of the types of access any individual may have. This ensures the security and integrity of the DVR.
- **Camera Naming** – By naming each camera, the location and any other pertinent information can be easily identified when viewing it in the Video Display Area.
- **Adjusting Camera Color** – Optimize the clarity and detail that is recorded by adjusting each camera's color settings.

Setup Screen



Camera Setup

Assign names to each camera, adjust color and brightness.

Network Video

Register and add network video devices, and adjust basic settings.

Motion

Create up to 15 video detection areas,

General

Configure display options, alerts, intensive recording

Frames

Set the Images Per Second for each camera.

Recording Schedule

Create custom recording schedules for each channel, sensor, and special days.

Sensor

Assign sensor names, set to Normally Open or Normally Closed.

Network

Assign network settings.

Administration

Set permissions for users, export logs, adjust HDD storage

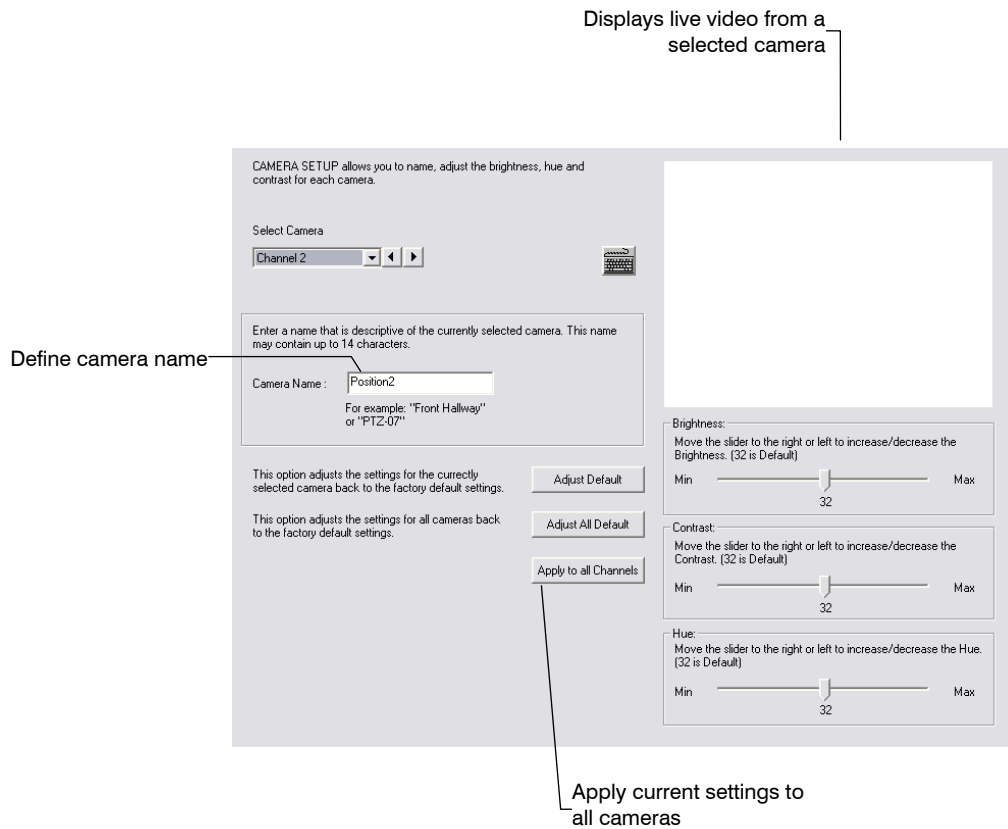
Information

View version numbers, save contact numbers, and view available HDD status.

PTZ

Set up preset positions, tour and assign protocols.

Camera Setup



Setup New Camera

1. Attach camera to the rear of the DVR chassis.
2. Click Setup on the Live View screen.
3. Click the Camera Setup tab to open the Camera Setup window.
4. Select the channel that corresponds with the new camera from the Select Camera list.
5. Enter a name for the camera in the Camera Name box.
6. Adjust the Brightness, Hue and Contrast if necessary.
7. Click Apply when finished.

Network Video Setup

The screenshot shows the 'Network Video Setup' window with the 'Add/Remove Device' tab selected. The 'Device List' table contains one entry:

Server Name	IP	Port	Device Type
10.50.0.250	10.50.0.250	80	HGX 13M (Honeywell)

A label 'Connected Devices' points to the 'Device List' table. Below the table is the 'Device Properties' section with the following fields:

- Device Type:
- Device Name:
- IP / URL:
- Port#:
- User ID:
- Password:

On the right side of the 'Device Properties' section are four buttons: 'Find Cameras', 'Add', 'Update', and 'Delete'. A label 'Automatic Camera Finder' points to the 'Find Cameras' button.

Supported IP Camera Manufacturers

ACTi	Panasonic
Arecont Vision	Pixord
Axis	Samsung
Brans	Fusion Streamer
D-Link	Sony
Honeywell	Vantage
Lumenera	VivoTek
Mobotix	

Connecting a Network Device

Note Refer to the EQUIP Series Network IP camera user guide for detailed information on setting up that camera using the Honeywell IP Utility application.

Connecting Manually

8. From the **Live View** screen, click **Setup**.
9. Click the **Network Video** tab.
10. Click the **Add/Remove Device** tab.
11. Select your network device from the **Device Type** list.
12. Type a **Device Name**.
13. Type the **IP/URL address**, **Port**, **User ID** and **Password** of the device.
14. Click **Add**.

Connecting with Camera Finder

1. From the **Live View** screen, click **Setup**.
2. Click the **Network Video** tab.
3. Click the **Add/Remove Device** tab.
4. Click **Find Cameras** to automatically find all connected Honeywell cameras.
5. Select the check box next to the desired camera.
6. Click **Get Device**.
7. Type the **User ID** and **Password** of the device.
8. Click **Update**.

Assigning a Network Device to a Channel

1. From the **Live View** screen, click **Setup**.
2. Click the **Network Video** tab.
3. Click the **Channel Setup** tab.

The screenshot shows the 'Channel Setup' window. On the left is the 'Channel List' panel with a table of channels. On the right is the 'Channel Properties' panel for 'Position1'.

Channels	Device	Device Channel
☒ Position1	10.50.0.250	Camera 1
☐ Position2	<None>	<None>
☐ Position3	<None>	<None>
☐ Position4	<None>	<None>
☐ Position5	<None>	<None>
☐ Position6	<None>	<None>
☐ Position7	<None>	<None>
☐ Position8	<None>	<None>
☐ Position9	<None>	<None>
☐ Position10	<None>	<None>
☐ Position11	<None>	<None>
☐ Position12	<None>	<None>
☐ Position13	<None>	<None>
☐ Position14	<None>	<None>
☐ Position15	<None>	<None>
☐ Position16	<None>	<None>

Channel Properties

Position Name
Position1

Select Device
10.50.0.250

☐ PTZ Camera

☐ Use Network Camera Motion Detection

Apply All

Delete All

Drag & Drop Cameras

4. Click an available channel on the **Channel List**.
5. Type the desired **Position Name**.
6. Select the appropriate network device added previously.
7. If the device has PTZ capabilities, select the **PTZ Camera** check box to enable.
8. If supported, select the **Use Network Camera Motion Detection** check box.

Assigning Audio Channels to a Network Device

1. From the **Live View** screen, click **Setup**.
2. Click the **Network Video** tab.
3. Click the **Audio Setup** tab.

The screenshot shows the 'Audio Setup' configuration window. At the top, there are four tabs: 'Add/Remove Device', 'Channel Setup', 'Audio Setup' (which is selected), and 'Camera Configuration'. The main area is divided into two panels. The left panel, titled 'Channel List', contains a table with three columns: 'Channels', 'Device', and 'Device Channel'. It lists four audio channels, each with an unchecked checkbox, and all 'Device' and 'Device Channel' entries are '<None>'. The right panel, titled 'Channel Properties', features a 'Select Device' dropdown menu currently set to '<None>'. Below this are two checkboxes: 'Record Network Audio' and 'Enable Network Audio in Live View', both of which are unchecked. At the bottom of the right panel are three buttons: 'Apply All', 'Delete All', and 'Drag & Drop Cameras'.

Channels	Device	Device Channel
☐ Audio1	<None>	<None>
☐ Audio2	<None>	<None>
☐ Audio3	<None>	<None>
☐ Audio4	<None>	<None>

Channel Properties

Select Device: <None>

☐ Record Network Audio

☐ Enable Network Audio in Live View

Apply All

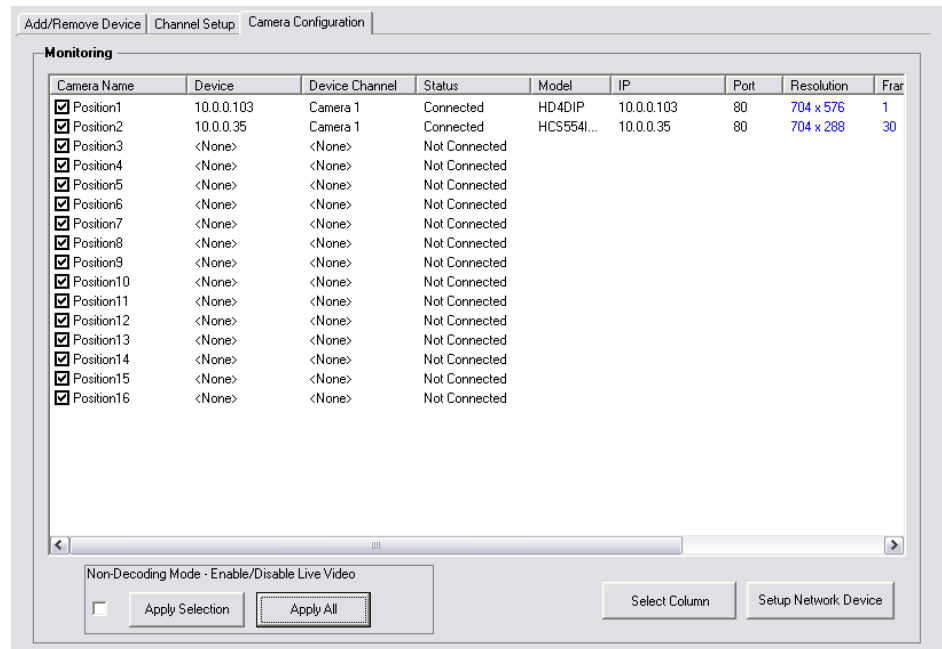
Delete All

Drag & Drop Cameras

4. Click an available audio channel on the **Channel List**.
5. Select a network device added previously.
6. To record the network audio select the **Record Network Audio** check box. The audio channel will be available on the search screen.
7. To access the audio channel from the Live View screen, select the **Enable Network Video in Live View** check box.

Camera Configuration

The Camera Configuration tab displays information on all cameras (analog and network) connected to the Fusion DVR



Displaying More Columns

The Camera Configuration tab can be customized to display the information you use most. Click **Select Column** to add or remove specific columns.

Capture FPS

Record FPS

Schedule

Manufacturer

Model

IP Address

Port Number

Resolution

Frame Rate

Codec

Quality

GOP

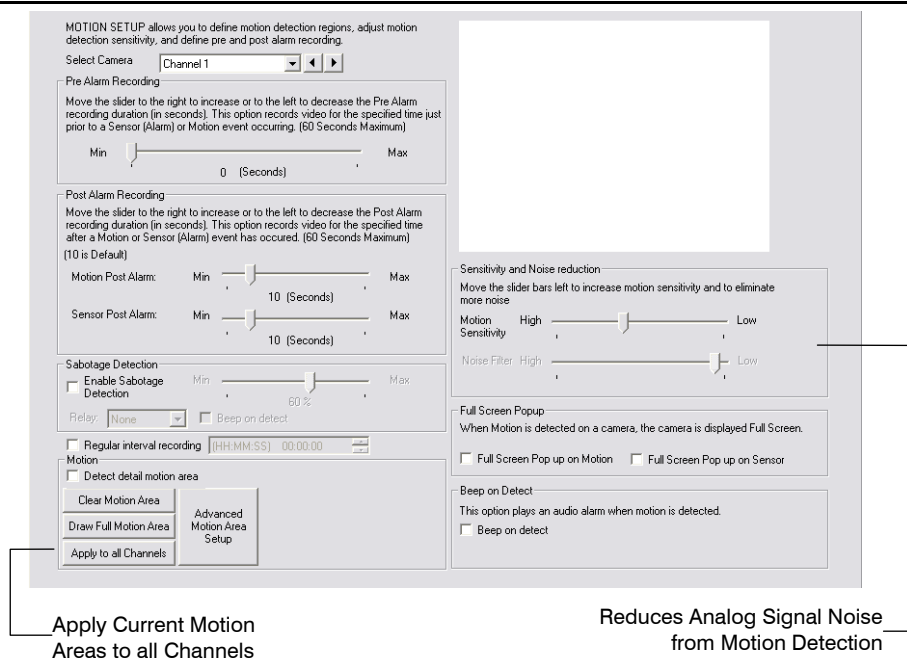
PTZ

Accessing the Device Configuration Menu

Use the Fusion interface to access basic network device menu functions.

1. From the **Live View** screen, click **Setup**.
2. Click the **Network Video** tab.
3. Click the **Channel Setup** tab.
4. Click **Setup Network Device**.

Motion



Sabotage Detection

Notifies users that the field of vision of a camera has been compromised.

Slider bar

Adjusts the minimum percentage of the field of vision that must change before Sabotage Detection triggers.

Regular Interval Recording

Regular Interval Recording allows users to record a single frame every few minutes or hours when there is no motion. This option is only available when Motion recording or Sensor recording is selected in the recording schedule.

To enable Regular Interval Recording:

1. Select the Regular Interval Recording check box.
2. Specify how often to take an image when no motion is occurring. System can be set to as many as one image per second.

Enable Sabotage Detection

The Camera Sabotage Detection feature will notify users that the field of vision of a camera has been compromised, abruptly changed, or detects significant vibration.

To enable Sabotage Detection:

1. Select the Enable Sabotage Detection check box.
2. Set the threshold percentage to reduce false alarms.
3. Select the Beep on Detect check box – or – select a Relay to activate on detection.

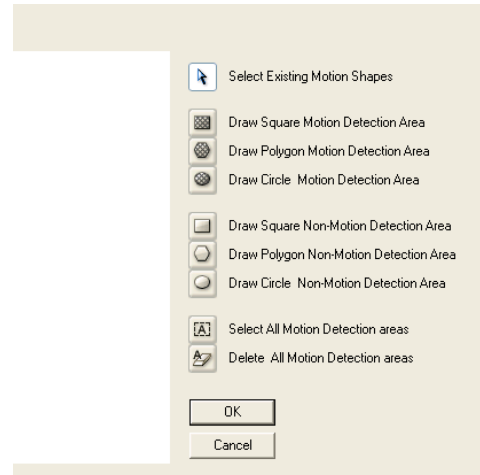
Creating a Motion Area

Tip Create up to 15 motion detection areas.

1. Click the Motion tab in Setup.
2. Select a camera from the Select Camera list.
3. Select the Detect Detail Motion Area check box.
4. Click Clear Motion Area.
5. Click Advanced Motion Area Setup.
6. Click a Motion Detection Area shape button.
7. Drag the mouse over the camera image.

Tip To create a polygon shape, click the mouse at each point and double-click to close the shape.

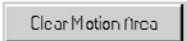
8. Click OK.
9. Move the sliders to adjust motion sensitivity and the noise filter.
10. Define the pre-alarm and post-alarm recording time for a motion event.



Pre Alarm – 0 > 50 Seconds [The number of seconds the DVR records before motion is detected]

Post Alarm (MOTION) – 0 > 50 Seconds [The number of seconds the DVR records after motion is detected]

Removing a Motion Area

To remove all motion areas, click .

General Setup

GENERAL SETUP contains several global DVR options.

Voice Warning
 This option plays a selected audio .WAV file when Motion or a Sensor (Alarm) event is detected.
 Sounds: [] [] [Browse...]
☐ Activate on Motion
☐ Activate on Sensor (Alarm) ☐ Activate on Sabotage detection

Video Loss Alarm
☐ Activate Audio Alarm (Beep) ☐ Activate Alarm Output
☐ Video Loss Alarm Log

Function
☐ Beep on login fail
☐ Live Alterimage Filter
 [Program Management(POS)] [POS Setup]
 [Sequence Setting]

Display Options
 OSD Font Size : [12] [] ☒ OSD Bold
☒ Display Motion Detection Area Box
 Displays a colored box around the region where motion occurs.
☒ Display Sensor Status Bar
 Display the Sensor (Alarm) buttons on the Main Display Screen
☒ Display Relay Output Status Bar
 Display the Relay Output buttons on the Main Display Screen
☐ Hide network connectivity
☐ Motion detect on Continuous recording
☐ Use full screen
 Display Size : [1024 x 768]

Audio
 Setup Audio Recording Configuration [Audio] [Volume]
 [Adjust/Mute Volume]
 [Enable Live / Recording Audio]

Backup Function
☒ Enable Backup/Viewer copy in backup
☒ Enable CD/DVD backup
 [Setup POS/Analytics* Integration]

Intensive Recording
 This option increases the PPS and resolution of a camera when a Sensor (Alarm) or Motion event occurs.
☐ Enable Intensive Recording on sensor
☐ Enable Intensive Recording on motion
 Note: The Intensive Recording option is activated by the first Alarm event to occur. If additional Alarm events occur they will not replace the original Alarm until the original Alarm has been deactivated.

*Software Upgrade Necessary

Function

Beep on Login Fail

Enables the DVR to beep continuously in response to a failed login attempt. Only an authorized login will stop the beeping.

Sequence Setting

Allows the video out picture to automatically cycle through channels at a set speed. Example: .Cycle through channels 1-6 at four-second intervals.

Display Options

Use Full Screen

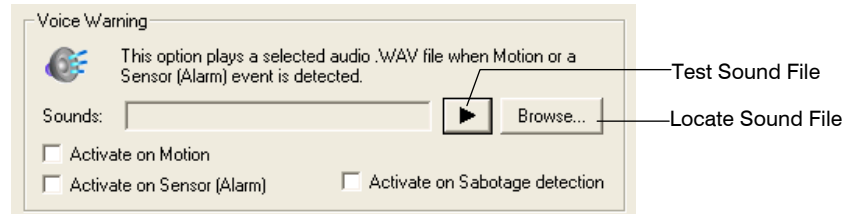
Stretch the Fusion software to use the full monitor screen.

Display Size

Select from available monitor display sizes. Use to correctly display video on wide screen monitors.

Voice Warning

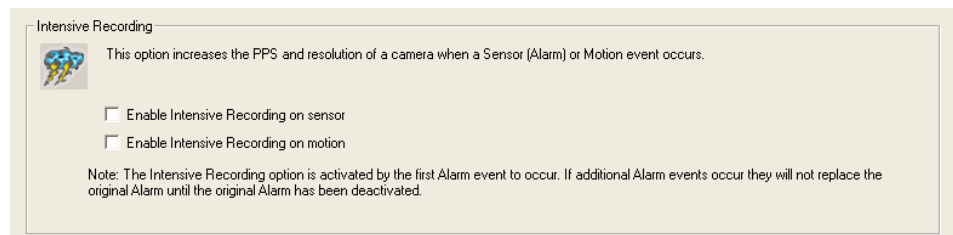
The DVR can be set to play a sound file when either a Motion or Sensor event occurs. This file can be a custom created sound file that is unique to the application. The selected .wav file plays through speakers attached to the DVR by the user.



1. Click the Browse button to locate a .WAV file. The selected file will display in the Sounds box.
2. Click the Test icon to verify the audio file.
3. Select Activate on Motion, Activate on Sensor (Alarm), and or Activate on Sabotage Detection to trigger the audio file.

Intensive Recording Overview

The Intensive Recording Option allows an increase of the Images Per Second and the resolution of any camera recording using sensor activation.



Enabling Intensive Recording

The Intensive Recording option is set up as an 'All or Nothing'. This means that once enabled (associated with sensors) all cameras that are associated with sensors will activate the Intensive Recording.

To activate the Intensive Recording option, follow these steps.

1. Click the Setup button on the Display Screen.
2. Click the General tab.
3. Select Enable Intensive Recording on Sensor or on Motion.
4. Click Apply.

Video Loss Alarm

The DVR supports a Video Loss Alarm function which allows an Alarm Event to occur when a camera loses its signal. The lost signal can be due to camera power failure to the camera, the camera cable being cut or unplugged, or the camera being damaged in some way.

In order to use Video Signal Loss detection, cameras must either be Enabled or Disabled. This is because the DVR needs to know which cameras it should expect to receive signals from. To enable camera(s), open Frame Setup, and set the Images Per Second to anything above zero. By designating zero images per second the camera will not be used by the DVR.

Video Loss Alarm

☐ Activate Audio Alarm (Beep) ☐ Activate Alarm Output

☐ Video Loss Alarm Log

Activate Audio Alarm (BEEP)

When video loss occurs, an internal speaker on the DVR will sound an alarm.

Video Loss Alarm Log

When video loss occurs, the event is recorded in the DVR log.

Activate Alarm Output

Activates the last Relay Output on the DVR when camera loses signal. (This is #16 for a 16/32 CH DVR and #8 for an 8ch DVR)

TV-Out Setup (Analog)

The DVR features an optional TV-Out functionality which allows users to output video from any number of cameras, in sequence, to a television or monitor display.

1. On the General tab of Setup, click TV Out Setup.
2. Select the TV Out Port to use

Note Each Port must be configured individually, i.e. one after the other.

3. Select the Use check box to enable TV-Out functionality for the selected port.
4. Select each camera to display through the TV-Out port.
5. Select an Event Popup check box if desired.
6. Define the Event Holding Time (the number of seconds the camera displays after an event) for selected event types.
7. Define the Auto Switching Time (the number of seconds between switching of camera) for the selected TV-Out Port.

Camera TV Out Setup

Port : Port 1 ☐ Use

☐ Camera1 ☐ Camera9

☐ Camera2 ☐ Camera10

☐ Camera3 ☐ Camera11

☐ Camera4 ☐ Camera12

☐ Camera5 ☐ Camera13

☐ Camera6 ☐ Camera14

☐ Camera7 ☐ Camera15

☐ Camera8 ☐ Camera16

☒ OSD Ein

☐ Motion event ☐ Sensor event

Event holding time : 5

Auto Switching Time : 5

OK Cancel

TV-Out Setup (Multiplexer)

The Multiplexer TV Out card is an optional upgrade that allows users to output video in a sequence or a matrix display.

Note IP cameras will not display on the Multiplexer TV Out card.

Configure Sequence Mode

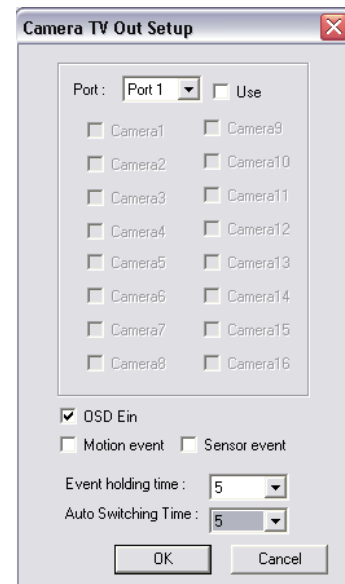
Tip If no cameras are configured in the TV Out Setup, the sequence mode will cycle through all connected camera.

To configure settings for the TV Out sequence mode:

1. On the General tab of Setup, click TV Out Setup.
2. Select the TV Out Port to use from the Port list.

Note Each Port must be configured individually, i.e. one after the other.

3. Select the Use check box to enable TV-Out functionality for the selected port.
4. Select each camera to display in the sequence.
5. Select an Event Pop-up check box if desired.
6. Define the Event Holding Time (the number of seconds the camera displays after an event) for selected event types.
7. Define the Auto Switching Time (the number of seconds between switching of camera) for the selected TV-Out Port.
8. Click OK and then click Apply on the General tab.



Control Sequence Mode Display

1. Click TV Out on the Live View screen.
2. Click the Sequence button to start the camera sequence.
3. To change the camera that is displayed on the monitor, click the desired camera number in the row that the monitor is connected to.

Tip Port 1 is the top port on the TV Out card.



Sequence Button

4. To enter the Multiplexer mode click the Multiplexer button.
5. To close the TV Out controls, click the Close button.

Control Multiplexer Mode Display

1. Click TV Out on the Live View screen.
2. Click Multiplexer.
3. To change the camera that is displayed on the monitor, click the desired camera number in the row that the monitor is connected to.

Tip Port 1 is the top port on the TV Out card.



Sequence Button

Note Only Ports 1 and 2 can be configured in multiplexer mode. Channel 3 will mimic channel 1, and channel 4 will mimic channel 2.

4. Click the desired screen division to display in multiplex mode.
5. Click the Sequence button to start sequencing through cameras.

Tip When in Multiplexer mode, the display can only sequence through one type of screen division (eg. 4 Channel divisions A – D or 9 Channel divisions A and B on a 16 channel Fusion).

6. To close the TV Out controls, click the Close button.

Connecting to a Wide Screen Display

1. Click Exit on the Live View screen and select Exit in Windows Mode.
2. Right-click the Desktop and select Properties.
3. Click the Settings tab.
4. Drag the Screen Resolution bar to the proper resolution of the connected display.

Tip Refer to the display documentation for the proper resolution settings.

5. Click OK and confirm the change.
6. Double-click the Fusion Server icon on the Desktop.
7. Click Setup on the Live View screen and then click the General tab.
8. Under Display Settings, select the Use Full Screen check box.
9. Click Apply.

Audio Recording

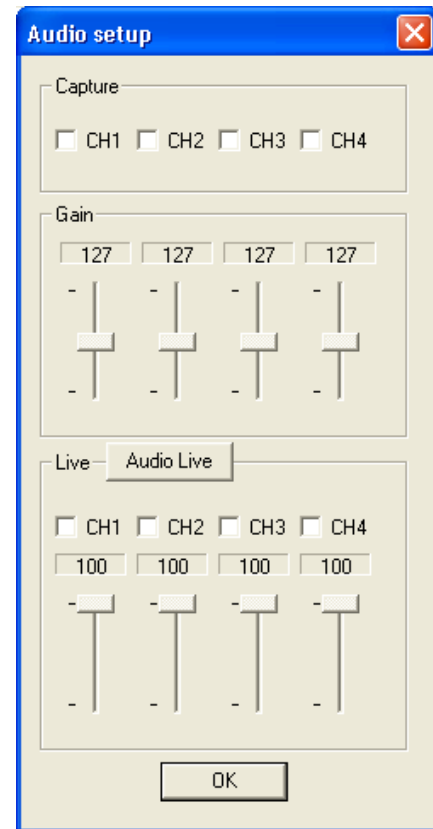
The DVR is capable of recording up to 16 channels of audio depending on the model.

Audio Features:

- 8000Hz Playback in Live Mode
- Audio Input Level Should be 1Vp-p
- Up to 48000Hz Playback in Search Mode
- Mono Sampling
- Line-In Type (requires amplification)

Data Size (per channel):

- 1 Second: 1,625 bytes
- 1 Minute: 97,500 bytes
- 10 Minutes: 975,000 bytes
- 1 Hour: 5,850,000 bytes
- 1 Day: 140,400,000 bytes (approx. 140MB)



Enabling Audio Recording

1. Click the Audio button on the General tab in Setup.
2. Select an audio channel under Capture.
3. Click OK.

Enabling Live Audio

1. Click the Audio button on the General tab in Setup.
2. Select an audio channel under Live.
3. Click OK.

Frame Setup

The Frame Setup Menu gives the user the option to adjust both the resolution and the number of images per second each camera will record. When setting up the Images Per Second (IPS) sliders, the BLUE slider represents the frames at which the DVR will capture the incoming video while the RED slider represents the frame rate that will be recorded.

This option is beneficial when higher frame rates are desired remotely. The Server will only send out frames remotely that have been first encoded. For Ex. If the Blue 'ENCODING' option is set to 25 IPS and the Red 'RECORDING' option is set to 7 IPS then the DVR Server will record 7 IPS and users viewing live video remotely will receive 25 IPS on that specific camera. Please note that there are different frame setup windows for Real Time and non Real Time models.

Note The Software will not allow the maximum available Frames to be exceeded.

Note The RED IPS record slider cannot exceed the BLUE IPS capture slider.

Frame Select	Blue Slider: Sets the IPS recorded during intensive recording and available for viewing on a remote client PC. Red Slider: Sets the IPS recorded by the DVR during normal recording.
Video Quality	Lower quality video has a smaller file size but appears more pixilated.
Sensitivity	Sets the Keyframe refresh rate. Adjusting this setting can have negative effects on video quality. Note Do not change the default setting unless instructed by a system administrator.
Resolution	Affects the total number of frames per second that are available.

Frame Setup (Real Time)

Reset Default Settings

Set Default

Total FPS is 85 / 85

Camera Channel Number	No. of Recording Frames Selected	Frame Select	Resolution	Quality	Sensitivity
01	0		360x240	Normal	7
02	0		360x240	Normal	7
03	30		720x480	Normal	7
04	19		720x480	Normal	7
05	3		360x240	Normal	7
06	3		360x240	Normal	7
07	3		360x240	Normal	7
08	3		360x240	Normal	7
09	3		360x240	Normal	7
10	3		360x240	Normal	7
11	3		360x240	Normal	7
12	3		360x240	Normal	7
13	3		360x240	Normal	7
14	3		360x240	Normal	7
15	3		360x240	Normal	7
16	3		360x240	Normal	7

Camera Channel Number

No. of Recording Frames Selected

Frame Select

Resolution

Quality

Sensitivity

Recording Resolution

Video Quality

Frame Setup (Non Real Time)

Resolution : 320x240 Video Out time(sec) 5

Reset all Frame settings to the factory Default Set Default

Total FPS is 3 / 3

Camera Channel Number	No. of Recording Frames Selected	Frame Select	Quality	Sensitivity	Output to Video Out Display
01	0		Normal	7	☐
02	3		Normal	7	☐
03	0		Normal	7	☐
04	0		Normal	7	☐
05	0		Normal	7	☐
06	0		Normal	7	☐
07	0		Normal	7	☐
08	0		Normal	7	☐
09	0		Normal	7	☐
10	0		Normal	7	☐
11	0		Normal	7	☐
12	0		Normal	7	☐
13	0		Normal	7	☐
14	0		Normal	7	☐
15	0		Normal	7	☐
16	0		Normal	7	☐

Time Selected Channels

Video Quality

Sensitivity

IPS Breakdown for Each Resolution (NTSC)

Resolution	CCTV	480 IPS Model	240 IPS Model
360x240	1CIF	480 IPS	240 IPS
720x240*	2CIF	240 IPS	120 IPS
720x480**	4CIF	120 IPS	60 IPS

* Frames recorded in 720x240 are twice the size of the standard 360x240. When recording at 720x240, each frame assigned to the channel will use 2 of the total frames available.

** Frames recorded in 720x480 are four times the size of the standard 360x240. When recording at 720x480, each frame assigned to the channel will use 4 of the total frames available.

Resolution	CCTV	120 IPS Model
320x240	1CIF	120 IPS
640x240	2CIF	120 IPS
640x480	4CIF	60 IPS

IPS Breakdown for Each Resolution (PAL)

Resolution	CCTV	400 IPS Model	200 IPS Model
360x288	1CIF	400 IPS	200 IPS
720x288*	2CIF	200 IPS	100 IPS
720x576**	4CIF	100 IPS	50 IPS

* Frames recorded in 720x288 are twice the size of the standard 360x288. When recording at 720x288, each frame assigned to the channel will use 2 of the total frames available.

** Frames recorded in 720x576 are four times the size of the standard 360x288. When recording at 720x576, each frame assigned to the channel will use 4 of the total frames available.

Resolution	CCTV	100 IPS Model
320x288	1CIF	100 IPS
640x288	2CIF	100 IPS
640x576	4CIF	50 IPS

Recording Schedule Setup

Creating a customized schedule is important to maximize the efficiency of the DVR. The Fusion DVR offers numerous options to allow for a wide variety of different needs and requirements.

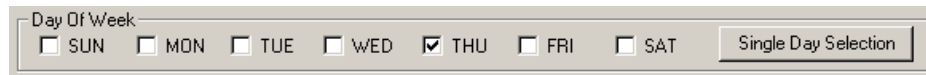
The screenshot displays the 'Recording Schedule Setup' window. At the top, there are buttons for 'Pre-Defined Schedules' (All set to Motion, All set to Continuous, Default Schedule 1, Default Schedule 2) and 'Power Off Options'. Below this is a 'Day Of Week' section with checkboxes for SUN through SAT, and a 'Single Day Selection' button. A large grid shows 12 schedules (Sch 01 to Sch 12) across 24 hours (0 to 23). To the right, the 'Special day recording schedule' section includes a date dropdown (4/29/2005) and buttons for 'Normal day mode', 'Delete special day', and 'Save special day'. Below the grid, there are 'Set' and 'Clear' buttons. The 'Schedule Number' section shows 'Sch 01' selected with 'Delete' and 'Delete All' buttons. The 'Select All' section has buttons for 'All Motion' (selected), 'All Continuous', 'All Sensor', and 'Not Selected'. To the right are 'Camera' (01-16), 'Sensor' (01-16), and 'Relay' (01-16) selection grids. At the bottom, 'Alarm Options' include checkboxes for 'Sensor Event', 'Remote Alarm', 'Motion Event', and 'Emergency Alarm', along with 'Emergency IP' fields and a '1 sec.' delay slider.

Default Schedule 1 All cameras are set to: 8AM-5PM Continuous recording 5PM-8AM Motion recording	Default Schedule 2 All cameras are set to: Motion recording 24 hours/day, 7 days/week. Camera 1 associated to sensor input 1 Camera 2 associated to sensor input 2 Camera 3 associated to sensor input 3, etc.
Schedule Number	The Schedule Number is a group of settings. Up to 32 schedules can be created. Think of the schedules as transparency paper with words written on them. When placed one on top of another, the words can still be seen from the layers below. These schedules allow a powerful detailed recording schedule to be created.
Special Day Recording Schedule	Customize a schedule for a particular day, such as a Parade Day, Holiday, etc.
Alarm Options	These are advanced options that send alarm events (either motion or sensor) to the remote alarm monitor software and FVMS.
Power Off Options	Allows the user to specify time frames for turning off and restarting the DVR automatically.

Day of the Week

The Day of Week is the day of the week for which the schedule is being edited. If WED is checked, Wednesday's schedule is being edited.

The Single Day Selection button allows selection of multiple days at once. By selecting the Single Day Selection button placing multiple checks in the boxes is allowed, thereby selecting multiple days simultaneously.



Clicking on Single Day Selection will change the button to Multi-Day Selection. This enables the user to select multiple days to configure at once.

Creating a Simple Schedule (By Example)

Creating schedules is easy with a little experience. In the following example, the steps for creating a simple schedule for cameras 1 to 4 are detailed.

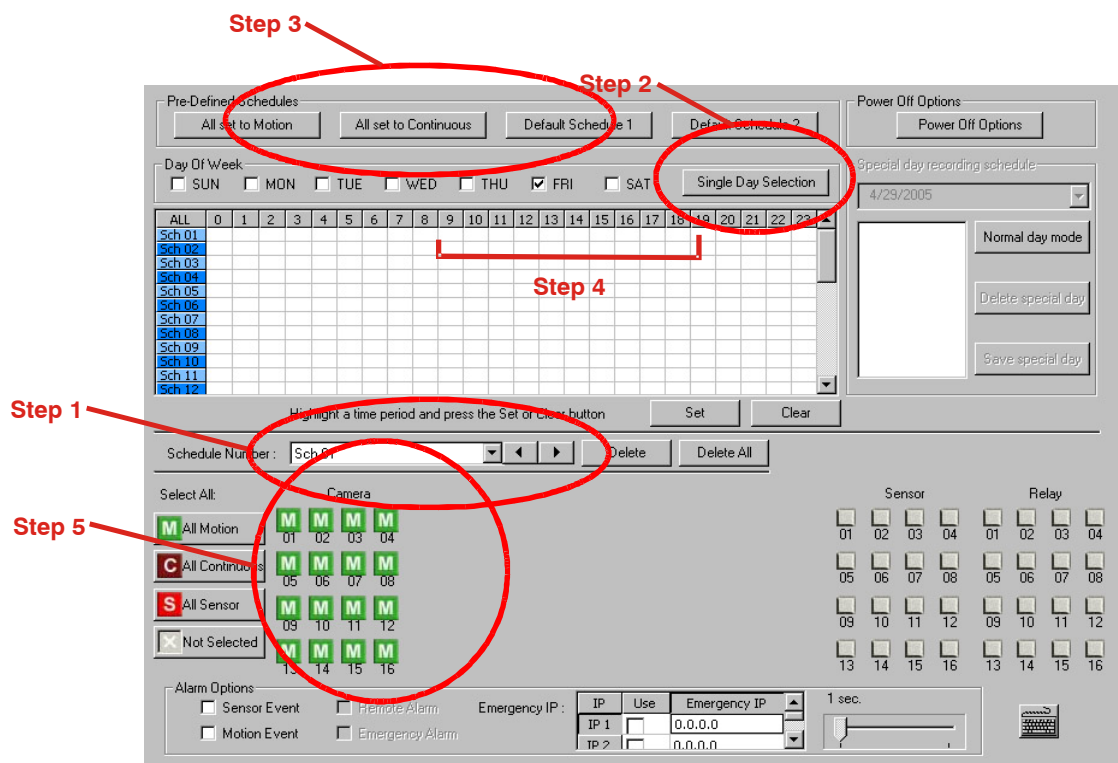
The schedule will be as follows:

1. MON-FRI (9AM-5:59PM) all 4 cameras will record using MOTION recording.
2. MON-FRI (6PM-8:95AM) all 4 cameras will record using CONTINUOUS recording.
3. SAT-SUN (12AM-11:59PM) all 4 cameras will record using MOTION recording.

Using these examples, a total of 3 schedules will be created.

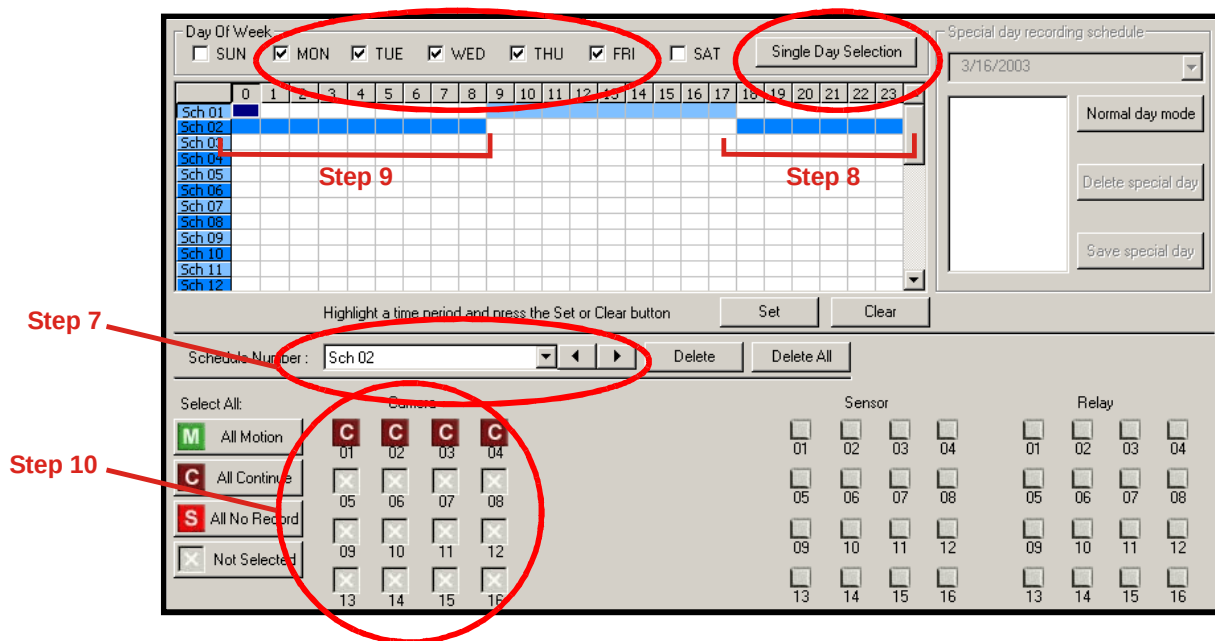
Steps 1-6: Schedule cameras 1-4 to record on MOTION from 9:00am-5:59pm Monday through Friday.

1. Select Sch01 from the Schedule Number drop down list. (This should already be selected by default)
2. Select the Single Day Selection button.
3. Place a check in the MON, TUE, WED, THU, and FRI days of the week.
4. On the Sch01 line on time selector grid, highlight hours 09-17. Click Set.
5. Click Camera buttons 1-4 until the green Motion buttons are selected.
6. Click Apply to save.



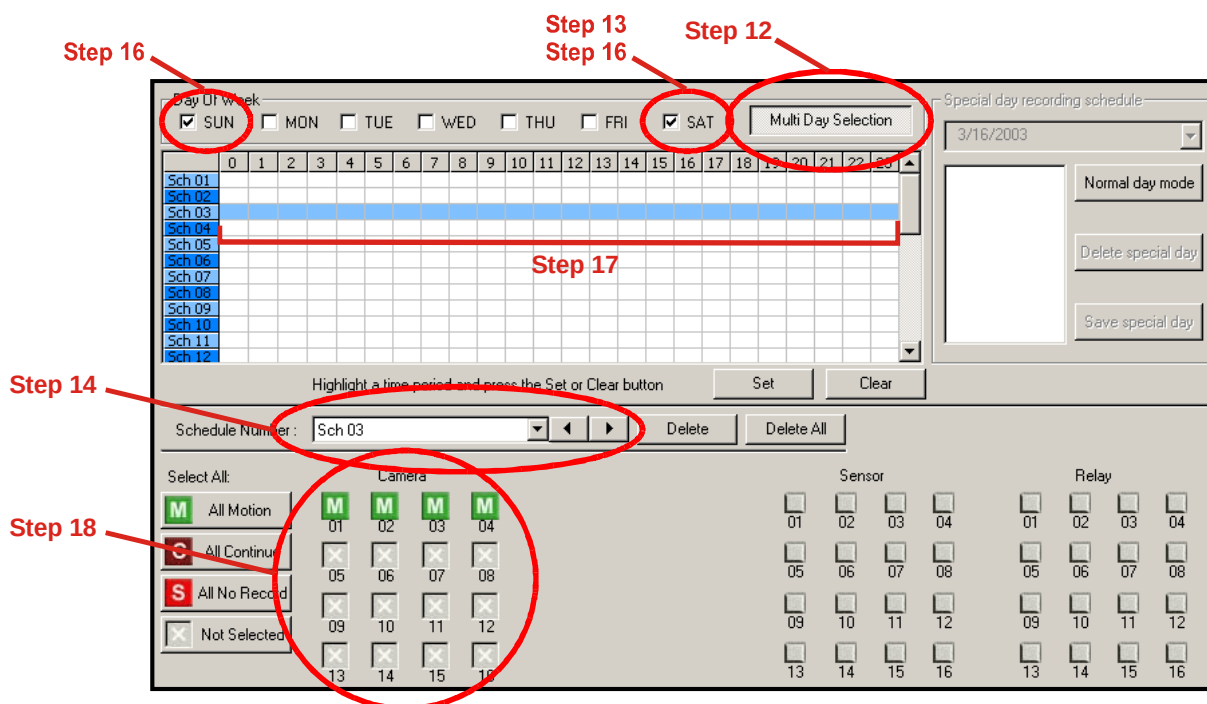
Steps 7-11: Schedule cameras 1-4 to record on CONTINUOUS from 6:00pm-8:59am Monday through Friday.

7. Select Sch02 from the Schedule Number drop down list.
8. On the Sch02 line again, highlight the hours 18-23 (for 6:00pm-midnight) and click Set.
9. On the Sch02 line on time selector grid, highlight the hours 00-08 (for midnight to 8:59am) and click Set.
10. Click Camera buttons 1-4 until the maroon Continuous buttons are selected.
11. Click Apply to save.



Steps 12-19: Schedule cameras 1-4 to record on MOTION from 12:00am-11:59pm Saturday and Sunday

12. Click the Multi-Day Selection button.
13. Place a check in the SAT days of the week box.
14. Select Sch03 from the Schedule Number list.
15. Click the Single Day Selection button, then select Yes.
16. Select the SAT and SUN check boxes.
17. On the Sch03 line on the time selector grid, highlight hours 00-23 and click the Set button.
18. Click Camera buttons 1-4 until the Green Motion buttons are selected.
19. Click Apply to save.



Scheduling Sensors and Relays (By Example)

It is easy to add advanced recording functionality using Sensor Inputs and Relay Outputs.

SENSOR - Sensor Inputs can be programmed to instantly start one or more cameras recording when an alarm occurs. These alarm events can also activate Relay Outputs as desired.

RELAY OUTPUT - Relay Outputs can be set to activate when motion alarms or sensor alarms occur.

The schedule example will be as follows:

1. SUN-SAT (12AM-11:59PM) Cameras 1 and 2 will be activated on Sensor #3 and/or Sensor #5, which will then activate Relay Output #7 and #13.
2. SUN-SAT (12AM-11:59PM) Camera 3 will be set to Record on MOTION. When motion occurs it will activate Relay Output #7 and #10.
3. SUN-SAT (12AM-11:59PM) Sensor #6 will activate Relay Output #8 when an alarm occurs. This event will NOT cause any cameras to record.

To do this, a total of 3 schedules will be created.

Steps 1-8: Schedule cameras 1 and 2 to be activated on Sensor # 3 and/or Sensor #5 which will then activate Relay Output #7 and #13.

1. Select Sch01 from the Schedule Number drop down list.
(This should already be selected by default.)
2. Select the Single Day Selection button, then select Yes.
3. Place a check in the boxes for SUN, MON, TUE, WED, THU, FRI, and SAT days of the week.
4. On the Sch01 line (time selector grid), highlight the hours 00-23 and click Set.
5. Click Camera buttons #1 and #2 until the Red Sensor buttons are selected.
6. Click Sensor buttons #3 and #5.
7. Click Relay buttons #7 and #13.
8. Click Apply to save.

Day Of Week
☒ SUN ☒ MON ☒ TUE ☒ WED ☒ THU ☒ FRI ☒ SAT

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sch 01																								
Sch 02																								
Sch 03																								
Sch 04																								
Sch 05																								
Sch 06																								
Sch 07																								
Sch 08																								
Sch 09																								
Sch 10																								
Sch 11																								
Sch 12																								

Highlight a time period and press the Set or Clear button

Special day recording schedule
 3/17/2003

Schedule Number: Sch 01

Select All:	Camera	Sensor	Relay
☒ All Motion	☒ 01 ☒ 02 ☐ 03 ☐ 04	☐ 01 ☐ 02 ☒ 03 ☐ 04	☐ 01 ☐ 02 ☐ 03 ☐ 04
☒ All Continue	☐ 05 ☐ 06 ☐ 07 ☐ 08	☒ 05 ☐ 06 ☐ 07 ☐ 08	☐ 05 ☐ 06 ☒ 07 ☐ 08
☒ All No Record	☐ 09 ☐ 10 ☐ 11 ☐ 12	☐ 09 ☐ 10 ☐ 11 ☐ 12	☐ 09 ☐ 10 ☐ 11 ☐ 12
☐ Not Selected	☐ 13 ☐ 14 ☐ 15 ☐ 16	☐ 13 ☐ 14 ☐ 15 ☐ 16	☒ 13 ☐ 14 ☐ 15 ☐ 16

Steps 9-15: Schedule camera 3 to record using MOTION.

When Motion occurs it will activate Relay Output #7 and #10.

9. Select Sch02 from the Schedule Number drop down list.
10. Select the Single Day Selection button, then select Yes.
11. Place a check in the boxes for SUN, MON, TUE, WED, THU, FRI, and SAT days of the week.
12. On the Sch02 line (time selector grid), highlight the hours 00-23 and click Set.
13. Click Camera button #3 until the green Motion button is selected.
14. Click Relay buttons #7 and #10.
15. Click Apply to save.

Day Of Week

☒ SUN ☒ MON ☒ TUE ☒ WED ☒ THU ☒ FRI ☒ SAT

Special day recording schedule

3/16/2003

Highlight a time period and press the Set or Clear button

Schedule Number : Sch 02

Select All:

All Motion All Continue All No Record Not Selected

Camera

01	02	M 03	04
05	06	07	08
09	10	11	12
13	14	15	16

Sensor

01	02	03	04
05	06	07	08
09	10	11	12
13	14	15	16

Relay

01	02	03	04
05	06	7	08
09	10	11	12
13	14	15	16

Steps 16-22: Schedule Sensor #6 to activate Relay #8 when an Alarm occurs.

Note This will not cause any cameras to record.

16. Select Sch03 from the Schedule Number list.
17. Click the Single Day Selection button.
18. Select the check boxes for SUN, MON, TUE, WED, THU, FRI, and SAT.
19. On the Sch03 line (time selector grid), highlight the hours 00-23 and click Set.
20. Click Sensor button #6.
21. Click Relay button #8.
22. Click Apply to save.

The screenshot displays the 'Day Of Week' configuration window. At the top, the 'Day Of Week' section has checkboxes for SUN (checked), MON, TUE, WED, THU, FRI, and SAT. A 'Single Day Selection' button is also present. Below this is a grid for selecting days and times. The grid has columns for hours 0-23 and rows for schedules Sch 01 through Sch 12. Sch 03 is highlighted in blue across all hours. To the right of the grid is a 'Special day recording schedule' section with a date dropdown set to 3/16/2003 and buttons for 'Normal day mode', 'Delete special day', and 'Save special day'. Below the grid are 'Set' and 'Clear' buttons. At the bottom, the 'Schedule Number' is set to 'Sch 03', with 'Delete' and 'Delete All' buttons. The bottom section contains three columns of checkboxes: 'Select All' (with 'M' for All Motion, 'C' for All Continue, 'S' for All No Record, and 'X' for Not Selected), 'Camera' (16 checkboxes, all marked with an 'X'), 'Sensor' (16 checkboxes, with 06 checked in blue), and 'Relay' (16 checkboxes, with 08 checked in green).

Verifying a Recording Schedule

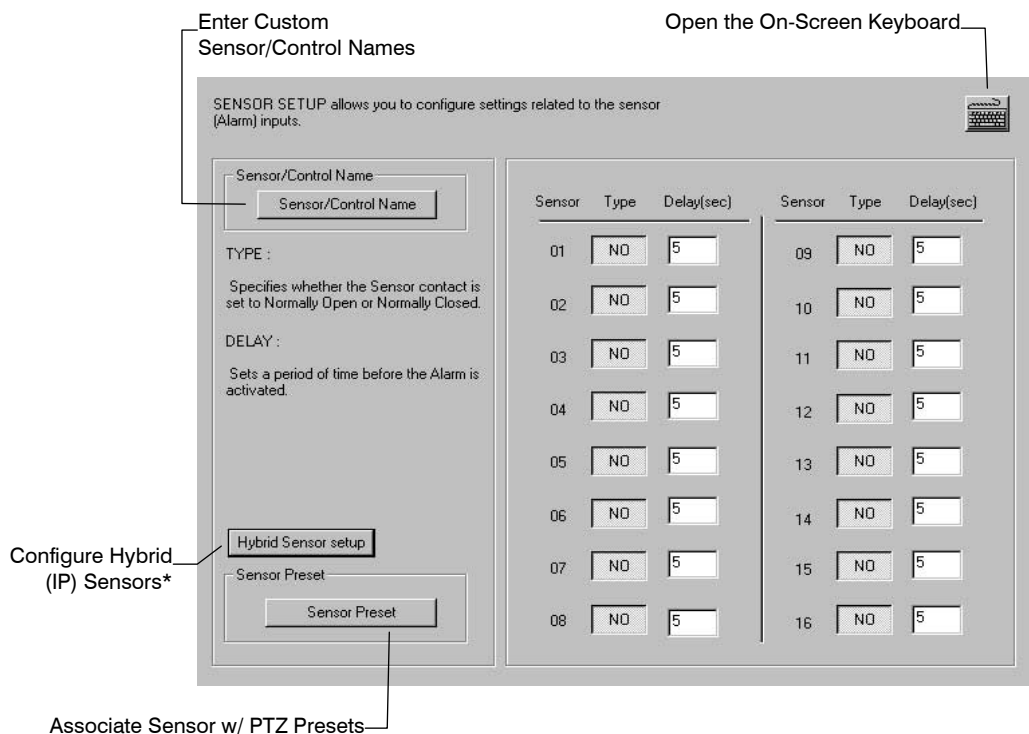
1. Select a single day of the week using the selection check box to the left of the specified day.
2. Identify the schedule (or schedules) that have specific hours of the day highlighted in light blue color. The horizontal axis of the schedule grid corresponds to the 24 hours of each day.
3. After verifying that all hours of the selected day are covered by at least one of the 32 independent schedules (vertical axis of schedule grid) now look to the lower half of the schedule interface.
4. In the "Schedule Number:" selection drop down box, select the schedule(s) that were defined above for the current day and verify, in each schedule number, that the correct cameras are set to Continuous, Motion or Sensor based recording.

Note	If a specific camera should not be recorded on a given day/schedule combination, set the camera to "Not Selected" - a white "X".
-------------	--

5. Repeat this process for each of the 7 days of the week until certain that the desired recording method is configured for each day.

Sensor Setup

The Sensor tab sets options to enable, disable, and configure sensors.



*HVR/NVR upgrade necessary to use this feature

Configure Sensor Response

1. Click Setup on the Live View screen.
2. Click the Sensor tab to open the Sensor and Output Display.
3. Click to select NO or NC for the desired sensor.
4. Enter the Delay Time to define the number of seconds after the sensor is tripped until the associated relay is activated.

Tip Associate sensors and relays with cameras when creating a recording schedule.

5. Click Apply.

Activate PTZ Preset on Sensor

1. Create a PTZ Preset Position. See instructions in the PTZ Setup chapter.
2. Click the Setup button on the Display Screen.
3. Click the Sensor tab to open the Sensor and Output display.
4. Click Sensor Preset.
5. Select the desired camera from the Channel list.
6. Select the appropriate Sensor from the list.
7. Select the preconfigured PTZ Preset from the list.
8. Click Set. A list of configured Sensor Presets will display in the box below.
9. Repeat for additional sensors.
10. Click OK to close the Sensor Preset window.

Network Setup

Caution Do not join this DVR to a Network Domain. Domains force policies that can negatively affect the DVR. Domains, by default, require the user to press CTRL-ALT-DEL to login, however this keyboard combination is disabled on the local DVR and the software will not be able to load.

Enable 1-way audio from remote client to DVR

NETWORK SETUP allows you to enable and configure the remote access to the DVR.

☐ Disable Remote Control

Network Setup

TimeOut Value : The DVR uses several ports to communicate with the remote client. The Emergency port is used exclusively for the Emergency Agent software. The Center, Image and Search ports are used by the Multi-Site and Standard Remote software.

Emergency Port : (1024 - 5000)

Center Port : (1024 - 5000)

Image Port : (1024 - 5000) These ports may need to be modified if multiple DVRs are sharing one External IP address.

Search Port : (1024 - 5000)

Upgrade Port : (7200 - 7300)

Web Function

☐ Enable Web Viewer The Web DVR allows you to view live video using Microsoft Internet Explorer Browser.

Internet Port :

☒ Enable Health Check

Health Check Port :

Transport Setup

Quality : These settings affect the quality and speed of the video that is sent to the remote clients.

Resolution :

Transport Rate :

PPP Setup(Emergency)

☐ Use PPP The PPP Emergency Setup is used to transfer the Emergency Agent Software Video across to a remote client using a standard 56K dialup modem.

Password :

Confirm :

Phone Number :

Modem Select :

Audio Communication

☐ Enable Audio Communication Audio Port :

Keyboard Control

☐ Use Keyboard Control

View IP, DNS and Gateway Information:

Enable RS-232 Keyboard

Time Out Value	When attempting to connect to the DVR, if the connection does not succeed during the timeout period (seconds), the connection will be terminated.
Emergency Port	Used to connect to the Alarm Monitor software.
Center Port	Used to connect to the Fusion remote software. This port must be specified in the Fusion Remote Software to connect to the DVR.
Image Port	Used to transfer the video to the Fusion remote software.
Search Port	Used to transfer search information to the Fusion remote software.
Upgrade Port	Used to upgrade software via a remote connection.

Note If connecting to the DVR through a firewall, the above ports must be open to incoming and outgoing traffic.

Internet Port	Used to transfer the video via the Internet when Web Viewer is enabled.
Health Check Port	Enables FVMS to receive information regarding the health of the DVR.
Resolution	By setting the resolution low, the images will be sent faster, however, the image quality will be reduced considerably. When set to Original, full quality video will be sent [720 x 480 (NTSC) 720 x 576 (PAL)]. The Original setting is very bandwidth intensive.
Transport Rate	Throttles the bandwidth on the DVR. This option is based on percentages of images sent.

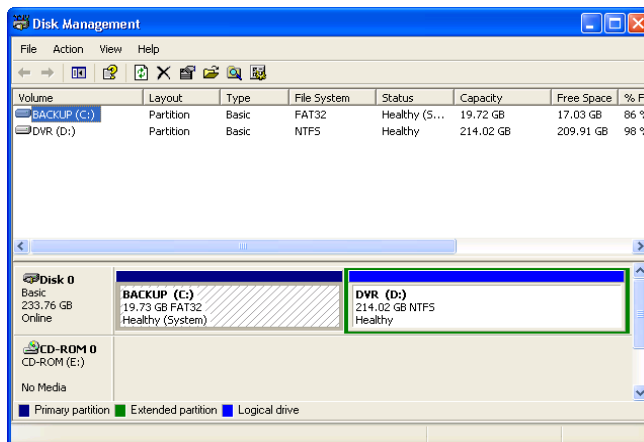
Administration

The screenshot displays the Administration interface with several tabs: User Management, Storage Management, and Other Management. The System Log tab is active, showing a calendar for June 2007. A label 'Select Date' points to the calendar. Below the calendar is a table of log entries. A label 'Log Data Display' points to this table. To the right of the table is an 'Export' section with radio buttons for System Log, Event Log, Alarm Log, and Drive Check Log. Below these are dropdowns for 'Start Date' and 'End Date', both set to 6/14/2007. Buttons for 'Log Export' and 'Log Management' are also present. A label 'Export Log Data (1 to 7 days)' points to the 'Log Export' button. Above the 'Export' section, a label 'Purge Data' points to the 'Data Management' button, and a label 'Manage Video Analytics or POS Settings' points to the 'Program Management(ETC)' button.

No	Date & Time	Log Contents	Log Value	User
1	6/14/2007 8:18:21...	Start Site	Ver(3.5.0 [Build : 9]) - Lib(3.511)_5	Default
2	6/14/2007 8:18:21...	Start Site After Abnormal terminate		Default
3	6/14/2007 8:18:21...	Current Work drive	D Drive	Default
4	6/14/2007 8:21:02...	Terminate of Site		admini...
5	6/14/2007 10:12:2...	Start Site	Ver(3.5.0 [Build : 9]) - Lib(3.511)_5	Default
6	6/14/2007 10:12:2...	Start Site After Normal terminate		Default
7	6/14/2007 10:12:2...	Current Work drive	D Drive	Default
8	6/14/2007 10:36:4...	Terminate of Site		admini...
9	6/14/2007 10:37:3...	Start Site	Ver(3.5.0 [Build : 9]) - Lib(3.511)_5	Default
10	6/14/2007 10:37:3...	Start Site After Normal terminate		Default
11	6/14/2007 10:37:3...	Current Work drive	D Drive	Default
12	6/14/2007 12:25:5...	Terminate of Site		admini...
13	6/14/2007 12:25:5...	Start Site	Ver(3.5.0 [Build : 9]) - Lib(3.511)_5	Default
14	6/14/2007 12:25:5...	Start Site After Normal terminate		Default

Disk Management

The Disk Management window is a native Windows function. This window displays the partition scheme and health status of the Hard Disk Drives in the DVR. This window is often used to troubleshoot a DVR, or verify the amount of Hard Drive storage installed. For more information about Disk Management, consult a Windows XP manual.



Log Management

The Log Management window provides the user with the options to overwrite log files or schedule log deletion.

Setup Log Management Options

1. In Setup on the Administration tab, click the Log Management button.
2. Select the check box to enable the Log File Overwrite option.

Set Log Overwrite

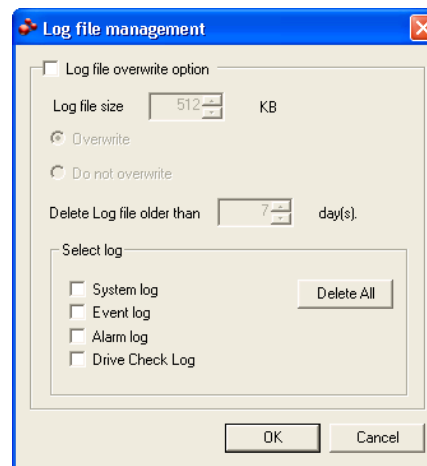
- a. Select Overwrite and define the size of the log file cache.

Set Log Cache Size

- a. Select Do Not Overwrite and define the number of days to maintain log files.

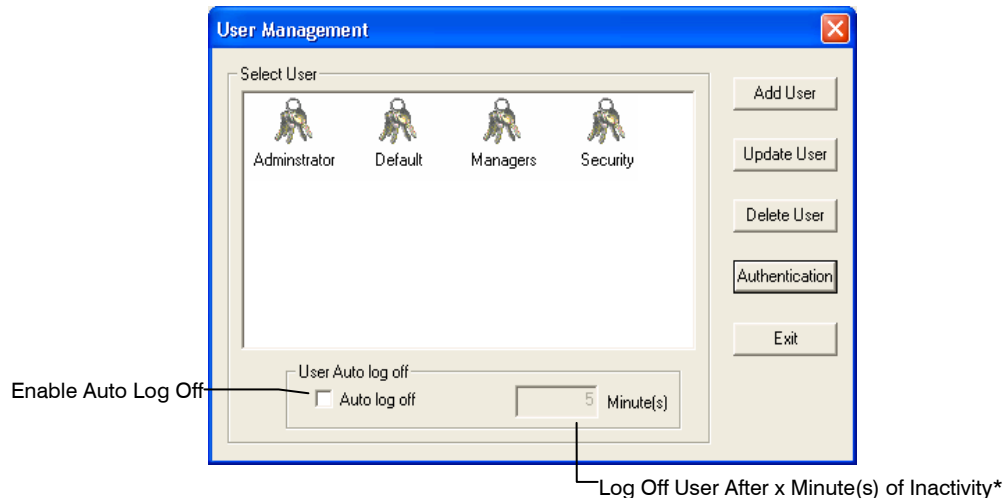
Manually Delete Log Files

- a. Select the type(s) of log file to delete. System Log, Event Log, Alarm Log.
 - b. Click the Delete All button.
3. Click OK to save the settings and close the window.



User Management

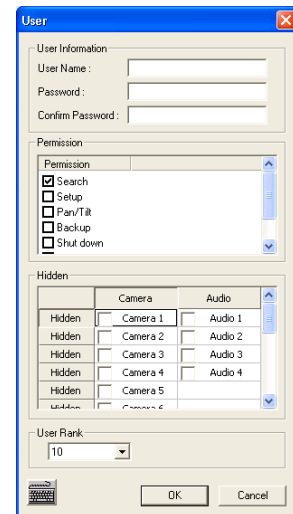
The User Management Console has options for creating, editing, and deleting user accounts. Each user account can be assigned different privileges that limit their usage of the DVR system. Users can be given administrator privileges by enabling all rights, however only the true Administrator account can log into the User Management Console.



**Auto Log Off affects all users*

Add a New User

1. Click the Administration Setup tab.
2. Click the User Management button.
3. Click Add User to open the User Management window.
4. Enter the Administrator password and click OK
5. Enter a user name and password
6. Select appropriate permissions
7. Select cameras and audio channels to be hidden from the user
8. Assign a user rank.
9. Click OK to save and exit.



Note Every DVR comes with an Administrative account and Default account loaded on them. The Default account should not be used as the primary account. If the DVR is re-started, the Default account will automatically be loaded. For applications where maximum security is essential, Honeywell recommends that all privileges be stripped from the Default user account and all cameras be set to Hidden.

User Rank

The User Ranking structure allows the option to assign a privilege system (1-10 where one has the most rights) to users of the DVR Software. For example: Since only one user is allowed to use the PTZ controls at any one time, an administrator with a higher rank can override another user and take control of the PTZ.

The User Rank option affects:

SETUP ACCESS – Only one user can access Setup at any one time. A user with a higher rank can override the current user and open Setup.

PTZ CONTROL - The DVR Software can only have one user operating the PTZ controls at any given time. A user with a higher rank can override another user and then open the PTZ controls.

1. Enter Setup.
2. Click the Administration Setup tab.
3. Click the User Management button.
4. Enter the Administrator password and click OK.
5. Select a user from the Select User box and click the Update User button.
6. Set the user's rank using the User Rank list and press the OK button to save changes.

Changing the Administrator Password

1. Inside Setup, click the Administration tab and then click the User Management button.
2. Click the Change Password button on the User Login window, then enter the new password.

Default Administrator Password

The default administrator login is:

User: Administrator

Password: <blank>

The user name is NOT case sensitive

Status Check / Email

General

1. Click the Setup button on the Main Display.
2. Select the Administration tab.
3. Click Status Check/Email.
4. Select the Enable Email Alarm check box.
5. Enter a From Name and e-mail Address.

Note This name and address will appear in the From line of the email alert message.

6. Enter the SMTP information for the "from" email account. Contact the email administrator for this information if necessary.
7. If using a secondary email account select the Use Secondary SMTP Box and complete the SMTP information.
8. Click the Test button to check settings.
9. Click Apply when finished.

Users

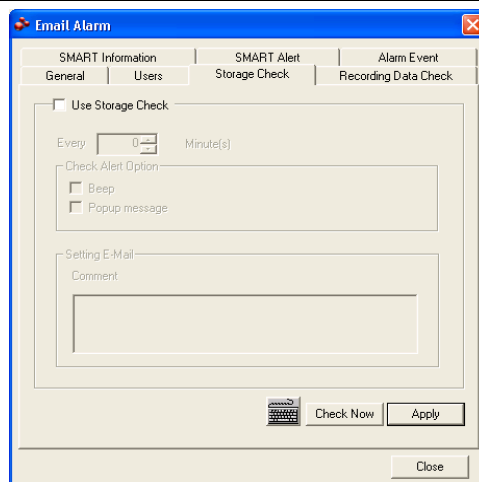
1. Set up the General tab.
2. Click the Users tab.
3. Select the type of event to send email on.
4. Enter the User Name and Email Address of an email recipient.
5. Click the Add button
6. Repeat for additional recipients and types of events

Note A separate email notification for each type of event must be set up for a single recipient to receive notifications for each type of event.

7. Click Apply when finished.

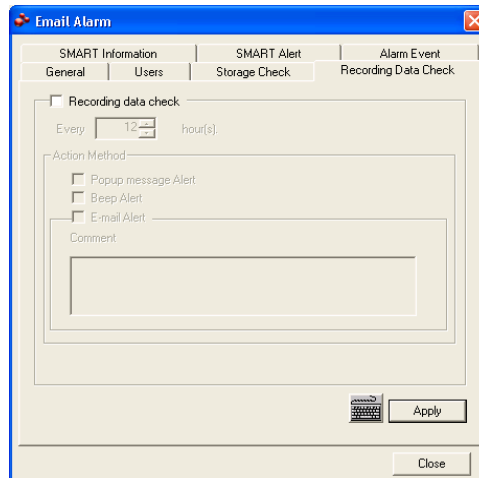
Storage Check

1. Set up the General and Users tabs first. (see above)
2. Select the Use Storage Check check box.
3. Define the number of minutes.
4. Select an Alert Option, Beep or Popup Message, if desired.
5. Click Apply.



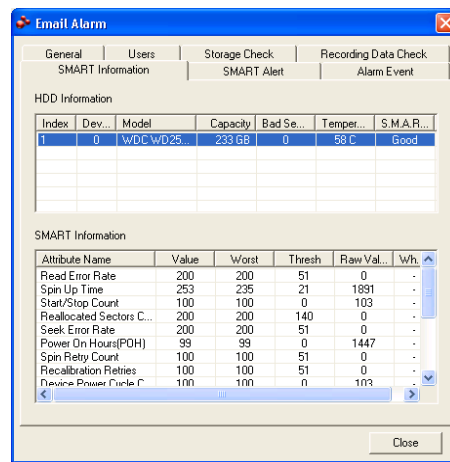
Recording Data Check

1. Set up the General and Users tabs first. (see above)
2. Select the Recording Data Check check box.
3. Define the number of hours between data checks.
4. Select the Action Method.
5. Click Apply.



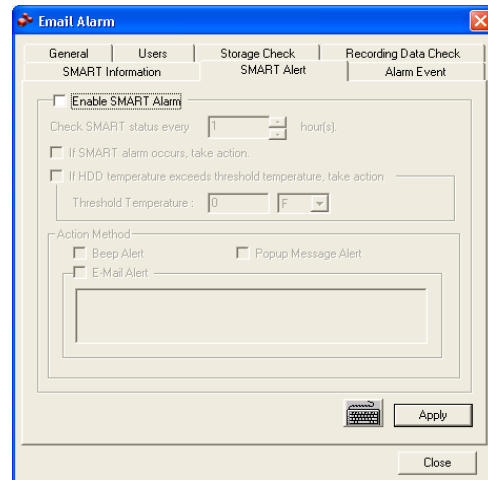
SMART Information

The SMART Information tab displays Hard Drive information.



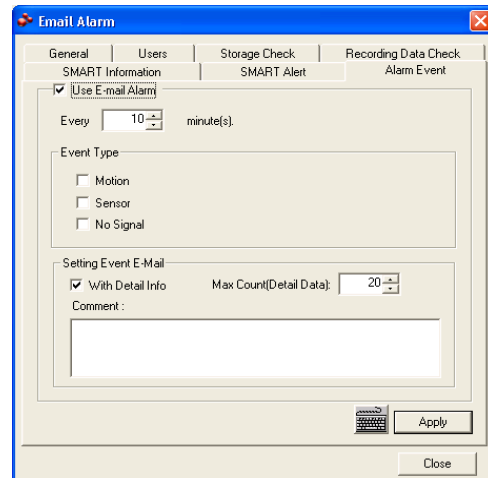
SMART Alert

1. Set up the General and Users tabs first. (see above)
2. Select the Enable SMART Alarm.
3. Define the number hours between SMART checks.
4. Select the type of SMART event to trigger an action.
5. Define the maximum HDD temperature.
6. Select an action method.
7. Click Apply.



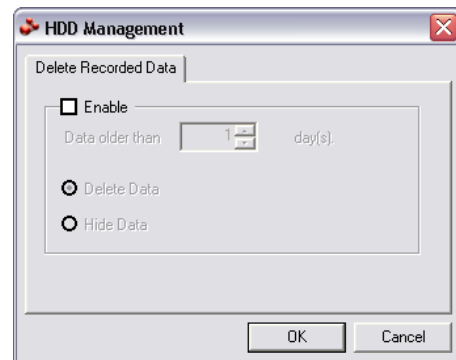
Alarm Event

1. Set up the General and Users tabs first. (see above)
2. Select the Use Email Alarm check box.
3. Define the number of minutes between recording data checks.
4. Select Motion and/or Sensor to send and alert on that type of event.
5. Click Apply.
6. Click Close to return to the Administration tab.



Data Management

Data Management is available for select regions where operators must delete data after a set number of days. If you need to purge your video data and this feature is not enabled on your Fusion contact Technical Support.



Information

The Information tab allows users to define the site code necessary for connecting to remote software, save comments relative to the DVR and store tech support and contact number information.

Current Server Software Version

Total HDD /Available HDD

Site Information

Site Code : 100-000

DVR Serial Number :

CBSN :

Decoder :

Video Format : NTSC

Server Version : DVR Version 3.0.0

NOTES :

Drive Information

C: Drive
Total Space : 5112 MB
Free Space : 857 MB

D: Drive
Total Space : 58557 MB
Free Space : 58378 MB

E: Drive
Total Space : 58557 MB
Free Space : 58490 MB

F: Drive
Total Space : 58557 MB
Free Space : 58490 MB

G: Drive
Total Space : 58572 MB
Free Space : 58506 MB

Telephone Number

Contact Number :

Tech. Support :

User-Defined Contact Numbers

Enter comments

Site Code	A User-specified unique identification name used by other DVR software to identify the DVR. (Remote, Alarm Monitor, FVMS, Digital Signature Verifier)
CBSN	Displays the serial number of an internal DVR hardware component.

PTZ

The PTZ Setup enables PTZ cameras, creates Presets, Tours, and adjusts speed settings. Many options listed here are features only available on selected cameras. Refer to the Advanced PTZ chapter in this manual for description on setting up a PTZ camera and PTZ options.

Instant Recording

The Instant Recording feature allows users to manually initiate recording on a specific camera, overriding the current schedule. When Instant Recording is activated the DVR flags the clip as an event so Instant Recording instances can be found using the Index Search

Instant Recording can be used, for example, when a suspicious object or person is detected and the user wants to flag that section of video for easy retrieval at a later date.

Activate Instant Recording

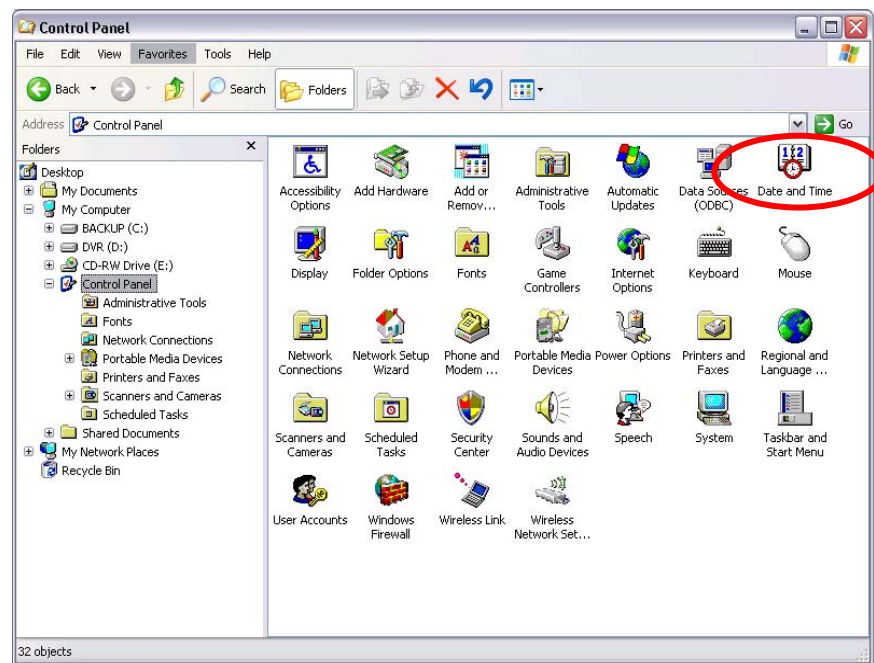
1. From the Live View screen, double right-click on the camera on which to enable instant recording. An INSTANT label will be placed on the upper right corner of the video.
2. To turn the Instant Recording option off, double right-click the video a second time.

Searching 'Instant Recorded' Video

Enter the Search Mode, click the Index Search button, and then select the Instant Recording Option. See the Search chapter for more information.

Adjusting the Time, Date and Time Zone

1. Exit to Windows – Click the Exit button on the Live View screen.
2. Select Restart in Windows Mode.
3. Right-click the My Computer icon on the desktop and select Explore.
4. Double-click on Control Panel to open it. If Control Panel is not listed, double-click My Computer to expand the folder tree.
5. Double-click the Date and Time icon



6. Adjust the date, time, and time zone.
7. When finished, close all open windows and restart the DVR by selecting Start > Shut Down > Restart.

LDAP User and Permission Integration

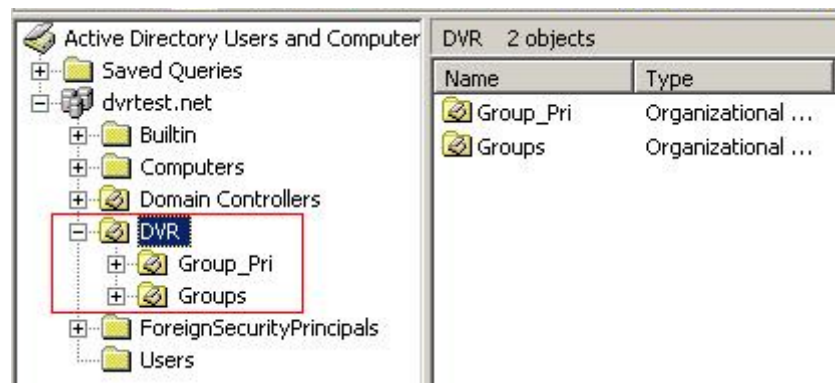
Active Directory integration (also called LDAP) allows IT administrators to use existing domain user management tools to manage accounts on Fusion DVRs. Adding and removing users from Fusion DVRs can be accomplished through group membership administration via a Windows domain controller. Along with this feature comes the concept of “single sign-on”. The user credentials supplied during Windows log on are passed seamlessly to FVMS and Fusion remote applications preventing the need to log on a second time when connecting to a Fusion DVR.

Note LDAP User and Permission Integration requires a Microsoft Domain with Active Directory.

Active Directory Initial Setup

1. Create an Organizational Unit called **DVR**.
2. Create organizational sub groups under DVR called **Group_Pri** and **Groups**.
3. Designate a user who has the ability to create groups within Active Directory.

Tip This can be either a current Domain Admin or other user with the above privileges.



DVR LDAP Setup

1. From the Fusion Live View screen click **Login**.
2. Enter the username and password of a user created in the Active Directory Setup that can create groups in AD (Active Directory).
3. In the **Log in to:** section select **LDAP**.
4. Type the full name of your primary Active Directory server. *For example core.domain.net.*
5. If you are successful the **User Login** window will close. You will receive a popup error if LDAP (AD) server cannot be reached or if the username and password are not correct.
6. Once you have logged on as a LDAP user, click **Setup**.

DVR LDAP Setup Continued

7. Click the **Administration** tab and then click **User Management**.
8. Log on again as the above privileged user and select the **LDAP** option.

Note Not selecting the LDAP option at this stage will load the local user interface.

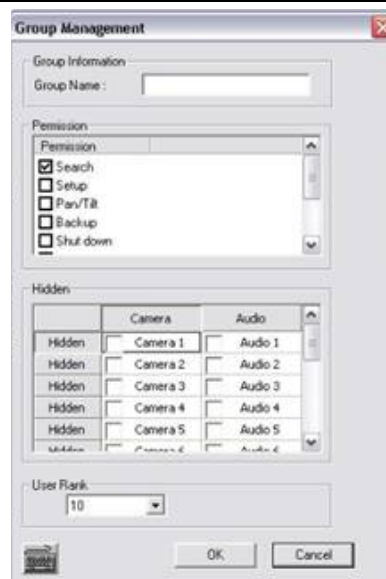


Creating LDAP Groups

1. Click in the **Select Group** box.
2. Click **Add** to create a new group.
3. Type the name of the new group in the **Group Name** box.
4. Select the **Permissions** for the group.
5. Select which cameras you wish to hide.

Note You are selecting the cameras to HIDE, not to show.

6. Click **OK** to add the group to Active Directory.



Tip You will also see within AD addition OU's created under the **Group_Pri OU** that show each permission given.

Also within the Groups OU you will see the new group that you just created.

Deleting LDAP Groups

1. In the **Select Group** box, click the group you wish to delete
2. Click **Delete**.

Note This will delete the group from Active Directory.

Creating LDAP Users

1. In the **Select Group** box, click the group you want the user to be a part of.
2. Click in the **Select User** box.
3. Click **Add**.
4. Enter a valid **User Name** and **Password**.

Tip Username and Password are subject to domain policies



The 'Group User Management' dialog box contains a 'User Information' section with three text input fields: 'User Name', 'Password', and 'Confirm Password'. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Deleting LDAP Users

1. In the **Select Group** box, click the group the user belongs to.
2. In the **Select User** box, click the user you wish to delete
3. Click **Delete**.

Note Users will be deleted from Active Directory. If you wish for the account to stay in active directory and not have access to the DVR you must remove them from the DVR group you created. This must be done through Active Directory, not from the DVR.

Changing LDAP Server

1. From the Fusion **Live View** screen, click **Setup**.
2. Click the **Administration** tab and then click **User Management**.
3. Click **LDAP Setting**.



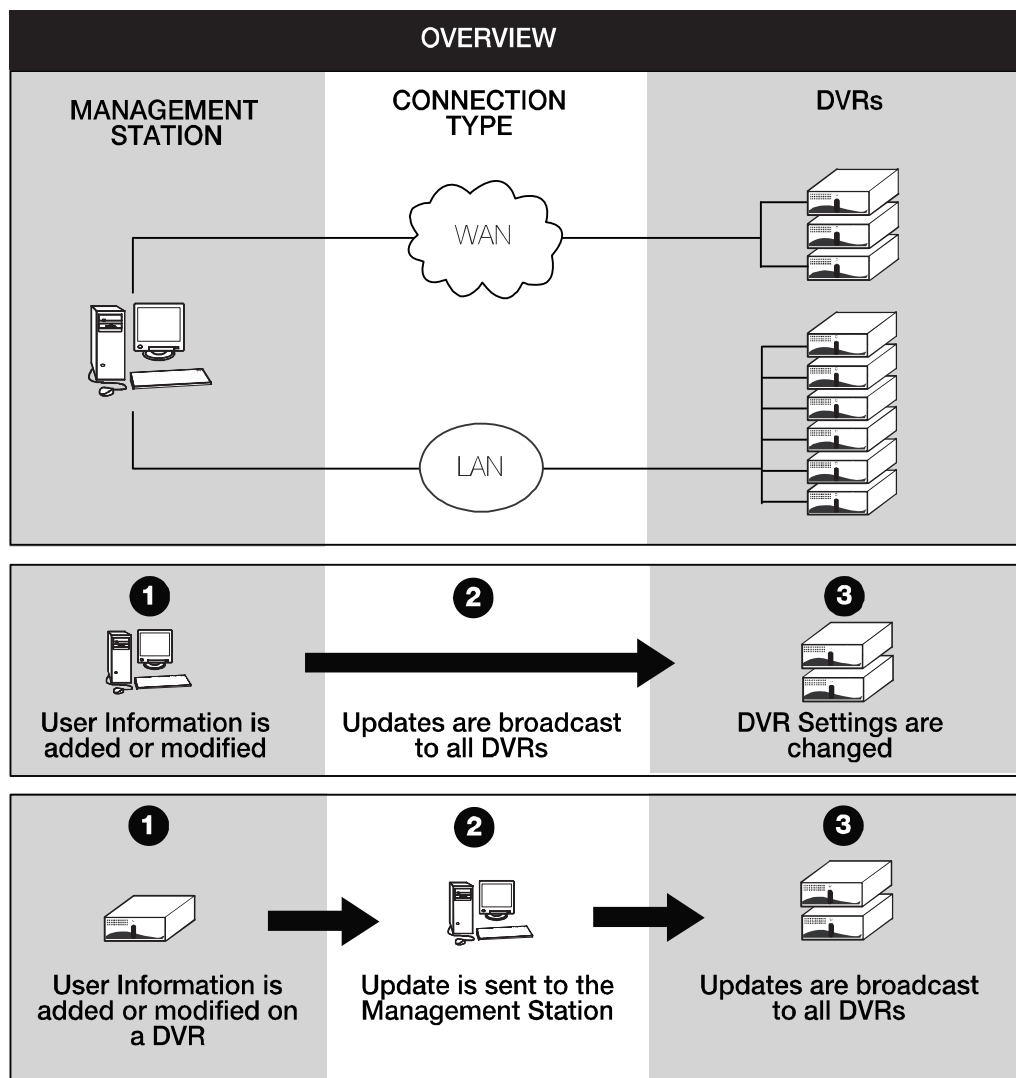
The 'LDAP Server Management' dialog box features an 'LDAP Server Option' section with a 'Server address' text input field. 'OK' and 'Cancel' buttons are located at the bottom.

4. Type the new LDAP **Server Address**.

Central User Management (Optional)

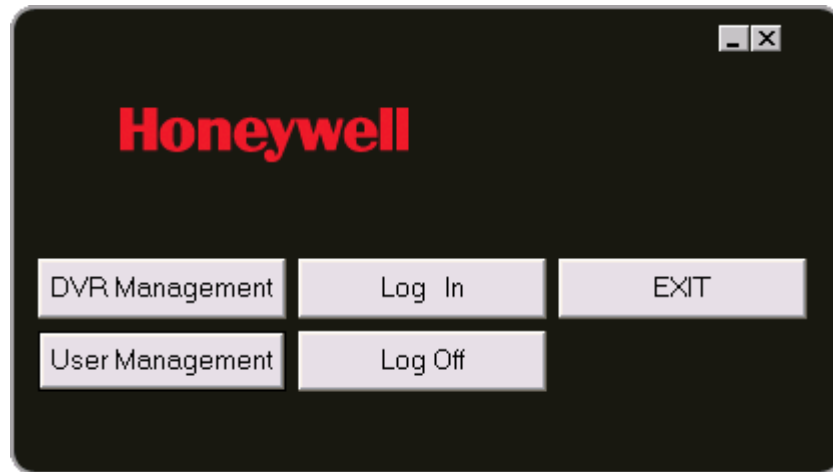
The Fusion DVRs are capable of utilizing a Central User Management system. This option allows, from one location, the creation, deletion and management of user accounts on multiple DVRs. This makes managing a large number of DVRs easy and organized.

The Central User Management program is run on a computer or DVR that is to be used as the 'hub'. This computer (or DVR) acts as a broadcaster, sending out updated information. The diagram below provides an overview of how the Central User Management functions.



User Accounts can be modified from any DVR as well as the Management Station. Any changes made on a DVR will be sent to the Management Station which in turn will broadcast the changes to all DVRs.

Central User Management Window



DVR Management	Add/Delete DVRs managed by the Central User Management Software.
User Management	Add/Delete/Modify User Accounts and User access privileges.
Log In	Only the Administrator can modify settings. In order to open the DVR Management or User Management options, the Administrator must login.
Log Out	Logs the Administrator OFF and locks access to the DVR Management and User Management options.
Exit	This option exits the Management Station Software.

Setting Up the Central User Management Server

To set up a Central Management User Server follow these steps.

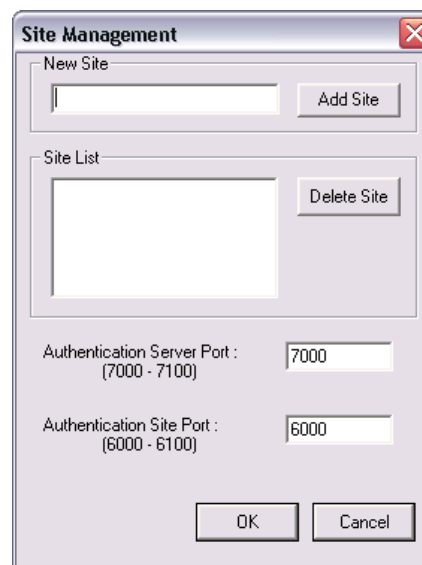
1. Install the Central Management User Software on a computer or DVR.
2. Run the software and open Site Management. (Logging in may be necessary)
3. Add one or more DVRs to the list and click OK to save and exit Site Management.
4. Open User Management.
5. Add users or update user settings and click Exit.
6. Minimize the Central User Management Software.

Note If the software is closed, any updates made on the DVRs will not be broadcast to the other DVRs.

DVR Management

Add and delete DVRs from the managed list in the DVR Management Window.

1. Click the Log In button and enter the Administrator user name and password.
2. Click the DVR Management button.
3. Enter the IP Address of the DVR and click the Add Site button to add a new site to the Site List.
4. Enter the Server Port Number and the Site Port Number. (Defaults are 7000 and 6000 respectively.)
5. Enter the Site Port Number.
6. Click the OK button.



The **Site Management** dialog box contains the following elements:

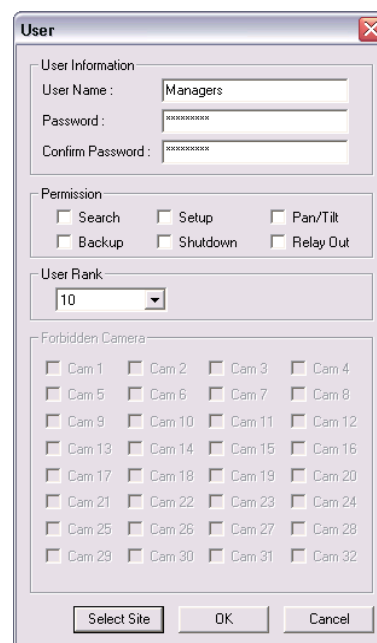
- New Site:** A text input field for the site name and an **Add Site** button.
- Site List:** A list box for existing sites and a **Delete Site** button.
- Authentication Server Port:** A text input field with the value 7000 and a range indicator (7000 - 7100).
- Authentication Site Port:** A text input field with the value 6000 and a range indicator (6000 - 6100).
- Buttons:** **OK** and **Cancel** buttons at the bottom.

User Management

Specify user privileges in the User Management Window.

The User Management Console has the ability to create, edit, and delete user accounts. Each user account can be assigned different privileges that limit their usage of the DVR system. Users can be given administrator privileges by enabling all rights, however only the true administrator account can log into the User Management Console.

1. Click the User Management button.
2. Click the Add User button.
3. Enter the User Name and Password.
4. Select Permissions to assign to the user.
5. Assign a User Rank. (1 = Highest)
6. Select Forbidden Cameras to hide them from the user in Live Mode.
7. Click the Select Site button to select which DVRs the user has access to (see the Select Site section).
8. Click the OK button to save changes and close the window.

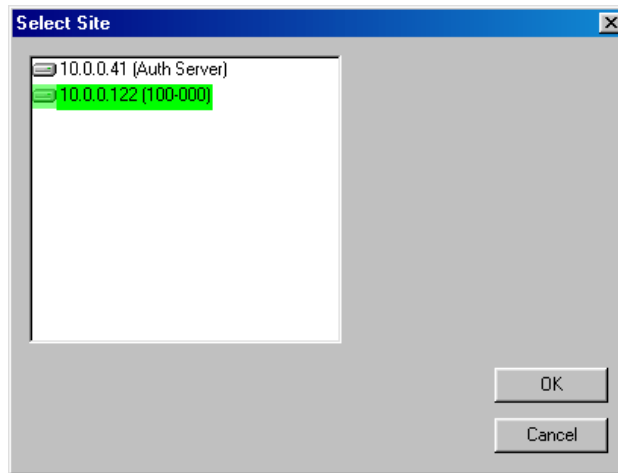


The **User** dialog box contains the following elements:

- User Information:**
 - User Name:** Text input field with "Managers".
 - Password:** Password input field with masked characters.
 - Confirm Password:** Password input field with masked characters.
- Permission:** A group of checkboxes for various permissions:
 - ☐ Search
 - ☐ Setup
 - ☐ Pan/Tilt
 - ☐ Backup
 - ☐ Shutdown
 - ☐ Relay Out
- User Rank:** A dropdown menu currently showing "10".
- Forbidden Camera:** A grid of checkboxes for 32 cameras (Cam 1 to Cam 32), all of which are currently unchecked.
- Buttons:** **Select Site**, **OK**, and **Cancel** buttons at the bottom.

Select Site

Defines the DVRs to which the user has access.



Click on the site to select it. Click the site again to deselect it.

Note Selected sites will be highlighted.

Enabling a DVR to Use Central User Management

To enable a DVR to use the Central User Management software follow these steps:

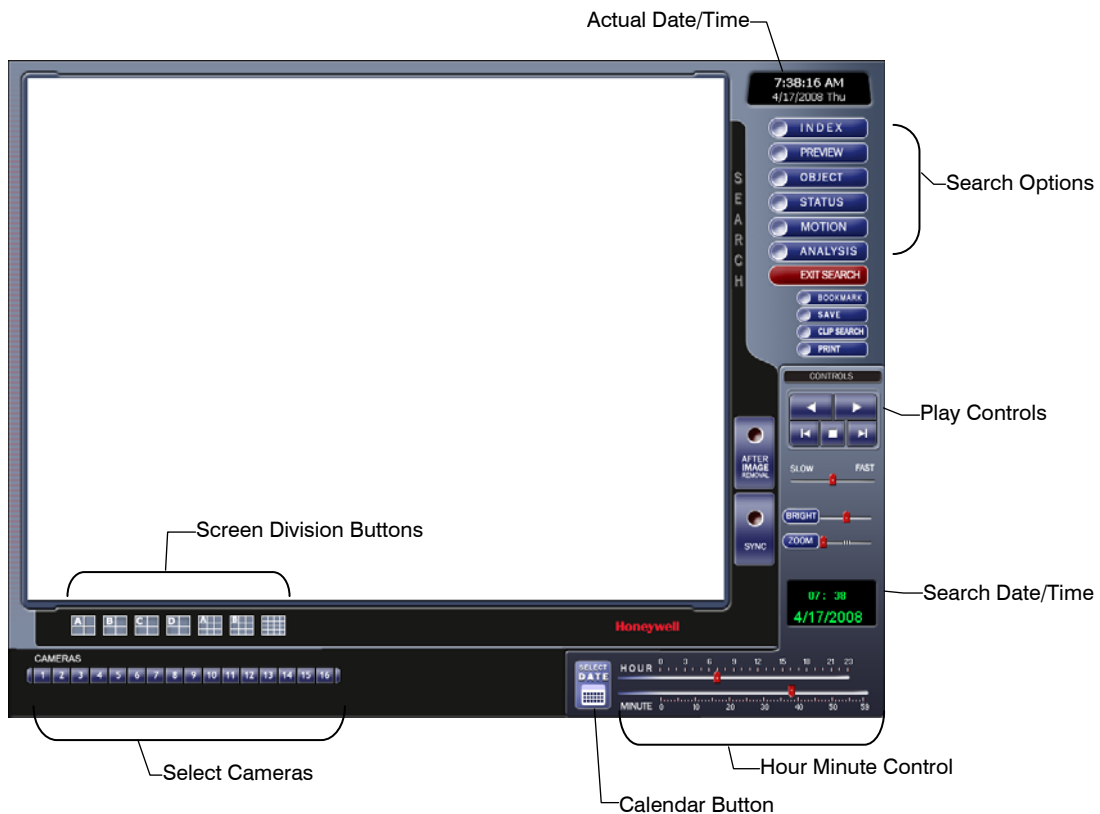
1. Click the Administration tab in the Setup Window.
2. Click the User Management button.
3. Click the Authentication button.
4. Enter the IP address of the Authentication Server running the Central User Management software.
5. Enter the Server Port used by the Authentication Server. (Must be between 7000-7100)
6. Enter a Site Port that the DVR will use to communicate with the Authentication Server. (Must be between 6000-6100)
7. Click Connect to save and close.

Search Options

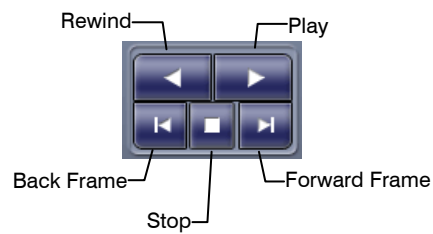
Search Overview

The DVR has several options that allow easy searching to find a particular section of video. From Motion and Sensor indexing to calendar views showing which days have recorded video, the DVR is equipped to quickly find what the user is seeking.

Note 16 Channel model shown below.



Play Controls



Back Frame	Moves video back one frame.
Rewind	Rewinds video.
Play	Plays video.
Forward Frame	Moves video forward one frame.
Stop	Stops video playback

Hour / Minute Control

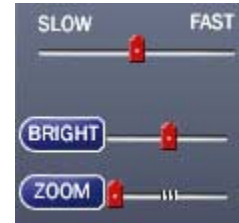
The Hour/Minute Control Bar allows a user to select the Hour and Minute using an easy-to-use slide bar. The user can control the slide bar by clicking and dragging the slider or using the scroll wheel on the mouse.



Brightness / Speed / Zoom

The Brightness and Zoom features can get the most out of the images. Adjusting Brightness can brighten up an image to get more detail. Zoom can not only bring the image up full screen but also Zoom into a particular area of the image.

Slow / Fast	Increases or decreases playback speed.
Brightness	Used to adjust the brightness of an image.
Zoom	Used to zoom in on an image.



Adjusting the Brightness of an Image

1. Select a single image to adjust by double-clicking on the desired image. Multiple images cannot be adjusted at one time.
2. Move the Bright slide bar to the right or left to adjust the brightness.
3. Reset the brightness by clicking the Bright button.

Zooming in on an Image

1. Select a single image to adjust by double-clicking on the desired image. Multiple images cannot be adjusted at one time.
2. Move the Zoom slide bar to the right or left to zoom in or out of an image.
3. Reset the zoom by clicking the Zoom button.

Zooming in on a Portion of an Image

1. Right-click the area of interest on the image.
2. Repeated right-clicking will zoom in further.
3. Continue to right-click the image and the zoom will cycle back to the original size.

After Image Removal

The DVR is capable of recording video using one of three different resolutions. When using the 720 x 480 NTSC / 720 x 576 PAL resolution, two boxes are mixed. Because of the timing gap between the two boxes, according to the standardized image rules, After Image might occur on high speed moving images. The Fusion DVR allows the user to remove this by clicking the After Image Removal button.

Time Sync

The Sync option synchronizes a single channel of video to playback in real time. Ordinarily the video may playback slower or faster depending on several factors, including how many IPS recorded and number of cameras playing at the same time. In addition, the Time Sync option will be automatically enabled when an audio channel is selected inside Search.

1. Select a single image to synchronize by double-clicking on an image.
2. Select a channel of audio (optional).
3. Click the Time Synch button. The video will now playback in real time.

Search Options Overview

The Search Options allows the user to find the requested images quickly, enhance the image quality, and export the video or images in a number of ways.

- | | |
|------------------------|--|
| Index Search: | Used to perform a search based on Motion detection and Sensor activation. Allows for quickly narrowing down large amounts of recorded video based on particular criterion. |
| Preview Search: | Allows for narrowing down recorded video in a 24 Hour period. Each day is broken into 24 images, one image for each hour of the day. (The images are taken from the first second of each hour). When an image is selected, the 'hour' chosen is then broken down into 6 images, one image for every 10 minute increment. When a 10-minute increment image is selected, 10 images are displayed, one for every minute within the 10 minute period. From this point, the selected image can be applied to the Main Search. |
| Object Search: | Used to specify a region on an image and perform a search based on any motion that has occurred within that region. |
| Status Search: | Displays recorded video in a color-coded format that allows easy selection of the portion of video to play. |

Performing a Basic Search

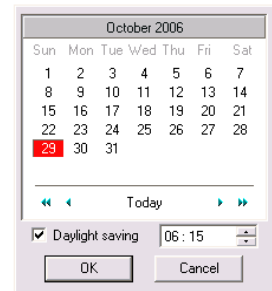
There are several different types of searches that can be performed on the DVR. The most basic involves selecting the date, the time, the camera, and clicking play.

1. Click the Calendar button to select a date.
2. Select a time by adjusting the hour and minute slide bars.
3. Select one or more cameras.
4. Click Play. Video can be played forwards, backwards, or frame-by-frame.

Daylight Saving Time

The DVR automatically adjusts for Daylight Saving Time changes. When the hour “jumps forward” no video is lost because an hour is skipped. However when the hour “falls back” there is a duplicated hour that under normal circumstances would be recorded over. The DVR records both hours and allows the user to select which hour to play if necessary. To access the ‘lost hour.’

1. From the Search Display, select the Calendar button.
2. Select the last day of Daylights Saving time. The Daylight Saving option appears.
3. Select the Daylight Saving check box.
4. Click OK to confirm the date and begin playing the video using standard search features.



Printing an Image

The DVR can print a recorded image to a local or network printer.

1. From the Search screen, stop on the image to print. Double-click the image.

Note Only one camera can be selected at a time for this function to work.

2. Click on the Print button. A Print Options Window appears. Depending on the printer being used, there may be several printing options available. Refer to the printer manual for more information.
3. Click the Print button to print the selected images.

Note The message “NO DEFAULT PRINTERS INSTALLED” will display if no printer is installed.

Save Function

The DVR can export single images in the .JPG file format, save video clips in the .AVI format, or output to a VCR using the s-video port. The .JPG and .AVI file formats are extremely common with universal computer support making them ideal formats to use. A digital signature is also attached to every .JPG and .AVI file exported by the DVR for use with the bundled Digital Verifier application. This function is unique to the DVR and its verification software and should not interfere with viewing the files using other applications.

JPG: The format (.JPG) is optimized for compressing full-color or grayscale photographic images. .JPG images are 24-bit (16.7 million color) graphics. .JPG is used to export a single image or frame.

AVI: .AVI image data can be stored uncompressed, but it is typically compressed using a Windows-supplied or third party compression and decompression module called a codec. .AVI files save a video clip.

Analog Out*: Sends a full screen video signal to the s-video port of the DVR.

1. From the Search screen, click the Save button.
2. Select the Export Type: Image File (JPG), AVI File, or Analog Out*.

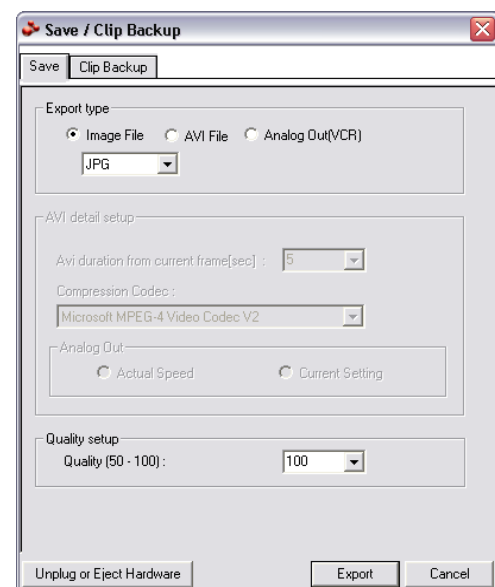
Note Different image format types provide different file-sizes, quality and compatibility

Image File

- a. Select Quality - 50 > 100. When size is not an issue, set the quality to 100.

AVI File

- a. Enter the duration (seconds) to record. Although 100 is the longest time displayed, a longer recording may be entered manually.
 - b. Select a Compression Codec. Each codec provides different levels of quality, compatibility and file-size.
 - c. Select Quality - 50 > 100. When size is not an issue, set quality to 100.
3. Click the Export button to save file. The Cancel button exits the window without exporting file.

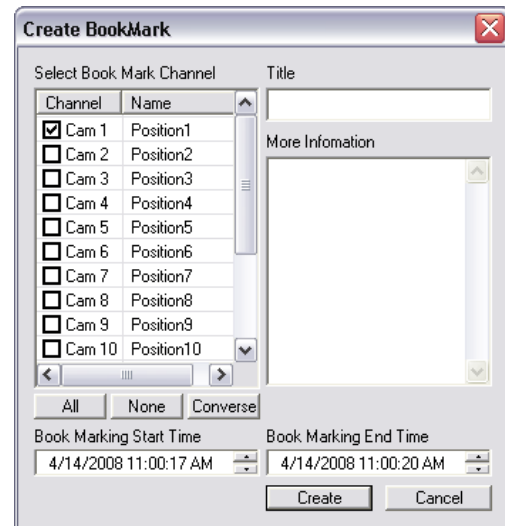


* The Analog Out feature is only available on DVRs with an S-Video out.

Bookmarks

Use bookmarks to mark a video clip during a search. Export bookmarked data using the Clip Backup feature.

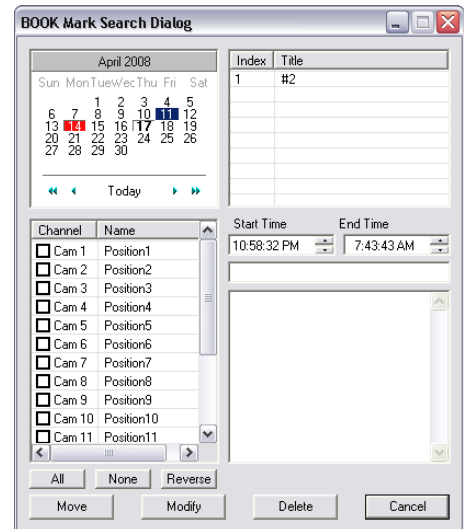
1. Perform a search for the desired video.
2. Stop playback at the beginning of the desired clip.
3. Right-click the video and select Bookmark Start.
4. Click the play button to continue playback.
5. Right-click the video at the desired end point and select Bookmark End.
6. Type a name to identify the bookmark in the Title box.
7. Enter a memo or notes in the More Information box.
8. You may also select additional channels to include video at different locations recorded at the same time.
9. Click Create.



Modify Bookmarks

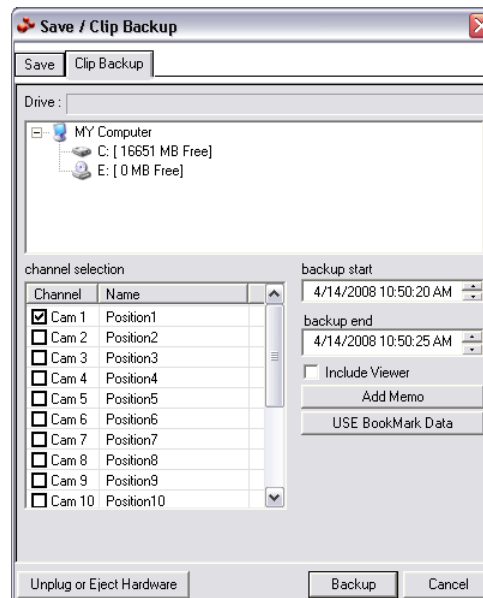
You can modify a previously created bookmark to change the start or end time of the clip, add additional comments, change the title, or add additional cameras.

1. From the Search screen, click Bookmark.
2. On the calendar, select the date the desired bookmarks were created.
3. Select the desired bookmark from the list.
4. Make the desired change.
5. Click Modify.
6. When the modification is complete, click Cancel to close the window.



Single Clip Backup

1. From the Search screen, click the Save button.
2. Select the drive from the file tree to save data to. (Hard disk drive, removable drive, CD/DVD drive).
3. Select one camera from the list.
4. Define the Start and End time of the backup clip.
5. Select the Include Viewer to include a copy of the Proprietary Viewer software to view the clip on virtually any windows machine.
6. Click the Add Memo button to include additional information.
7. Click the Backup button to start the backup.

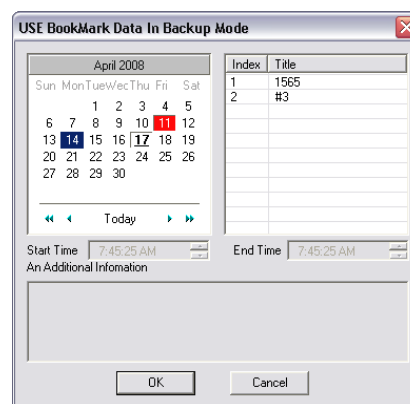


Note If backing up to a removable USB device click the Unplug or Eject Hardware button after backup is complete to safely remove the device.

Single Clip Backup Using Bookmark Data

Note If you to use bookmark data for the Clip Backup, only previously bookmarked data will be included. You cannot perform a standard clip backup in conjunction with bookmark data.

1. From the Search screen, click the Save button.
2. Select the drive from the file tree to save data to. (Hard disk drive, removable drive, CD/DVD drive).
3. Click Use Bookmark Data.
4. On the calendar, select the date the desired bookmarks were created.
5. Select the desired bookmarks from the list and click OK.
6. Select the Include Viewer to include a copy of the Proprietary Viewer software to view the clip on virtually any windows machine.
7. Click the Add Memo button to include additional information.
8. Click the Backup button to start the backup.

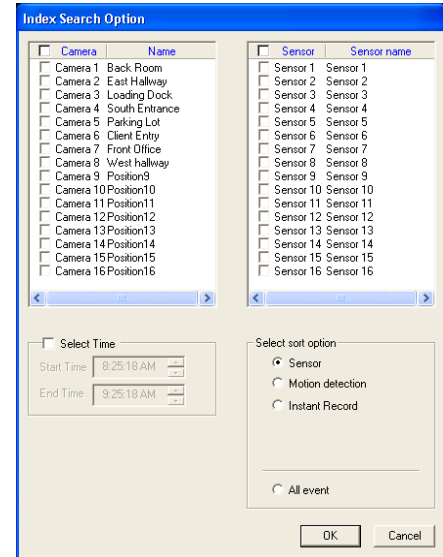


Note If backing up to a removable USB device click the Unplug or Eject Hardware button after backup is complete to safely remove the device.

Index Search

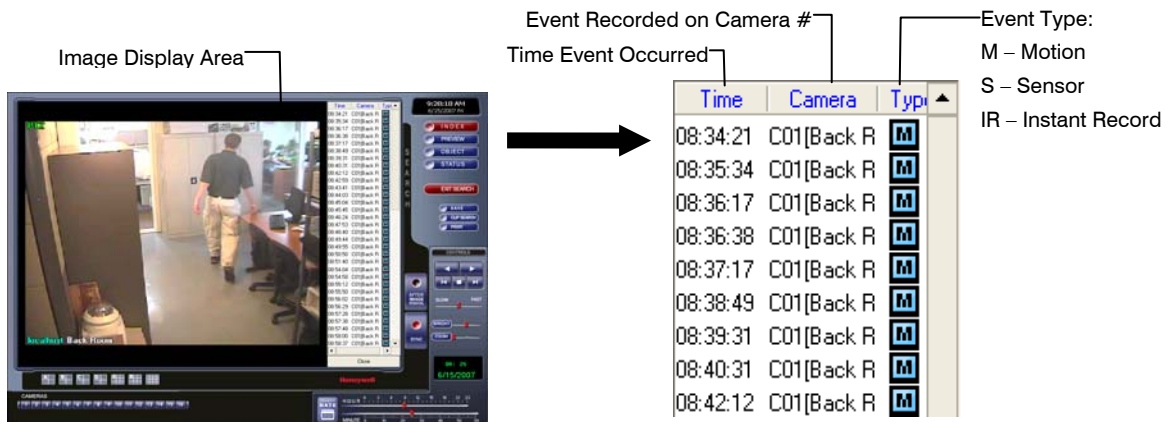
Using the Index Search can greatly decrease the amount of time spent searching through saved video. The Index Search allows a user to perform a search based on criteria such as Sensor, Motion and Instant Record events.

1. Click the Calendar button on the Search Screen to select the date to search.
2. Click the Index Search button.
3. Select the cameras and sensors to include in the search.
4. Select the Select Time check box to define a specific period.
5. Select a sort option (sensor, motion, instant record) or select the All Event option.
6. Click OK. There may be a delay while results are returned. Results will be displayed in a column on the left side of the screen – Each line represents a segment of video. If no results are found, “NO IMAGE FOUND” will appear in the column.
7. Once the results are displayed, double-click on any one to search through them.
8. Once the desired image is found, apply it to the Main Search by selecting the Close button at the bottom of the results column.



The 'Index Search Option' dialog box contains two lists of checkboxes for selection. The 'Camera' list includes Camera 1 Back Room, Camera 2 East Hallway, Camera 3 Loading Dock, Camera 4 South Entrance, Camera 5 Parking Lot, Camera 6 Client Entry, Camera 7 Front Office, Camera 8 West hallway, Camera 9 Position9, Camera 10 Position10, Camera 11 Position11, Camera 12 Position12, Camera 13 Position13, Camera 14 Position14, Camera 15 Position15, and Camera 16 Position16. The 'Sensor' list includes Sensor 1 through Sensor 16. Below these lists are fields for 'Start Time' (8:25:18 AM) and 'End Time' (9:25:18 AM), a 'Select Time' checkbox, and a 'Select sort option' section with radio buttons for 'Sensor' (selected), 'Motion detection', 'Instant Record', and 'All event'. 'OK' and 'Cancel' buttons are at the bottom right.

Index Search Results Display

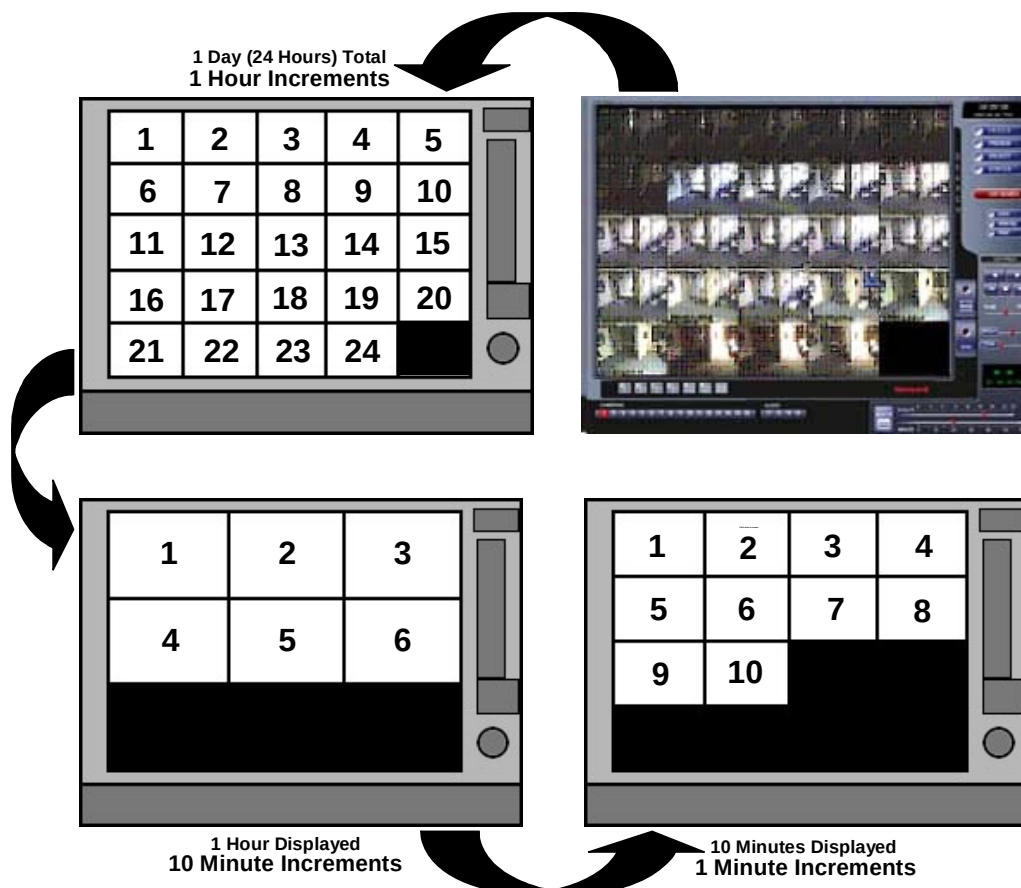


The diagram illustrates the search results interface. On the left, the 'Image Display Area' shows a video frame of a person in a hallway. On the right, a table displays the search results. An arrow points from the video area to the table. Labels indicate the columns: 'Time Event Occurred' for the Time column, 'Event Recorded on Camera #' for the Camera column, and 'Event Type:' for the Type column. A legend defines the event types: M – Motion, S – Sensor, and IR – Instant Record.

Time	Camera	Type
08:34:21	C01[Back R	M
08:35:34	C01[Back R	M
08:36:17	C01[Back R	M
08:36:38	C01[Back R	M
08:37:17	C01[Back R	M
08:38:49	C01[Back R	M
08:39:31	C01[Back R	M
08:40:31	C01[Back R	M
08:42:12	C01[Back R	M

Preview Search

The Preview Search can be used in a number of circumstances to quickly find an exact moment where an event, such as a theft, occurred. The Preview Search basically gives a 24 Hour visual overview of a single camera by separating a 24 hour period (1 day) into 24 images, one image for each hour of the day. The search can then be further narrowed down into ten minute increments and one minute increments by selecting one of the images displayed.



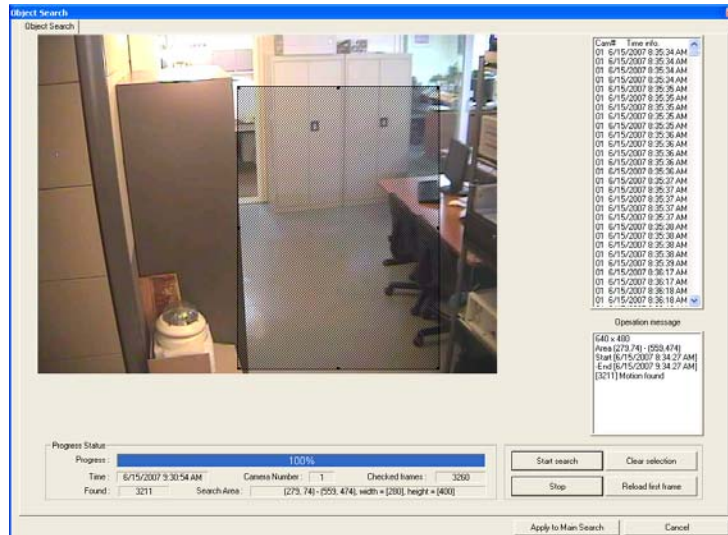
These example images show how the Preview Search functions. The first screen that appears has 24 images displayed. Each image represents the first second of each hour. If there is no image recorded during that period then nothing will be displayed. When an hour is selected (by double clicking on the image) then a new screen appears with 6 images. Each of these images represents a 10 minute segment of video. Once a 10 minute segment is selected (by double-clicking on the image) the final screen appears which breaks down that 10 minute segment into 1 minute increments (10 images).

Performing a Preview Search

1. Select a single camera by either turning off all cameras but one or double-clicking a displayed image.
2. Select the Preview Search button. 24 images display. If there is no recorded video during a portion of the day, "No Image" will be displayed where the image should be.
3. Refine the search by double-clicking on an image to select it. 6 images display. If needed, return to the previous 24-image view by right-clicking on an image.
4. Refine the search by double-clicking on an image to select it. 10 images display. If needed, return to the previous 6-image view by right-clicking on an image.
5. Double-click an image to select the 1-minute segment of video to play. A single image displays. If needed, return to the previous 10-image view by right-clicking on an image.
6. Use the Play controls to play the video of the selected segment.
7. To exit out of the Preview search with the current image still selected, deselect the Preview Search button.

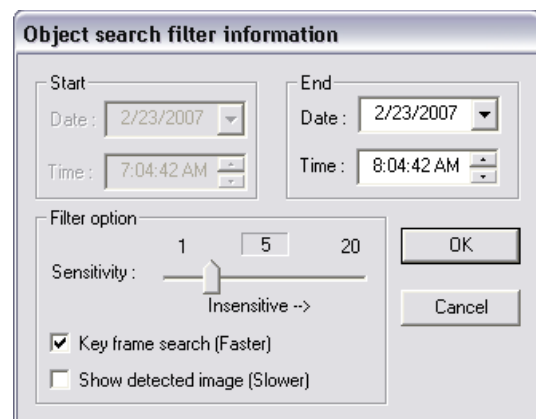
Object Search

Object Search is a powerful Search utility that is used to search a region on the video for any motion changes. The Results are neatly displayed and can be viewed quickly.



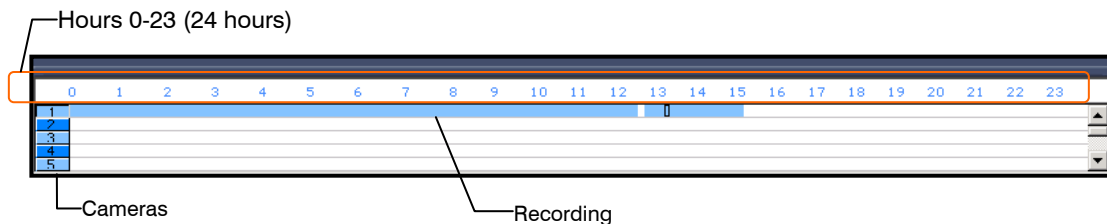
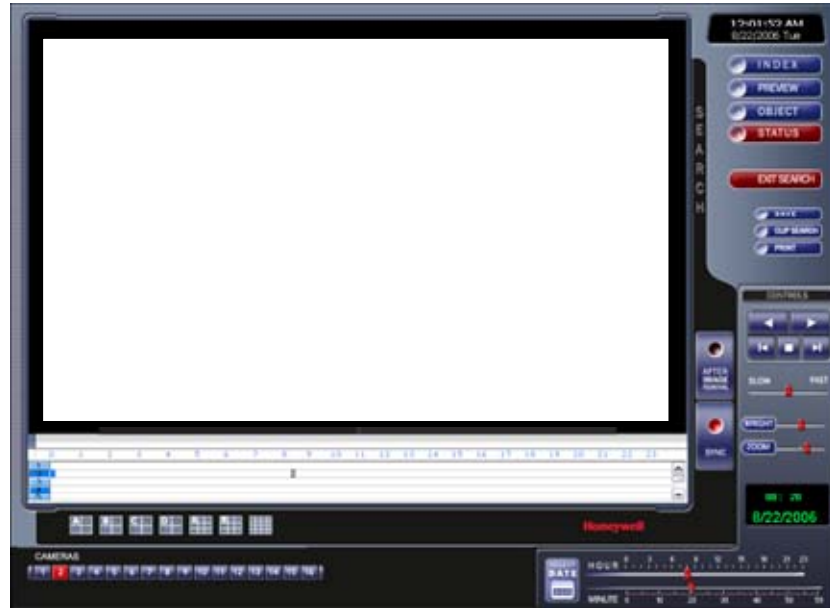
Performing an Object Search

1. Perform a Basic Search.
2. Select a single camera, either by turning off all cameras but one or by double-clicking a displayed image.
3. Click the Object Search button on the Search Screen Display.
4. Drag the mouse on the video display to define a motion region box. Resize by dragging the small square boxes located on the outer perimeter of the box.
5. Click Start Search, the Object Search Filter window will open.
6. Select an end date/time. One hour is the default setting.
7. Adjust the sensitivity if necessary.
8. Click the OK button.
9. Select a motion event from the search results list displayed on the right.
10. Click the Apply to Main Search button to display the selected image in the main Search Screen and to use play controls.
11. To start a new object search using the original image click Reload First Frame.
12. To exit Object Search without selecting an image, click the Cancel button



Status Search

The Status Search option displays video in graph format. (16 Channel Model Show)



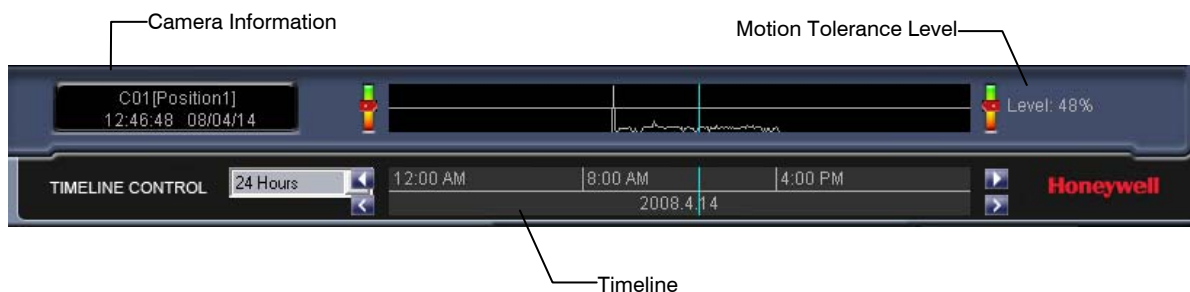
Performing a Status Search

1. Select the Status Search button on Search Screen Display.
2. Click the calendar icon to select a day.
3. Click on an area of the blue recording block. Only one camera can be displayed at a time.
4. Recorded video from the corresponding camera and time block will display above.
5. Use the mouse or arrow buttons to move through recording blocks and view video.

Motion Search

The Motion Search provides a dynamic display of the levels of motion in recorded video. Adjust the level of motion to only play clips of video at or above that level.

Note Motion Search is only available for newly recorded video; it is not compatible with video recorded prior to version 3.6.



Performing a Motion Search

1. Select a camera. Motion Search can only be performed on one camera at a time.
2. Click the Motion button on the Search screen.
3. Click the calendar icon to select a day.
4. Adjust the motion level line.
5. Adjust the timeline display settings.
6. Click the play button to start playback.

Tip You can drag the blue line on the Timeline or motion level box to adjust the time.

Audio

Audio is played back at 48,000Hz.

To play audio with the video:

1. Select a single camera by turning off all cameras but one using the Camera Select buttons. The audio buttons will be displayed.
2. Select a single audio channel to play. When an audio channel is selected, the Time Synch feature will automatically be enabled.
3. Click the Play button.

Pan / Tilt / Zoom

Pan / Tilt / Zoom Overview

The PTZ controls within the DVR allow for powerful control over the cameras. This can be extremely beneficial by increasing the usefulness of the recorded video. Use the PTZ controls to create custom preset configurations that can continuously sweep across large areas.

Setting up a PTZ Camera

Setting up a PTZ Camera is simple since the DVR comes equipped with an internal RS-485 or RS-422 adapter.

1. Attach the PTZ adapter. See *Connecting a PTZ Camera* in the *Getting Started* chapter.
2. Start the DVR.
3. Click the Setup button and select the PTZ Setup tab.
4. Select the PTZ camera from the Channel List.
5. Select the Pan/Tilt Connection to enable the PTZ functions of the camera.
6. Once enabled, select the appropriate protocol.

Note Protocols are a set of instructions written by the manufacture of the PTZ cameras that allow software programs such as this DVR to control their functions. The majority of well established PTZ manufacturers' protocols are included in this software.

7. Click Apply and exit Setup.
8. From the Main Display Screen select the PTZ button to open the PTZ Graphical Controller
9. Click on the live video displayed by the PTZ camera on the main display screen. The camera number will appear on the PTZ Controller.
10. Use the arrow buttons to move the PTZ camera.

Supported Protocols

Protocols are added frequently. The supported list may contain new protocols that are not listed here. The current supported protocols are:

HONEYWELL (GC-655P)	LG (LVC-M300/310)
HONEYWELL (HSD-250)	LG MULTIX
HONEYWELL (HSD-251)	LG SPEED DOME
HONEYWELL (KDEC-300)	MERCER
HONEYWELL HD6	MERIT LI-LIN
ADEMCO RAPID DOME	MERIT LI-LIN V6
AMERICAN DYNAMICS	MIC1-300
BOSCH AUTODOME	MOLYNX
CBC (GANZ)	NICECAM
C-BEL	NIKO
CELBO SPEED DOME	ORX-1000 (KRE-303)
CHIPER CPT (V9KR SERIES)	PANASONIC
CNB-AN102	PANASONIC V2
CNB-PTZ100	PELCO (P PROTOCOL 4800BPS)
COMPUTAR	PELCO DRD08/DRD14 SERIES
COVI EVQ-1000	PHILIPS (TC8560 & TC700)
DENNARD RS485	SAE
DMP23-H2	SAMSUNG (DRX-502A)
DONG YANG DSC-230/240	SAMSUNG (MRX-1000)
DONG YANG SPEEDDOME	SAMSUNG (SCC-641)
DONG YANG UNITECH (DRX-502A)	SAMSUNG (SCC-C6407)
DONGYANG (255RXC)	SAMSUNG (SPD-3300P)
DVRX-1000	SANTACHI
DYNACOLOR	SENSORMATIC SPEEDDOME-AD DELTADOME
ERAEESEDS (CRX-1401)	SONY BRC-300
ERNITEC	SPD-2500P
EVERFOCUS EPTZ1000	SUNGJIN (SJ2819RX)
FASTRAX II	SUNGJIN (SJ3000RX)
FASTRAX IIE	T TIAT TRX-100
FILLTECH (DSC-230/PT-201)	T TIAT TTR-100
FINE SYSTEM (CRR-1600)	TAMRON
FOCVISION (KD1602)	TELEEYE DOME
GANZ ZC - PT SERIES	TOSHIBA (P PROTOCOL 4800BPS)
HMC-250	ULTRAK (KD6)
HSCP	VCL
INTER-M (VSD-640)	VCL- LEGACY
INTER-M(VRX-2101)	VICON
JAVELIN (ORBITOR)	VICON SURVEYOR 2000
JVC TK-C676/C55	VIDEOALARM
KALATEL (CYBER DOME)	VIDEOTREC
KDC	VISION TECH
KODITEC	WONWOO
LG (LPT-A100L)	WSD-7425D
LG (LVC-A70X'S)	

Advanced PTZ Setup

PTZ Signal Type

PTZ Protocol List

Channel : [Channel 01] : Position1

☒ Pan/Tilt Connection
☐ Reverse PTZ

Port Setting

☒ RS485
☐ RS232

☒ COM 1 ☐ COM 2 Baud Rate 9600bps Parity NONE Data Bits 8 Stop Bits 1

☐ On screen compass

Honeywell

Camera Menu Select Close

Tour

Tour Method :
☒ PresetTour
☐ PresetTour2
☐ Mimic

Setting :
Start Pos End Pos
Select Privacy Zone Deselect Privacy Zone
Travel Speed : 0
Dwell Time(sec) : 0
Run Stop Tour Schedule

Preset

☐ Preset 1
☐ Preset 2
☐ Preset 3
☐ Preset 4
☐ Preset 5

Set Clear Clear All Test Preset

Sequence :

Speed

Pan : 20 Zoom : 1
Tilt : 20 Focus : 1

PTZ Status on close

☒ Stay put ☐ Go to preset Controller

Address Setting

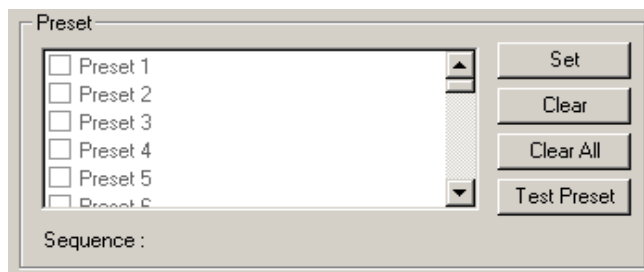
RX Address 1 : 01 Previous ID : Set ID PT Driver Address : 1
RX Address 2 : 00 New ID :

Creating and Viewing Preset Positions

A Preset Position is a user-defined location where the camera can be pointed, zoomed in, and focused. Preset positions can be defined and labeled if the camera supports this. Each preset can have an independent Dwell and Speed setting for use with the Tour 2 Function.

Creating a Preset

1. Inside Setup, click the PTZ Setup tab and select a camera from the Channel List.
2. Select the Pan/Tilt Connection check box and select the appropriate PTZ protocol.
3. Click the Controller button to open the PTZ Graphical Controller.
4. In the Preset options box, select a Preset from the list to modify (a red box will appear around the Preset).



5. Use the controls on the Graphical Controller to move the selected camera to the desired position.
6. Enter a Dwell Time and Speed Setting. This is used for the Tour 2 function (Each preset can have a different Dwell and Speed setting).
7. Click the Set button once the camera is in the desired position.
8. Enter a name in the new window and click OK.

Viewing a Preset

1. Click the video displayed by the PTZ camera on the Live View Display.
2. Using the keyboard, press the number keys corresponding with the Preset positions.
– or –
Click the numeric buttons on the on-screen PTZ controller.
The camera will move to the saved Preset.
3. Presets can also be activated using the on-screen PTZ controller. Open the controller and click a preset number button.

Understanding Tours

The following section explains PTZ Tour options. Not every Tour method will be available for each PTZ camera.

Preset Tour

Cycles through the selected Recorded Presets with the addition of a definable Travel Speed and Dwell Time.

Preset Tour 2

Cycles through the selected Recorded Presets.

Mimic Tour

'Mimics' a user-defined motion path, copying everything the user does (including speed).

Privacy Zone

A user-defined masked out area so it cannot be viewed.

Sequence

Displays a list of preset sequences. This list is only displayed on supported protocols.

Travel Speed

Sets the speed at which a PTZ moves from one Preset position to the next (when using Preset Tour 1).

Dwell Time

Defines the length of time (in seconds) that a PTZ Tour stays on a Preset Position (when using Preset Tour 1).

The **Honeywell VCL** Tour has been updated. Preset 1 now obeys configured speed and dwell times and Preset 2 uses PTZ dome defaults.

The **Honeywell VCL** Tour has been updated. Preset 1 now obeys configured speed and dwell times and Preset 2 uses PTZ dome defaults.

Creating a Preset Tour

1. Select two or more Preset Positions. See Creating a Preset above.
2. Select the Preset Tour method.
3. Define a Travel Speed and Dwell Time for the tour.
4. Click the Apply button.

Viewing the Preset Tour

1. On the Main Display screen, click the PTZ button to open the graphical controller.
2. Click the video display of the desired PTZ camera.
3. Click the Tour button. The Preset Tour will activate.

Creating a Preset Tour2

1. Select two or more Preset Positions. See Creating a Preset above.
2. Select the Preset Tour2 method.
3. Click the Apply button.

Viewing the Preset Tour2

1. On the Main Display Screen click the PTZ button to open the graphical controller.
2. Click the video display of the desired PTZ camera.
3. Click the Tour button. The Preset Tour2 will activate.

Creating a Mimic Tour

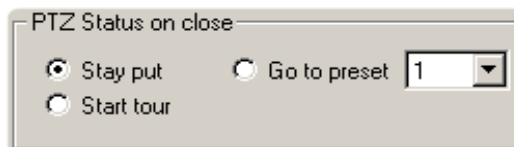
1. Select the Mimic Tour Type.
2. Click the Controller button to open the PTZ graphical controller.
3. Click the Start Position button.
4. Using the PTZ Controller, move the PTZ in the path of the tour to mimic.
5. Click the Stop Position button when finished moving the PTZ around.
6. Click OK or Apply to save.

Viewing the Mimic Tour

1. On the Main Display Screen click the PTZ button to open the graphical controller.
2. Click the video display of the desired PTZ camera.
3. Click the Tour button. The Mimic Tour will activate.

PTZ Status on Close

The PTZ Status on Close option defines the default settings for a PTZ camera when the controller is not open. This includes activating a tour, moving to a preset position or leaving the camera as it.



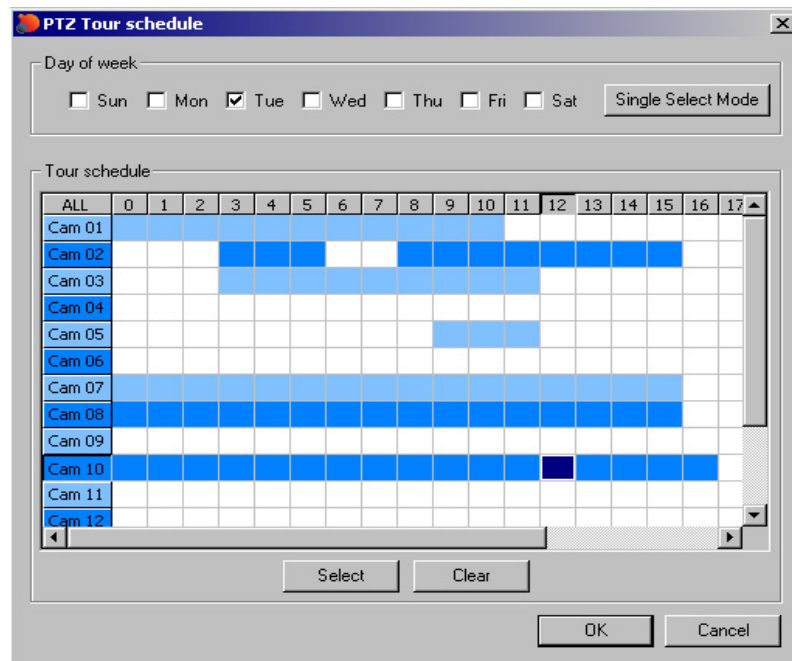
Stay Put	Leaves the PTZ in its present state.
Start Tour	Starts the Pre-Defined Tour function when the PTZ controller is closed.
Go To Preset	Moves to a Selected Preset position when the PTZ controller is closed.

Activating the PTZ Status on Close Option

1. Start by creating a Preset or Tour for the selected camera. See the instructions above.
2. Select either Start Tour or Go To Preset.
3. Click the Apply button to save.

PTZ Tour Scheduling

The PTZ Tour Scheduling option allows users to create set tour schedules for PTZ cameras connected to the DVR. The Tour Schedule allows users to schedule tours on specific days of the week and specific hours of the day for multiple PTZ cameras. Selected time frames are designated in blue and non-selected (default frames) and shown in white.



Creating a PTZ Tour Schedule

1. Click the Tour Schedule button on the PTZ Setup tab.
2. Select a Day of the Week – or – Click the Single Select Mode button to switch to Multi Day Mode and select multiple days of the week.
3. Click and drag the mouse cursor to select blocks of time for the selected camera.
4. Click the Select button.
5. Repeat for additional cameras.
6. Click the OK button

PTZ Address Setting

Some protocols support software address settings.



The image shows a software interface titled "Address Setting". It contains two rows of input fields. The first row has "RX Address 1:" followed by a dropdown menu showing "01", a "Previous ID:" text box, a "Set ID" button, and "PT Driver Address:" followed by a dropdown menu showing "1". The second row has "RX Address 2:" followed by a dropdown menu showing "00", and a "New ID:" text box.

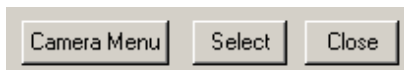
The **RX Addresses** and **ID settings** are compatible with a particular line of receivers that support 2 ID addresses

The **PT Driver Address** is associated with the PTZ ID address set on the camera. The addresses must match for the DVR to communicate with the proper PTZ camera. This is especially important when a large number of PTZ cameras are connected to the DVR.

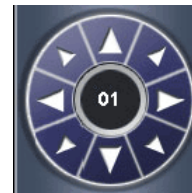
Note To select a PT Driver Address of 129-254, manually enter the ID in the box.

Accessing PTZ Menus

Some protocols support the ability to access the Internal PTZ Onscreen Menu.



Camera Menu	Opens the PTZ Camera Menu.
Select	Select an item on the onscreen menu.
Close	Close the PTZ Onscreen Menu.
Up/down	The Up and Down buttons on the PTZ controller move through the PTZ menu options.
Left/Right	The Left and Right buttons on the PTZ controller move through the PTZ menu options and/or highlight options.



Since every PTZ camera is different, the functions of these options can vary slightly. For available options, please refer to the camera's operations manual.

Opening and Editing the Honeywell MAXPRO Menu

1. Click the Camera Menu button. The Camera Menu will appear on the screen.
2. Use the Up and Down buttons on the PTZ controller to scroll through the menu options.
3. Click the Select button to select a menu option. Clicking Select will either scroll one menu deeper or it will change a selected option.
4. Click Close to scroll one menu back, or if at the root menu level, it will close the PTZ Menu.

Controlling a PTZ Camera

Fusion DVRs provide control of PTZ cameras in two different ways.

- Using the Graphical PTZ controller that appears when the PTZ button is clicked on the main screen.
- Clicking on the video itself. This second option is a much more powerful way to control the Camera.



Using the On-Screen Compass

1. Click the Setup button on the main screen.
2. Click PTZ Setup.
3. Select the On Screen Compass check box to enable the feature.
4. Click the Apply button.
5. Click the Exit button to return to the main screen.
6. Click the PTZ button.
7. Control the PTZ by dragging the mouse on the screen in the desired direction. A green line will appear to show the direction the PTZ will move. The shorter the line the less the PTZ will move. The longer the line the more the PTZ will travel in the specified direction.

Using the PTZ Controller

- Use the Arrow buttons to control the direction of the PTZ camera.
- To select a new camera, click the video display of a different camera on the Main Screen Display.

Note Eight directions are available only for select protocols. Only four of the PTZ Control buttons work for all protocols (UP, DOWN, LEFT, RIGHT).



AUX Buttons

The AUX buttons activate different options for each protocol. The protocols and their options are defined below.

VCL, Javelin (Orbitor), HONEYWELL MAXPRO	AUX 1	Auto Iris
	AUX 2	Auto Focus
Pelco-D, Pelco-P, Kodicom Receiver, CBC, Dennard	AUX 1	Wiper
	AUX 2	Light

Backing up Video Data

Backup Overview

The DVR can easily backup important video data to an internal or external media location. The most commonly used forms of this are CD/DVD-R/RWs, External USB or FireWire Hard Drives, and Network Drives. Every DVR comes standard equipped with a DVD-RW drive, USB port, and Network Adapter (FireWire port optional).

The DVR is capable of performing a backup to multiple CDs or DVDs when the file sizes exceed the capacity of a single disk. You may also specify multiple locations for backup as well as the order they are recorded to.

The DVR backs up video data using a proprietary compression format that can only be read by the DVR Backup Program. This ensures the integrity of the data.

Throughout the backup process the DVR will continue recording without interruption. This is the result of the tremendous multiplexing power of the DVR which allows it to perform virtually all functions without disrupting the recording process.

Nero® Express

The DVR uses Windows® XP® Embedded running Nero® Express 7.0 to write data to the DVD-RW Drive. This solution allows the DVR software to read and write data to the DVD-RW Drive without the requirement of formatting the disk first.

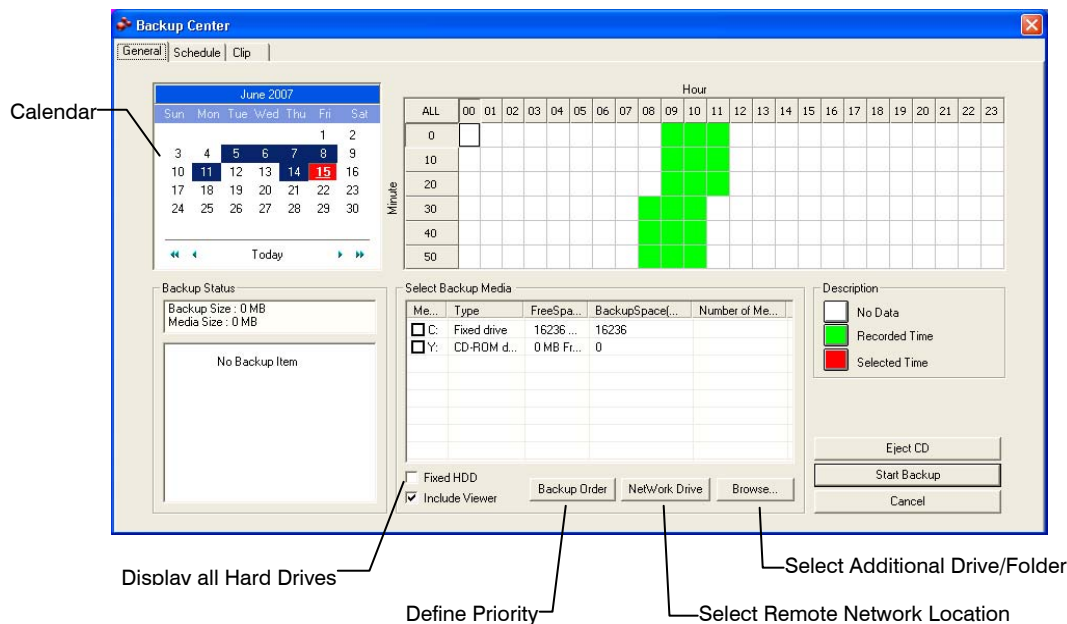
Caution Although many features are available within Nero, it is highly recommended that you do NOT use any features other than those necessary for the standard backup of video data as outlined in this section, loss of information or software instability may result.

Backup Center Overview

The Backup Center allows users to back up recorded video data from multiple dates and times to one or more locations including the DVD-RW drive, Network Storage Locations, and External Hard Drives.

General Screen Overview

The General Screen is used for performing bulk backup of video recorded by all cameras for a selected period or periods of time to a specified storage location.



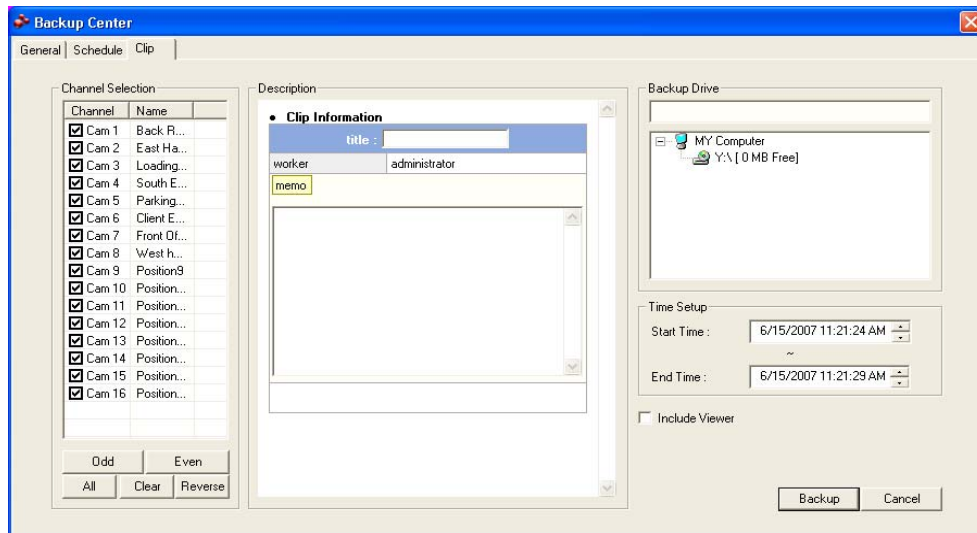
- Hour / Minute** Displays recording data in hourly (24 vertical columns) and 10 minute (six horizontal rows) segments. Green cells indicate time with recorded video. Red cells indicate time selected for backup.
- Backup Status** Displays the size of all video currently selected for backup, the available size of the media currently selected for backup, and the dates and times of video currently selected for backup.

Performing a General Backup

1. Click the Backup button on the Main Display Screen.
2. Select the date or dates to back up video from using the calendar. Dates highlighted in blue contain recorded data.
3. Select the blocks of time to back up using the Hour/Minute Menu. Blocks of time with recorded video are highlighted in green. Blocks of time selected for backup are highlighted in red.
4. Select the drive or drives to save the backup video to using the Select Backup Media Menu, Network Drive button, or Browse button. When selecting the DVD-RW Drive you must specify the number of DVDs to use for backup.
5. Set the backup order using the Backup Order button.
6. Select the Include Viewer check box to include the Proprietary Viewer application.
7. Click the Start Backup button to begin the backup process. A progress bar will display in the lower right corner of the main screen.

Clip Screen Overview

The Clip Screen is used for backing up video recorded by individual cameras for a selected period of time to a specified storage location.



Performing a Clip Backup

1. Click the Backup button on the Main Display Screen.
2. Click the Clip Backup tab at the top of the Backup Center window.
3. Set the Backup Time and End Time of the video to backup in the Time Setup box.
4. Select the Cameras to back up in the Channel Selection box.
5. Select the Backup Drive to save the backup video to.
6. Check the Include Viewer Check box to include the Proprietary Viewer application.
7. Enter pertinent clip information into the Clip Information section under Description.
8. Click the Start Backup button to begin the backup process. A progress bar will display in the lower right corner of the main screen.

Scheduled Backup Overview

The Scheduled Backup option will back up recorded video from all cameras at a specified time on a recurring schedule. Users can only create one scheduled backup configuration at a time.

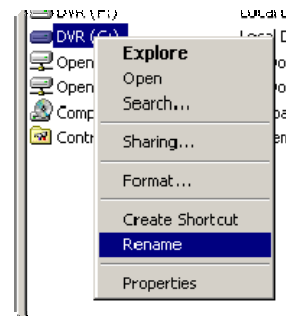
Performing a Scheduled Backup

1. Click the Backup button in the Main Menu in the Main Display Screen.
2. Click the Schedule tab at the top of the Backup Center window.
3. Set the Backup Time to perform the backup.
4. Set the Repeat Backup Time to specify the number of hours between backup procedures (between 1 and 24 hours).
5. Select the Backup Drive to save the backup video to using the Select Backup Media Menu or the Network Drive button. To save to a local drive or partition, first rename the location "Backup".
6. Check the Overwrite on Disk Full check box to overwrite previous scheduled backups when the disk becomes full.
7. Click the Save Backup Setting button to save the current backup setting and return to the Main Display Screen.

Specifying Scheduled Backup Drives

In order to use the Scheduled Backup feature, one or more storage drives or partitions connected to the DVR must be labeled as a backup drive.

1. Exit and restart in Windows mode.
2. Double click the My Computer icon on the DVRs desktop.
3. Right-click the drive to specify as a backup drive for scheduled backup and select the Rename option. Rename the drive to 'Backup'. Repeat this process for all drives to use for Scheduled Backup. To remove a drive from use for Scheduled Backup, change its name to something besides 'Backup'.
4. Restart the application and return to the Schedule tab in the Backup Center Window.



LAN / ISDN / PSTN Connections

LAN Overview

The DVR can easily be connected to a Local Area Network (LAN) and uses Microsoft's® powerful and secure Windows® XP Embedded Operating System. This allows for easy and well-documented instructions on setting up LAN connections no matter what type of LAN being used.

A LAN is a group of computers and other devices dispersed over a relatively limited area and connected by a communications link that allows one device to interact with any other on the network. Local Area Network is also called LAN.

Examples of LAN connections include Ethernet, Token Ring, cable modems, DSL, FDDI, IP over ATM, IrDA (Infrared), wireless, and ATM-emulated LANs. Emulated LANs are based on virtual adapter drivers such as the LAN Emulation Protocol.

There are a vast amount of reasons why using Microsoft® Windows® XP Embedded is far superior to other platforms when running on a LAN. The number one reason is security. Running the DVR on a secure network is important to prevent unwanted users from gaining access to confidential information. Unwanted users can compromise the integrity of the confidential data being stored and viewed, and in extreme circumstances can cause irreparable damage to the network.

Since connecting the DVR to a network can be extremely complex (depending on the network), this Fusion DVR manual will cover only the basics. Honeywell suggests that users consult the vendor or your IT Administrator before attempting to create or connect to a LAN.

Connecting to a LAN Using TCP/IP

The networking options of the DVR can create and edit all Network settings available on Windows XP Embedded. The DVR comes equipped with a 10/100 Network Interface Card (NIC). This card uses a standard RJ-45 connector.

The DVR comes preconfigured to receive an IP address via DHCP. These IP settings will work for many users. If these IP settings are sufficient then re-configuring TCP/IP will not be necessary, otherwise please contact your Network Administrator.

Configuring TCP/IP Settings

1. Exit and restart in Windows mode.
2. Right-click on the My Network Places icon located on the desktop and select Properties. The Network and Dial-Up Connections Window opens.
3. Right-click Local Area Connections and select Properties. The Local Area Connection Properties Window opens.
4. Select the Internet Protocol (TCP/IP) by clicking on it once. Once it is highlighted, select the Properties button. The Internet Protocol (TCP/IP) Properties Window opens.
5. Select Use the Following IP Address option. Enter the IP Address and Subnet mask appropriate for the network. It is recommended to contact the Network Administrator for appropriate IP settings.

Example: Common IP addresses are 10.0.0.25
Common Subnet masks are 255.255.255.0

Note In order to connect to the DVR through a remote LAN connection, a static IP address must be assigned. If the network assigns the IP address automatically (DHCP), contact the Network Administrator for help assigning a static IP address.

6. If the network requires specifying the DNS information, enter it now by selecting the appropriate DNS options.
7. When finished configuring the TCP/IP settings, close the Internet Protocol (TCP/IP) Properties window by clicking the OK button.
8. Close the Local Area Connection Properties Window by clicking the OK button.
9. It may be required to restart Windows for the changes to take effect. Start > Shutdown > Restart.

Event Sentry

Overview

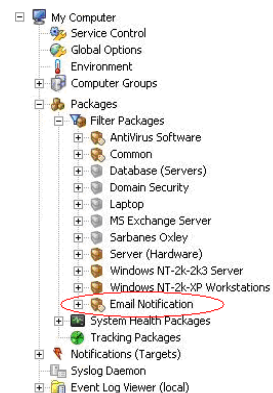
Event Sentry is designed to allow the user to monitor drive status in DVRs utilizing an internal RAID 5 array. This utility allows users to be notified via email in the event of a drive failure.

Setup Event Sentry

1. Double click the Event Sentry Management icon on the desktop to launch the software.
2. The Setup Wizard will display the first time to explain features of the software. Read the displayed tips.
3. Click Next on each window; on the last window click Finish.
4. Select No More Tips Please! In the Tips and Tricks Window.
5. Click Close.
6. The main page of the Event Sentry Management console will display.

Add Email Notification Filters

1. Find and expand Email Notification in the Left Panel. My Computer > Packages > Filter Packages > Email Notification.
2. Right click Email Critical Events and select Delete.
3. Click Yes to confirm.
4. Right click Email Notification and select Add Filter.
5. Name the filter IAANTmon:7.
6. Click the IAANTmon:7 filter in the left panel. The filter options will display in the right panel.



General Threshold Timers Hour / Day Custom Event Logs

Right-Click package and select Edit to view configured targets

Log

Application ☒ Directory Service ☐
 Security ☒ File Replication ☐
 System ☒ DNS Server ☐

Event Severity

Information ☐ Warning ☒ Audit Success ☐
 Error ☒ Audit Failure ☒

Filter Settings

Include ☒ Exclude ☐
 Stop Processing ☐
 Require Acknowledgment ☐

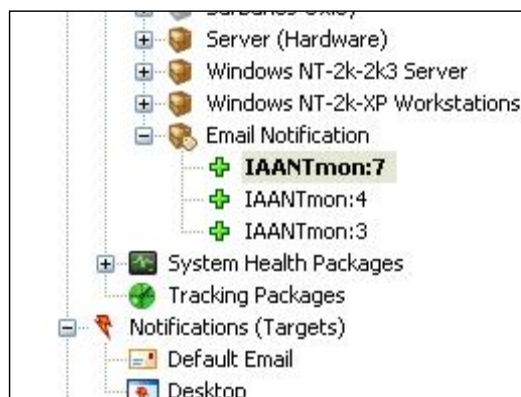
Details

Event Source: IAANTmon
 Category:
 Event ID: 7
 Username:
 Computer:

Filter Text & Notes

Content Filter:
 Filter Notes:

7. Select IAANTmon from the Event Source List.
8. Type 7 in the Event ID box.
9. Repeat the steps above to add two more filters: IAANTmon:4 and IAANTmon:3.



Note The properties for each filter will remain the same except the Event ID box, which corresponds to the filter name.

10. After all three filters are added save the settings. File > Save.
11. Exit the Event Sentry Management Software. File > Exit.
12. Double Click the Fusion DVR icon on the desktop to restart the DVR software.
13. The Event Sentry will run in the background and monitor the RAID array.

Honeywell Video Analytics Integration

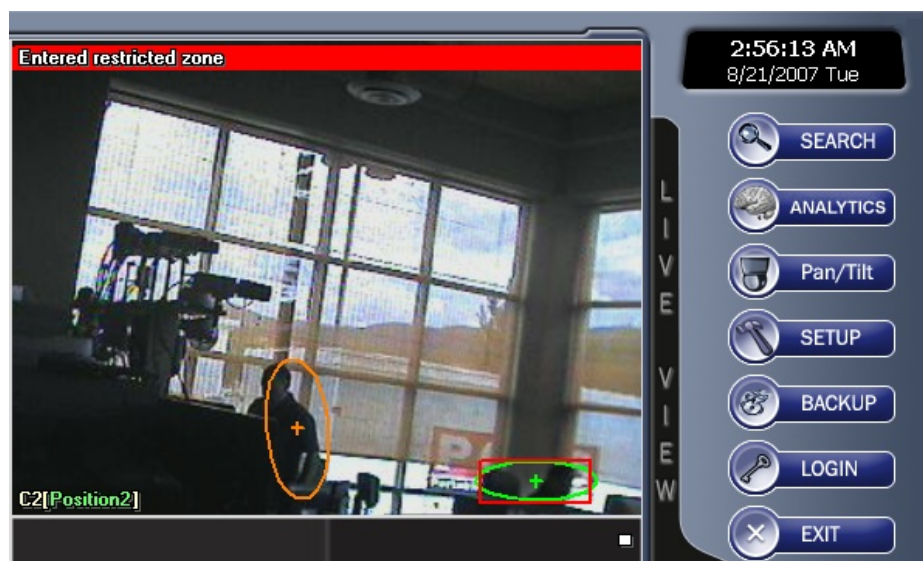
Overview

Honeywell Video Analytics is a factory installed optional video analytics program integrated with the Fusion Server software for seamless advanced security monitoring. The Honeywell Video Analytics option is available, at the time of ordering, for all Fusion III DVRs and requires the factory installed Hardware Performance upgrade.

Important Notes

Fusion channels running Honeywell Video Analytics must be configured to record 10-15 IPS. See Frame Setup in the Setup Options chapter of this manual for more information.

If the Analytics button is missing from the Live View screen, reinstall the Fusion Server software and select the Honeywell Video Analytics option during installation.



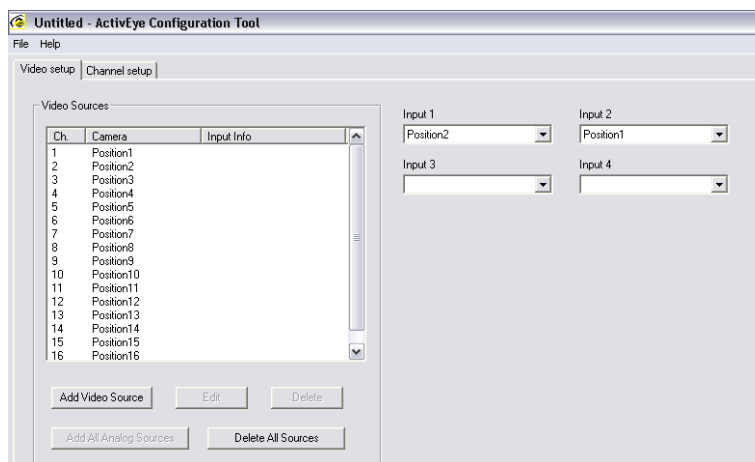
Log In to Honeywell Video Analytics Configuration

1. Click Analytics on the Live View screen.
2. Click Configuration.
3. Log in using the default login credentials.

Hostname: localhost

Username: admin

Password: fusionae



4. To set up individual channels, Events and Zones, refer to the ActiveEye Operators Guide for instructions.

Note The operators guide is pre-installed on the Fusion DVR: START > Programs > Active Alert Server > Documentation > Operators Guide.pdf

Add the Fusion Server Login to Honeywell Video Analytics

1. Click Analytics on the Live View screen and click configuration
2. On the File menu, click Fusion Administrator Info.
3. Enter the Hostname. (The Hostname is the IP address of the Fusion Server. Example: 127.0.0.1 if Honeywell Video Analytics is running on the local Fusion DVR.)
4. Enter 4000 in the Port box.
5. Enter the Username and Password used to log in to the Fusion Server software.
6. Click OK.



Set up Honeywell Video Analytics Communication

1. Click the Setup button on the Live View screen.
2. Click the General tab.
3. Click the Video Analysis button.
4. Select VAAgent Setup from the Protocol list and then click Setup.
5. Click the Communication tab.
6. Select POS ID 1 from the POS ID list and then click Add.

Tip If other software is utilizing POS ID 1, select the next available POS ID number.

TCP/UDP Communication

Remote Info
 Remote IP: 127 . 0 . 0 . 1 Remote Port: 18081

Local Info
 Local Port: 0
☐ Accept IP IP: 0 . 0 . 0 . 0

Match Workstation ID
☒ Match Workstation ID Workstation ID: 2

Login
 User: admin Password: [masked]

OK Cancel

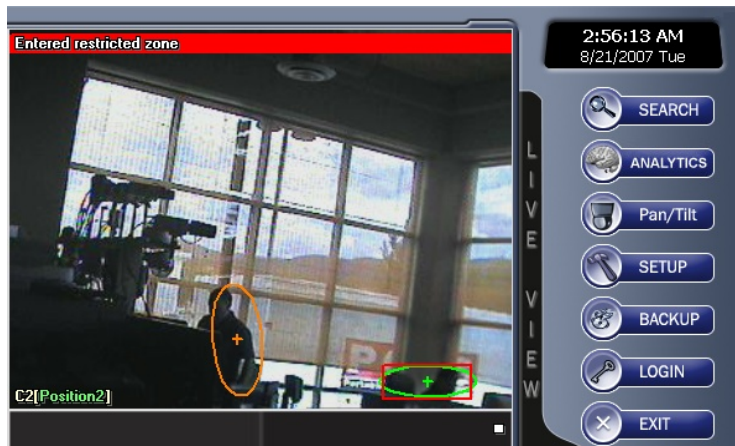
7. Under Remote Info enter:
 Remote IP: 127.0.0.1
 Remote Port: 18081
8. Select the Match Workstation ID check box.
9. Enter the appropriate workstation ID.

Tip The workstation ID should match the video channel that Honeywell Video Analytics is running on.

10. Enter the User and Password login credentials.
Default login:
 User: admin
 Password: fusionae
11. Click OK to return to the Video Analysis Setup window.
12. Select the channel that Honeywell Video Analytics is running on from the Channel list.

13. Select the same POS ID selected above on the Communication tab to enable communication between Honeywell Video Analytics and the Fusion DVR.

After all configurations settings are complete, the object tracking ellipses and alarm notifications will display on the Live View screen.



Honeywell Video Analytics Modules

Live Monitoring Station - the user can view the live processing results.

Forensics Tool – provides an easy-to-use interface to retrieve relevant data from the database based on the user defined query.

Report Generator Tool – generates statistical event reports from the ActiveAlert server database.

Configuration Tool – allows the user to configure the specific types of events or alarms to detect on each camera.



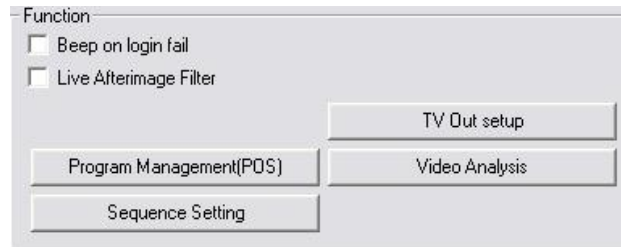
Launch Honeywell Video Analytics Modules

1. Click Analytics on the Live View screen.
2. Click the desired Honeywell Video Analytics module.

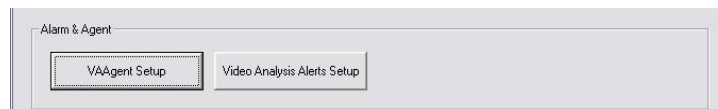
Video Analytics Alert Setup

Create a Video Analytics Alarm Schedule

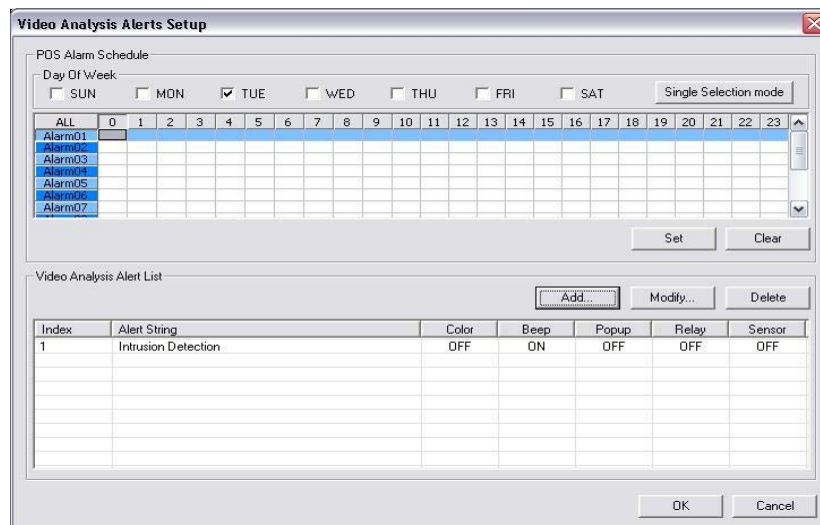
1. Click Setup from the Live View screen.
2. Click the General tab.
3. Click Video Analysis.



4. Click Video Analysis Alerts Setup.



3. Select one day of the week.
– or –
Click the Single Selection Mode button to select multiple days at once.

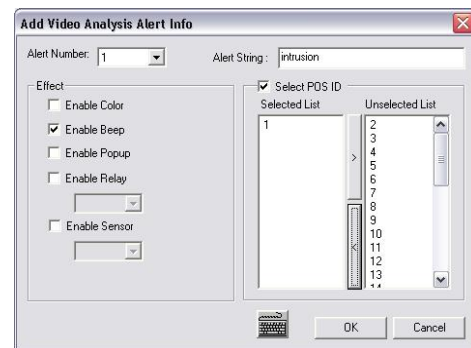


4. Drag the mouse across an Alarm row to select the hours of the day (0-23).
5. Click **Set**.

Tip: Alarm01 will correspond with Index 1 on the Video Analytics Alert List.

Create a Video Analytics Alert

1. Create an alarm schedule as shown above.
2. Click Add on the Video Analysis Alerts Setup window.
3. Select an Alert Number to correspond with the alarm schedule.
4. Type the Alert String text (ie. Counted or Entered).
6. Select the effects to activate when the Alert String is detected.
 - *Color* – Highlight the alert string text with color.
 - *Beep* – Activate audible beep.
 - *Popup* – Activate popup message window.
 - *Relay* – Trigger selected Relay alarm.
 - *Sensor* – Associate selected Sensor to trigger Intensive Recording.
5. Select the Select POS ID check box.
6. Move the appropriate POS ID to the selected list.
7. Click OK.

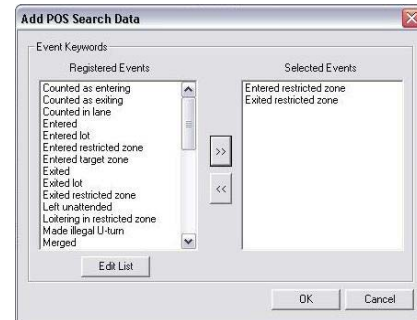


Searching for Honeywell Video Analytics Events

Note The Fusion basic Analytics Event Search only stores three days of recorded events. For more advanced searching functionality please utilize the Analytics Forensics Tool module.

1. Click the Search button on the Live View screen.
2. Click Analysis.
3. Select Detail Search and click OK.
4. Select Event Text from the Search Data Type list, and click the Add button.
5. Select events from the Registered Events list and click the >> button. When done, click OK.

Tip To search for an event at a specific date or time, use the Date Edit section of the Event Search window.



6. Click Search. A list of events will appear at the bottom of the screen.
7. Double-click an event from the list.
8. Use the play controls to view the event video.
9. Click Save to export the video to an AVI file or save a JPG image.

Date	POS	Receipt No	ITEM
9/24/2007 2:04:48 PM	2		[DVR_VADATA], 1, 1, [ID], 6166, [DATA_TYPE], 1, [ALARM_TYPE], Entered restricted zo
9/24/2007 2:04:48 PM	2		[DVR_VADATA], 1, 1, [ID], 6291, [DATA_TYPE], 1, [ALARM_TYPE], Entered restricted zo
9/24/2007 2:04:48 PM	2		[DVR_VADATA], 1, 1, [ID], 6166, [DATA_TYPE], 1, [ALARM_TYPE], Entered restricted zo
9/24/2007 2:04:48 PM	2		[DVR_VADATA], 1, 1, [ID], 6291, [DATA_TYPE], 1, [ALARM_TYPE], Entered restricted zo
9/24/2007 2:04:48 PM	2		[DVR_VADATA], 1, 1, [ID], 6166, [DATA_TYPE], 1, [ALARM_TYPE], Entered restricted zo
9/24/2007 2:04:48 PM	2		[DVR_VADATA], 1, 1, [ID], 6291, [DATA_TYPE], 1, [ALARM_TYPE], Entered restricted zo

NOTES:

The Web Viewer

Web Viewer Overview

The DVR allows access to the video using Microsoft® Internet Explorer® browser 6+.

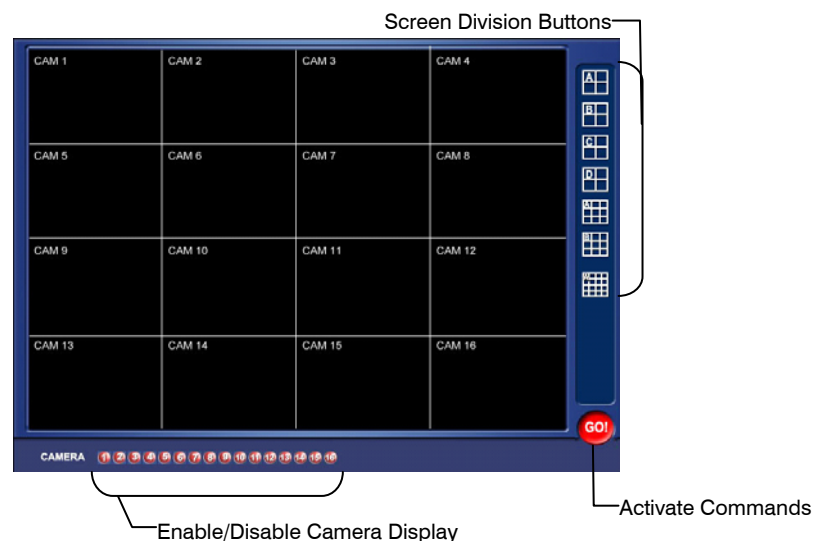
Highlights:

- View Live Video from most computers
- Username and Password protected
- Easy to use graphical interface

Basics:

75 users can access the Web DVR simultaneously. The Web Viewer is an easy, secure way to view live video from virtually any computer with an internet connection using Microsoft Internet Explorer.

To log in to the DVR server from the Web Viewer, a user account must be made for the user. This ensures that only authorized users are allowed to log in. In addition, each user can be assigned different privileges that allow or deny them access to different functions.



Configuring the Server for Remote Connection

1. Enter Setup on the DVR.
2. Click the Network Setup tab.
3. Clear the Disable Remote Control check box. Adjust port settings if necessary.

Note If using a Firewall, it may be necessary to adjust the port settings on both the DVR and the Firewall. Contact the Network Administrator for more information.

4. Select the Enable Web Viewer option. Again, adjust port settings if necessary
5. Click OK.
6. Make sure a User account is created. Without a user account, the Administrator account must be used.
7. The DVR server is now ready to receive incoming connections.

Connecting to a DVR Using Web Viewer

1. Open Microsoft Internet Explorer 6.
2. Enter the IP address of the DVR into the Address Bar.
3. When attempting this for the first time you will be asked to accept an Active X installation. Select Yes to this.

Note If you receive a message saying Internet Explorer security settings do not allow you to download Active X components then you will need to adjust the browser security settings. One way to do this is to add the IP address of the DVR to the trusted sites list inside Internet Explorer settings. Contact the System administrator for additional help with adjusting Internet Explorer settings.

4. When the Web Viewer finishes loading, select one or more cameras (or select a screen division button).
5. Click GO!
6. A login window will appear. Enter the Username and Password of an authorized user.
7. The cameras will now be displayed.

Closing the Web Viewer

To exit the Web Viewer close Internet Explorer.

Included Software Setup

Proprietary Viewer Overview

The Proprietary Viewer plays back the exported video in its proprietary format. Video saved in this format is extremely difficult to tamper with and therefore is the ideal solution when law enforcement and legal departments are involved. This video cannot be read by any other viewer.

The Proprietary Viewer is essentially the Search portion of the DVR software. For detailed explanation of these functions, refer to the Search Chapter in this manual.



Installing the Proprietary Viewer

1. Insert the Software Installation CD into the CD-ROM. (Do not install on the DVR.)
2. Select the Proprietary Viewer option to begin installation. When the Welcome screen appears, Click the Next button
3. When the Choose Destination Location Window appears Click the Next button. This will install the Proprietary Viewer in the default destination folder.
4. When the Select Program Folder Window appears Click the Next button.
5. Select either 16 or 32 channel option depending on the model. The user can always reinstall and change this option at a later date. Click the Next button.
6. Click the Finish button.

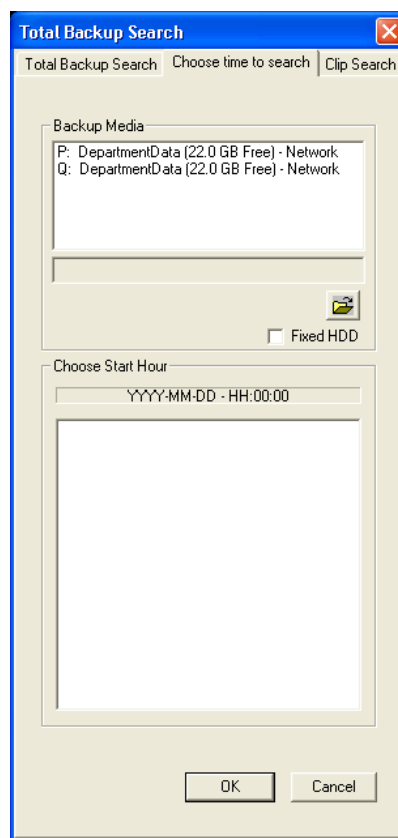
Loading Video from CD-ROM or Hard Drive

1. Open the Proprietary Viewer program by selecting Start > Programs> Fusion > Proprietary Viewer > Proprietary Viewer.
2. Select Backup Search (see the Performing a Basic Search section) and the Total Backup Search window opens.
3. Click the Chose Time to Search tab.
4. For CD-ROM data, select the appropriate CD-ROM drive letter from the Backup Media box.

For hard drive data, select either an attached hard drive from the Backup Media box or select the Open Folder icon to browse to the specified directory.

Once selected, any available video will be displayed in the Choose Start Hour box.

5. Click on the desired time to select it.
6. Click OK.
7. The video will now load into the Proprietary Viewer. To view the video, follow the instructions for searching as described in the Search chapter.



Digital Verifier Overview

.JPG images and .AVI video files that are exported from the Digital Video Recorder are automatically embedded with a digital signature. Digital Signatures are a way to verify the authenticity of the images to ensure that they have not been tampered with or edited in any way. Included on the Software Installation DVD, supplied with the DVR, is the Digital Signature Verification program. This program can be installed on any computer and loads an image in question.

Installing the Digital Verifier

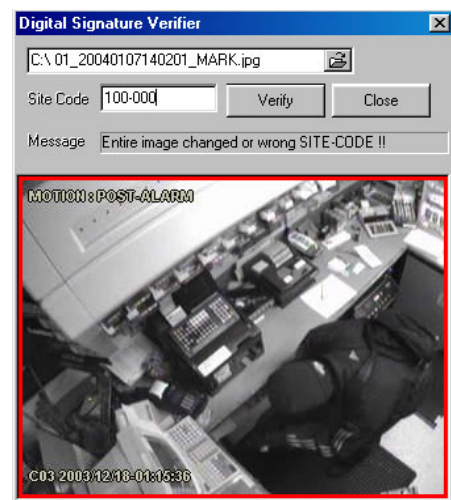
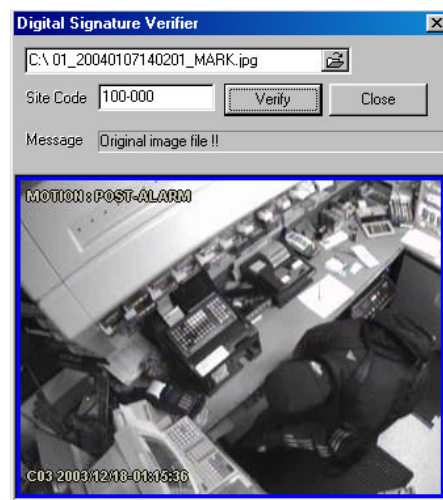
1. Insert the Software Installation CD into the CD-ROM. (Do not install on the DVR.)
2. Select the Digital Verifier option to begin installation. When the Welcome screen appears, click Next.
3. When the Setup Complete window appears click Finish. Installation is complete.

Using the Digital Verifier

1. Open the Digital Verification program by selecting Start > Programs > Fusion > Digital Verifier > Digital Signature Verifier.
2. Click the Browse button to load the .JPG image.
3. Enter the Site Code of the DVR that the image was originally extracted from. (The Site Code is specified in the Site Information Setup Menu)
4. Click the Verify button to continue or Close to close the window without verifying.

If the image has not been tampered with, a blue square will appear around the image with the message "Original image file."

If the image has been tampered with, a red square will appear around the image with the message "Entire image changed or wrong SITE CODE."



Alarm Monitor Overview

The Alarm Monitor software is a utility that streams video across a Local Area Network to a Client PC when an alarm is detected on the DVR. The video that streams across can be stopped, played forwards and backwards, in slow motion or real time.

The utility is loaded at startup and placed in the taskbar. It constantly monitors for a signal from the DVR. When an alarm signal is detected the Alarm Monitor Image Viewer Window opens and starts playing the video from the camera associated to the alarm.

Installing the Alarm Monitor

1. Insert the Software Installation Disc into the CDRom. (Do not install on the DVR) Select the Alarm Monitor option to begin installation and accept the license agreement.
2. Follow the on screen instructions.
3. Click the Finish button to complete the installation.

Configuring the DVR

To enable the Alarm Monitor on the DVR follow these steps:

1. Enter Setup and click the Recording Schedule tab.
2. Assign the desired sensors to the desired cameras. Refer to the Recording Schedule section of this manual for in depth instructions on how to do this.
3. Enable Sensor Event and/or Motion Event in the Alarm Options Section of each schedule number to send alarm events to the Alarm Monitor.

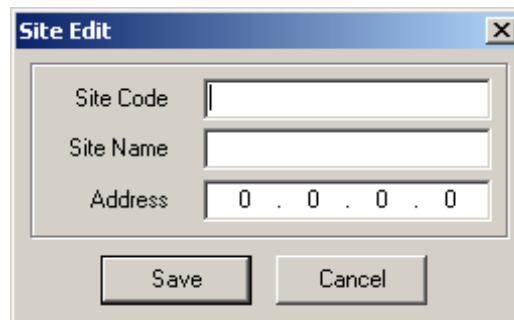
Note The Remote Alarm and Emergency Alarm options are used by the more advanced FVMS multi site management and control software.

4. Enter the IP Address of the computer running the Alarm Monitor software.
5. Click the Network tab and make sure that Disable Remote Control is not checked.
6. The Alarm Monitor uses the Emergency Port to transfer the data through. The port can be adjusted inside the Network Menu if necessary. It is recommended that the default port setting be used.
7. Click the Sensor Menu tab.
8. Configure the Sensors assigned to cameras.
9. Click OK.

Configuring the Client PC

All configurations take place in the Alarm Monitor Window on the client PC. For descriptions and locations of the buttons and features of the Alarm Monitor Window, refer to the Alarm Monitor Window section later in this chapter.

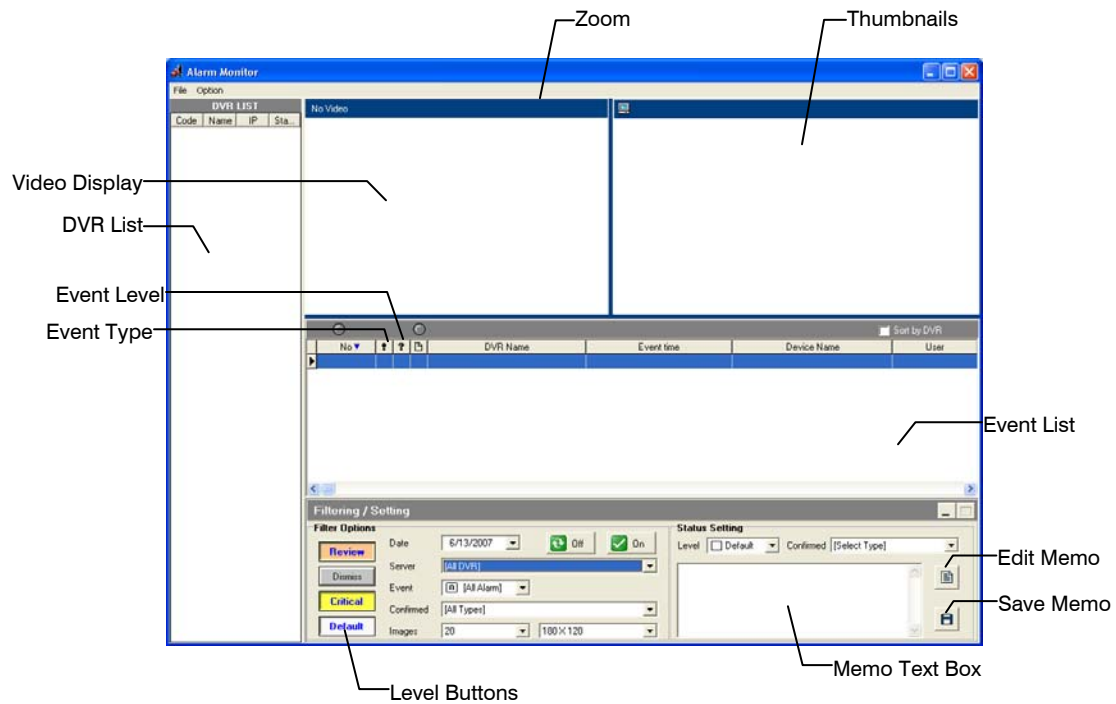
1. Open the Alarm Monitor Window on the Client PC. Start > Programs > Fusion > Alarm Monitor > Alarm Monitor.
2. Click New in the DVR List and enter the site code, site name, and IP Address of the DVR in the Site Edit window. Click Save.

A screenshot of the 'Site Edit' dialog box. It has a title bar with 'Site Edit' and a close button. Inside, there are three input fields: 'Site Code' (empty), 'Site Name' (empty), and 'Address' (containing '0 . 0 . 0 . 0'). At the bottom are 'Save' and 'Cancel' buttons.

Note The site code can be found under the Information tab in the Setup Menu.

3. Click the Tools Menu and select Setup.
4. Confirm that the Listen Port in the Configuration Window is set to the same number as the Emergency Port in Communication Settings on the DVR. If the numbers are different adjust the Listen Port on the client PC to match the DVR.
5. Click Enter.
6. Reboot the client PC.

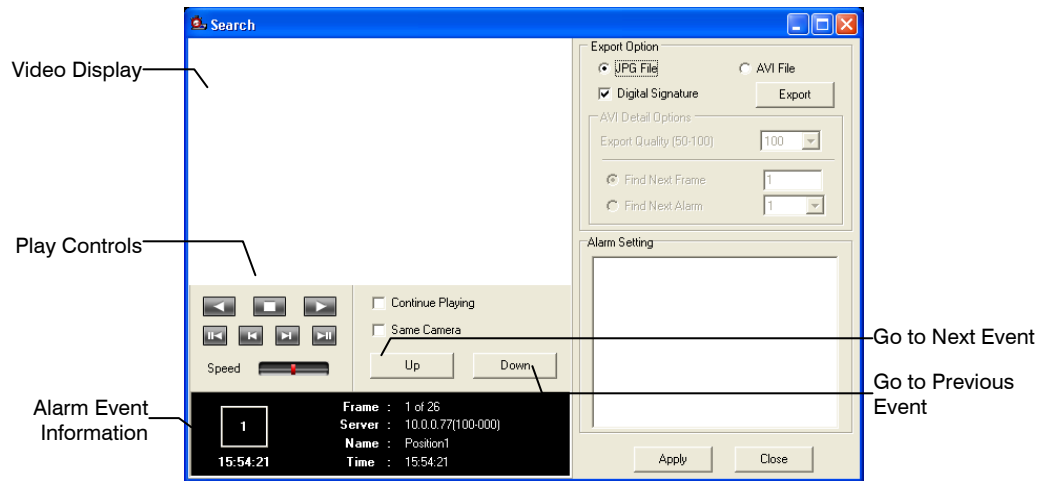
Alarm Monitor Window



Filter Event List

1. Select a DVR from the Server list under Filter Options.
2. Select the Date to include.
3. Select the type of Events to include.
4. Select the event levels (Review, Dismiss, Critical, Default).
5. Click the On button to display filtered event listings.

Search Alarm Window



Export Quality

It may be necessary to reduce the overall size of an .AVI file; for example, to email to someone. .AVI file sizes can be reduced by reducing the image quality. When size is not an issue, setting quality to 100 is highly recommended.

Digital Signature

Adds a digital signature to the exported .JPG image for use with the Digital Signature Verifier to verify integrity of exported images and prevent tampering.

View Recorded Video

1. Double click an event listing to open the Search window.
2. Use the play controls to locate the desired video.
3. Select the Continue Playing check box to watch all recorded events. When not selected, playback stops at the end of the alarm event.
4. Select the Same Camera check box to watch all events recorded by a single camera.
5. Click Apply after making any changes.

Export Video

1. Double click an event listing to open the Search window.
2. Use the play controls to locate the desired video.
3. Click the Rewind button to return to the beginning or desired spot in the video.
4. Click the Stop button and select the Export Type – JPG or AVI.

a. Save JPG:

Select the Digital Signature check box to embed a digital signature in a JPG file and click Export.

b. Save AVI

Reduce Export Quality only if necessary to reduce the size of the file and click Export.

Fusion Remote Software Overview

The DVR was specifically designed to be fully operated and maintained remotely. It connects using the standard TCP/IP protocol through connection types such as DSL, Cable Modem, T1, ISDN, 56K Modem, LAN, and more. The Fusion Remote software provides for viewing live video, searching through archived video, exporting images and video clips; and provides virtually full Setup control.

Highlights:

- Search Archived Video
- View Live Video
- Export Images and Video Clips
- Control Relay Outputs
- Setup Administration

Basics:

The DVR can have up to five simultaneous remote connections. Each user can perform functions on the DVR and will not affect the other users. The only exception to this is accessing Setup. Only one user is allowed to access setup at any given time. The Frames per Second passed to the Remote Client varies greatly depending on the connection type and speed.

In order to log in to the DVR server, a user account must be made for the user. This ensures that only authorized personnel are allowed to log in. In addition, each user can be assigned different privileges that allow or deny them access to different functions. (See the User Management section.) For example, a user can be denied Searching and Setup privileges and only granted access to view cameras 4, 8 and 16.

Attention It is highly recommended that users not be granted Setup privileges since this can pose a security risk. Only authorized Administrators should have access to Setup.

The Remote software operates virtually the same way as the DVR itself. Its appearance matches the DVR almost identically, however, there are a few minor differences. Some search features are not available as well as some Setup options.

Remote Client Minimum Requirements

- Pentium 233 or equivalent
- 32MB System Memory
- DirectX 8 or Higher
- Compatible Video Card (ATI Preferable)
- Internet or LAN Connection (56K, DSL, Cable Modem, T1, ISDN, etc.)
- TCP/IP Installed
- Microsoft® Windows® 98, Me, 2000, or XP Operating System
- 1024 x 768 Display Resolution
- 16 Bit Color Depth or Better

Remote Client Recommended Requirements

- Pentium IV 1.5+ or Equivalent
- 256MB System Memory
- DirectX 8 or Higher
- Compatible Video Card (ATI Preferable)
- Internet or LAN Connection (DSL, Cable Modem, T1, ISDN, etc.)
- TCP/IP Installed
- Microsoft® Windows® 2000 or XP Operating System
- 1024 x 768 Display Resolution
- 32 Bit Color Depth or Better

Installing the Fusion Remote Software

1. On the client computer, insert the Honeywell Fusion Software CD into the CD-ROM. The CD should run automatically.
2. When prompted, select the Install Fusion Remote Software option. Follow the installation instructions carefully.
3. When the software finishes installing, close any open installation windows.

Setting up the Server to Accept Incoming Communications

In order to access the DVR remotely, the DVR Server must be setup to allow remote connections.

☐ Disable Remote Control

Network Setup

TimeOut Value : 60

Emergency Port : 4001
(1024 - 5000)

Center Port : 4000
(1024 - 5000)

Image Port : 4002
(1024 - 5000)

Search Port : 4003
(1024 - 5000)

The DVR uses several ports to communicate with the remote client. The Emergency port is used exclusively for the Emergency Agent software. The Center, Image and Search ports are used by the Multi-Site and Standard Remote software.

These ports may need to be modified if multiple DVRs are sharing one External IP address.

Disable Remote Control	Enables/Disables acceptance of remote connections by the DVR server.
Time Out Value	Specifies a value (in seconds) to wait for a signal from the Fusion Remote Client. If a signal is not received by that time, the connection is dropped.
Center Port	Used by the DVR to transfer the connection data.
Image Port	Used by the DVR to transfer the image data.
Search Port	Used by the DVR to transfer the search data

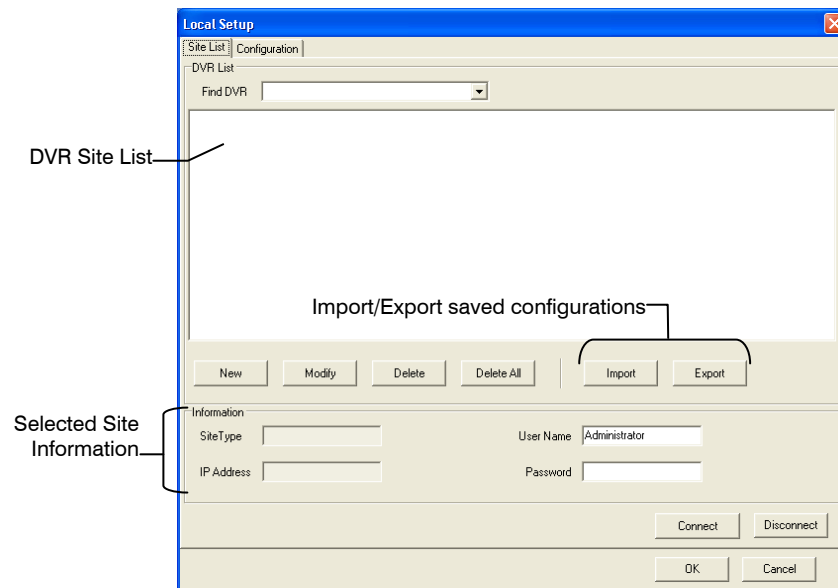
1. Enter Setup on the DVR.
2. Click the Network tab.
3. Clear the Disable Remote Control check box.

Note If a Firewall is used, it may be necessary to adjust the port settings on both the DVR and the Firewall. Contact the Network Administrator for more information.

4. Click OK.
5. Make sure a User account is created. Without a user account, the Administrator account must be used.

The DVR server is now ready to receive incoming connections.

Setting up the Fusion Remote Software



Creating a New Remote Connection

1. Select Start > Programs > Fusion > Fusion Remote.
2. Click New to open the Site Info window.
3. Enter the Site Code and Site Name. The Site Code can be found on the Information tab on the Fusion DVR.
4. Enter the IP Address of the DVR server. By default the DVR is set to connect using DHCP.
5. Enter the Center Port. This setting is specified on the server on the Network tab
6. Click OK.
7. Click on the newly created connection and enter the username and password.
8. Click Connect.

FVMS Overview

FVMS software is Multi-Site Management Software; a powerful utility that allows 100 or more DVRs to be controlled using one computer. This software allows you to view live video, search saved video, edit and configure setup on each DVR, and import maps of buildings and other locations.

The FVMS software was specifically designed as an Enterprise software solution.

Highlights:

- View Live Video from most computers
- Username and Password protected
- Easy to use graphical interface

Basics:

In order to log in to the DVR server, a user account must be made for each user. This ensures that only authorized personnel are allowed to log in. In addition, each user can be assigned different privileges that allow them or deny them access to different functions.

Configuring the Server for Remote Connection

1. Enter Setup on the DVR.
2. Click the Network tab.
3. Clear the Disable Remote Control check box.

Note If you are using a Firewall, it may be necessary to adjust the port settings on both the DVR and the Firewall. Contact the Network Administrator for more information.

4. Click OK.
5. Make sure a User account is created. Without a user account, the Administrator account must be used.
6. The DVR server is now ready to receive incoming connections.

Connecting to a DVR

Refer to the Setup section of the FVMS Manual for information on using the FVMS Software. The FVMS Manual can be found on the Fusion Software CD.

Health Check

FVMS Health Check is used to monitor the status of Network, Video, Recording, and HDD storage space on remotely connected Fusion DVRs. Health Check also provides the user with detailed information on each of the DVRs connected, including the software version running, whether cameras are recording in Motion or Continuous mode and other important information. The DVR transmits this information on port 4005 (default). You can also enable E-mail alarms to be sent on a Health Check Event (Warning or Failure event).

Highlights:

- Can monitor multiple DVRs on the Health Check Main page – up to 100 DVRs.
- Able to define the number of occurrences before a Warning or Failure alarm is triggered.
- Check interval times allow FVMS to check the Fusion DVRs status once every 10 minutes or up to once every 7 days.
- Independently enable or disable Health Check on each connected Fusion DVR.
- Independently select warning and failure notification counts for Video Loss, Recording failures, Disk Free Space %, and Storage Failures.
- Enable custom Voice Warning on Failure alert.
- Detailed status screen provides the following information:
 - o *DVR Information*: including last Health Check time, Total # of channels recording, DVR software version running, current working drive, and disconnected time.
 - o *Video and Recording information*: including the recording status of each camera channel and whether or not it is Motion or Continuous, and if there is a Video Signal from each of the channels
 - o *HDD Storage Status Bar*: indicates the amount of Free and Used space remaining on the HDD.
- Enable an E-mail to be sent on a Warning or Failure Health Check Event – Enabled through the Admin>Enable Email Alarm setup window.
- Ability to Export Status Summary Information, from each independently selected DVR, to HTML, TXT, or Excel formats.
- Summary information of Network Status, Disk Status, Video Status, Capture Status and Storage Status indicating Good, Warning or Failure, along with the specifics about each. Also includes the overall Total status of the DVR.

Enable Health Check on the Fusion DVR

1. Enter Setup on the DVR.
2. Click the Network tab.
3. Clear the Disable Remote Control check box.
4. Select the Enable Health Check check box.

Note The default connection port is 4005; only change this if necessary.

5. Click Apply.
6. Click OK.

Included Software Setup

NOTES:

Technical Specifications

Fusion III 120 IPS

	120IPS
	16
CPU	Intel Dual Core 2.2 GHz CPU
Memory	1GB
Storage (Hard Drive)	500GB (Standard) / 1TB / 2TB / 4TB / 8TB
Storage MAX	Up to 4 Hard Drives with DVD RW
Operating System	Microsoft® Windows® XP Embedded
Viewing Rate	480 IPS NTSC 400 IPS PAL
Recording Rate	Max 120 IPS NTSC Max 100 IPS PAL
Digital Control Output	16
Sensor Input	16
Resolution (Analog)	720x480 / 720x240 / 360x240 NTSC 720x576 / 720x288 / 360x288 PAL
Image Compression	MJPEG
Average File Size (Analog)	360x240 – 3~5k 720x240 – 4~8k 720x480 – 7~12k
Video Input	16
Looping Outputs (75Ω Terminations)	16
Composite Outputs (RCA)	4
Max IPS Per Channel	30 IPS NTSC 25 IPS PAL
Motion Detection	Up to 5 Regions Per Channel / Adjustable Sensitivity
Remote Operation	Full Remote Control through PSTN, ISDN, ADSL, LAN, and TCP/IP
Remote Software	Compatible with Microsoft Windows 2000, XP, Vista
PAN / TILT / ZOOM	Built-in RS-422/485 Interface, supported Network Cameras
Recording Mode	Continuous, Motion Detection, Sensor, Scheduled Recording
Backup	USB, DVD RW, Network
Digital Signatures	Supports Digital Signatures
Alarm Monitor	Transmitted through TCP/IP – FVMS
Dimensions (LxWxH)	21.5" (54.61 cm) / 17.25" (43.815 cm) / 8.65" (22.225 cm)
Weight	52-62.5 lbs

Fusion III 240 IPS & 480 IPS

		240IPS			480IPS	
		8	16	32	16	32
CPU		Intel Dual Core 2.2 GHz CPU			Intel C2D 2.8 GHz CPU	
Memory		1GB				
Storage (Hard Drive)		500GB (Standard) / 1TB / 2TB / 4TB / 8TB				
Storage MAX		Up to 4 Hard Drives with DVD RW				
Operating System		Microsoft® Windows® XP Embedded				
Viewing Rate	NTSC	240 IPS	480 IPS		480 IPS	
	PAL	200 IPS	400 IPS		400 IPS	
Recording Rate		240 PPS 360×240 120 PPS 720×240 60 PPS 720×480			480 PPS 360×240 240 PPS 720×240 120 PPS 720×480	
Digital Control Output		8	16	16	16	16
Sensor Input		8	16	16	16	16
Resolution (Analog)		720x480 / 720x240 / 360x240 NTSC 720x576 / 720x288 / 360x288 PAL				
Image Compression		MJPEG				
Average File Size (Analog)		360x240 – 3~5k 720x240 – 4~8k 720x480 – 7~12k				
Video Input		8	16	32	16	32
Looping Outputs (75Ω Terminations)		8	16	32	16	32
Composite Outputs (RCA)		1	1	1	4	1
Max IPS Per Channel		30 IPS NTSC 25 IPS PAL				
Motion Detection		Up to 15 Regions Per Channel / Adjustable Sensitivity				
Remote Operation		Full Remote Control through PSTN, ISDN, ADSL, LAN, and TCP/IP				
Remote Software		Compatible with Microsoft Windows XP, Vista				
PAN / TILT / ZOOM		Built-in RS-422/485 Interface, supported Network Cameras				
Recording Mode		Continuous, Motion Detection, Sensor, Scheduled Recording				
Backup		USB, DVD RW, Network				
Digital Signatures		Supports Digital Signatures				
Alarm Monitor		Transmitted through TCP/IP – FVMS				
Dimensions (LxWxH)		21.5”(54.61 cm) / 17.25”(43.815 cm) / 8.65”(22.225 cm)				
Weight		52-62.5 lbs				

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