Guardian Range
K-DVR-4G
K-DVR-8G

<u>DVR</u> <u>Instruction Manual</u>





CAUTION

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE.
PLEASE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING

TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class "A" digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Incorrect operation of this equipment in a residential area may cause harmful interference in which case the users will be required to correct the interference at their own expense.

FCC Caution: To assure continued compliance, use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This Class A digital apparatus meets all the requirements of the Canadian Interference Causing Equipment Regulations.

These equipments comply with the European Council Directives:

Low Voltage Directive 2006/95/EC

EMC Directive 2004/108/EC.

LIMITATION OF LIABILITY

- THIS PUBLICATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THE THIRD PARTY'S RIGHT.
- THIS PUBLICATION COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE ADDED TO THE INFORMATION HEREIN, AT ANY TIME, FOR THE IMPROVEMENTS OF THIS PUBLICATION AND/OR THE CORRESPONDING PRODUCT(S).

DISCLAIMER OF WARRANTY

IN NO EVENT SHALL THE SUPPLIER BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR REPLACEMENT OR REASONABLE MAINTENANCE OF THE PRODUCT, FOR THE CASES, INCLUDING BUT NOT LIMITED TO THE FOLLOWINGS:

- ANY DAMAGE OR LOSS, INCLUDING BUT WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT:
- PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION BY THE USER:
- UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER:
- ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED WITH THE DEVICES OF THE THIRD PARTY;
- ANY CLAIM OR ACTION FOR DAMAGES, BROUGHT BY ANY PERSON OR ORGANIZATION BEING A PHOTOGENIC SUBJECT, DUE TO VIOLATION OF PRIVACY WITH THE RESULT OF THAT SURVEILLANCE-CAMERA'S PICTURE, INCLUDING SAVED DATA, FOR SOME REASON, BECOMES PUBLIC OR IS USED FOR THE PURPOSE OTHER THAN SURVEILLANCE.

PRECAUTIONS

- Please refer all work related to the installation of this product to qualified service personnel or system installers.
- Do not operate the appliance beyond its specified temperature, humidity or power source ratings.
- Use the appliance at temperatures within 0oC ~ +45oC (32oF ~ 122oF) and humidity below 85%.
- The input power source for this appliance is +12 VDC. Use only the AC Mains to 12vDC adapter as supplied with the DVR. Use of such other power adapter may cause damage to the DVR not covered by the warranty.
- Performance and lifetime of hard disk drives (HDD) are easily affected by heat (used at high temperature). It is recommended to use this appliance at temperature within +20oC ~ +30oC (68oF ~ 86oF) to maximise HDD life.
- It is possible to damage them if they are moved while their motors are still running. <u>Do not move the DVR just after turning the power on or off (for around 30 seconds).</u>
- Clean only with dry cloth.
- Do not block any ventilation openings.
- Do not use the appliance near any heat sources such as radiators, heat registers, stoves or other apparatus that produce heat.
- Protect the power cord from being stepped on or pinched particularly at plugs, convenient receptacles and the points where they exit from the apparatus.
- Do not drop metallic parts through slots. This could permanently damage the appliance. Turn the power off immediately and contact qualified service personnel for service if this occurs.
- Handle the appliance with care. Do not strike or shake, as this may damage the appliance.
- Do not expose the appliance to water or moisture, nor try to operate it in wet areas. Do
 take immediate action if the appliance becomes wet. Turn the power off and refer
 servicing to qualified service personnel. Moisture may damage the appliance and also
 cause electric shock.
- Do not use strong or abrasive detergents when cleaning the appliance body.
- Do not overload outlets/extension cords as it may result in a risk of fire or electric shock.
- Please make a note of your settings and save them. This will help when you are required to change the system configuration, or when unexpected failure or trouble occurs.
- Distributing, copying, disassembling, reverse compiling, reverse engineering, and exporting in violation of export laws of the software provided with this product is prohibited.

Contents

Overviews Overview & DVR features of the 4/8ch Guardian Overview & DVR features of the 16ch Guardian	
DVR and accessories Remote Control	11 12
Main Screen Logging In General Settings Record Settings Scheduling Output Sequence Alarm Motion External Sensor Alarm Outputs COM Settings PTZ Settings PTZ Control Network Settings DDNS Settings E-mail User Management/Account Settings Playback Backing up HDD Factory/Default Restore System Info Log Inquiry	14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 31 31 31 31 31 31 31 31 31 31 31 31
Remote Access Part 1 – LAN/Local Access. Part 2 – WAN/Outside Access. Setting Up No-IP. Netviewer.	38 39

Overview & DVR features of the 4 Guardian Lite

The H.264 Guardian series digital video(&audio) recorders are designed for use within an environment where surveillance, recording and monitoring are required. A DVR is a combination of a Hard Disk Recorder, video multiplexer and web server. To achieve the highest inter-connectivity and inter-operability this series of digital video/audio recorders are based on industry-leading H264 compression standards.

DVR Features

Features (4 Channel Guardian Lite Models)

- Up to 4 cameras can be connected (BNC).
- H.264 baseline profile video compression/decompression
- Up to 2 audio inputs including PC microphone, G.711 audio compression/decompression
- Real time operating system
- Supports up to 1 Hard disk drive (Up to 2TB)
- Record Capabilities 1 channel Full D1: 25IPS
 3 channels CIF: 75IPS
- Real time live display
- Playback search by time or logged event
- Optional display formats full screen, 4 way split or sequential.
- Versatile Digital Zoom
- Motion detection with programmable area and sensitivity
- Privacy mask
- Alarm Triggering with configurable conditions and reactions (on selected models)
- USB 2.0 Backup facility
- Support USB mouse
- Ethernet interface for remote access through web server or client software

^{*}Dependent on model

Overview & DVR features of the 4/8ch Guardian

The H.264 Guardian series digital video(&audio) recorders are designed for use within an environment where surveillance, recording and monitoring are required. A DVR is a combination of a Hard Disk Recorder, video multiplexer and web server. To achieve the highest inter-connectivity and inter-operability this series of digital video/audio recorders are based on industry-leading H264 compression standards.

DVR Features

Features (4/8 Channel Guardian Models)

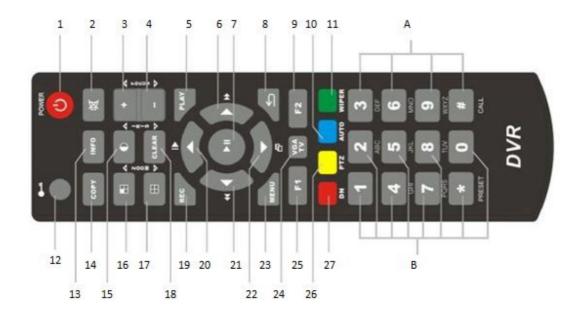
- Up to 4/8 cameras can be connected (BNC).
- H.264 baseline profile video compression/decompression
- Up to 2 audio inputs including PC microphone, G.711 audio compression/decompression
- Real time operating system
- Supports up to 1 Hard disk drive (Up to 2TB)
- Record Capabilities -

Full D1: 50IPS CIF: 100IPS

- Real time live display
- Playback search by time or logged event
- Optional display formats full screen, 4/*9 way split or sequential.
- Versatile Digital Zoom
- Motion detection with programmable area and sensitivity
- Privacy mask
- Alarm Triggering with configurable conditions and reactions (on selected models)
- USB 2.0 Backup facility
- Support USB mouse
- IR Remote
- Ethernet interface for remote access through web server or client software

^{*}Dependent on model

Remote Control



- 1. **Power button** This button will start the shutdown procedure.
- 2. **Mute button** This will mute the sound. (If in use.)
- 3. **Focus + button** This will increase the focus. (When available.)
- 4. **Focus button** This will decrease the focus. (When available.)
- 5. **Play button** This will play footage or take you to the playback menu.
- 6. **Right Arrow button** This will select "right" and fast forward during playback.
- 7. **Play/Pause button** This button will play/pause footage during playback and also can be use as "Enter" in the menus.
- 8. Back button This will let the user go back one stage in the menus.
- 9. F2 button NO FUNCTION
- 10. Auto button -
- 11. Wiper button This function can only be used with a PTZ camera that has a wiper.
- 12. Lock Button This will lock the DVR so it requires logging in again.
- 13. Info button This will take you to the "System Information" menu.
- 14. Copy button This will take you to the "Backup" menu.
- 15. **Contrast button** This will take you to the "Video settings" menu. (To change contrast, brightness, etc.)
- 16. **Camera Scroll button** Once full screen mode you will be able to scroll through each camera.
- 17. **Grid Screen button** This will allow you to change the grid screen from the full amount (4, 8 and 16) to 4 way screen and to full 1 camera screen.
- 18. Clear button This is the delete button.

- 19. **Rec button** This will activate manual record.
- 20. **Up Arrow button** This button is use for navigating "Up" in the menus and also for activating slow motion during playback.
- 21. **Left Arrow button** This button is used for navigating "Left" in the menus and also for rewinding during playback.
- 22. **Down Arrow button** This button is for navigating "Down" in the menus and also for skipping frame by frame during playback.
- 23. Menu button This will access the menus.
- 24. VGA TV button NO FUNCTION.
- 25. F1 button NO FUNCTION.
- 26. **PTZ button** This will bring up the PTZ controls. (Only functional with a PTZ camera installed.)
- 27. DN button NO FUNCTION.
- **A + B.** These buttons are the numerical and alphabetical keys, they will be used whenever the user is required to input numbers and/or letters. (Press the button multiple times to scroll though the letters and number on that key.

4 Channel Guardian: Front Panel Diagram

Without alarm inputs



- 1. Alarm Light This light will flash when an alarm or motion is triggered.
- 2. Net Light This light will flash when there is network activity.
- 3. **REC Light** This light will flash when the DVR is recording.
- 4. **Power Light** This light will be green when the unit is fully powered up and orange when in standby mode.
- 5. **Power/Standby Button** Once the switch on the back of the unit has been turned ON the power light on the front will be orange, you will now have to press the power button on the front to take the unit out of standby mode.

4 Channel Guardian: Back Panel Diagram



- 1. Video In Video input connectors for cameras.
- 2. Audio In Audio input connectors for devices such as microphones.
- 3. Video Out Connection for a composite monitor/ TV.
- 4. Audio Out Connection for speakers.
- 5. **Mic In** Connection for a microphone.
- 6. VGA Connection for a VGA monitor.
- 7. Ethernet Connection for a network cable.
- 8. **USB** Connection for a backup device or a mouse. (Mouse is suggested.)
- 9. DC IN Connection for your AC Mains to DC 12V adapter to power the DVR.
- 10. **ON/OFF** To switch the power on and off. (Only switch off AFTER shutdown procedure has been completed.)

4 Channel Guardian: Front Panel



- 1. Alarm Light This light will flash when an alarm or motion is triggered.
- 2. REC Light This light will flash when the DVR is recording.
- 3. **Power Light** This light will be green when the unit is fully powered up and orange when in standby mode.
- 4. Power/Standby Button Once the switch on the back of the unit has been turned ON the power light on the front will be orange, you will now have to press the power button on the front to take the unit out of standby mode.

Please refer to remote control guide for other button function(s).

4 Channel Guardian: Back Panel



- 1. Video In Video input connectors for cameras.
- 2. Audio In Audio input connectors for devices such as microphones.
- 3. Video Out Connection for a composite monitor/ TV.
- 4. Audio Out Connection for speakers.
- 5. Mic In Connection for a microphone.
- 6. VGA Connection for a VGA monitor.
- 7. Ethernet Connection for a network cable.
- 8. **USB** Connection for a backup device or a mouse. (Mouse is suggested.)
- 9. DC IN Connection for your AC Mains to DC 12V adapter to power the DVR.
- 10. **ON/OFF** To switch the power on and off. (Only switch off AFTER shutdown procedure has been completed.)
- 11. **Alarm In/Out -** Connect these inputs to external devices such as PIR sensors or door switches.

8 Channel Guardian: Front Panel



- 1. Alarm Light This light will flash when an alarm or motion is triggered.
- 2. **REC Light** This light will flash when the DVR is recording.
- 3. **Power Light** This light will be green when the unit is fully powered up and orange when in standby mode.
- 4. **Power/Standby Button** Once the switch on the back of the unit has been turned ON the power light on the front will be orange, you will now have to press the power button on the front to take the unit out of standby mode.

Please refer to remote control guide for other button function(s).

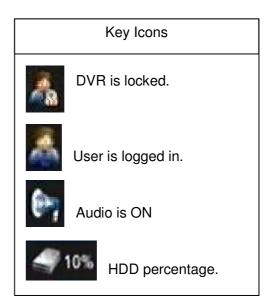
8 Channel Guardian: Back Panel



- 1. Video In Video input connectors for cameras.
- 2. Audio In Audio input connectors for devices such as microphones.
- 3. Video Out Connection for a composite monitor/ TV.
- 4. Audio Out Connection for speakers.
- **5. Mic In** Connection for a microphone.
- **6. VGA** Connection for a VGA monitor.
- 7. **Ethernet** Connection for a network cable.
- **8. USB** Connection for a backup device or a mouse. (Mouse is suggested.)
- 9. **DC IN** Connection for your AC Mains to DC 12V adapter to power the DVR.
- **10. ON/OFF** To switch the power on and off. (Only switch off AFTER shutdown procedure has been completed.)
- 11. **Alarm In/Out -** Connect these inputs to external devices such as PIR sensors or door switches.

Main Screen





- If the DVR is "locked" then you can unlock it by right clicking on the mouse or pressing the menu button on the remote/front panel.
- If the DVR is "unlocked" or logged in it means you can perform any operation that your user level permits. See page 29 "User Management"
- If audio is on you can use the system in conjunction with microphones. *Please note that microphones are not recommended for external use/recording.*
- The percentage sign at the bottom of the screen shows you how full your HDD is. Please
 note that the HDD percentage sign becomes irrelevant once recycle record is activated.
 The unit will record over the oldest data once the HDD is full. All DVRs leave DDS with
 this feature activated.

Logging In

Before you are able to use any of the DVR features you **MUST** log in. To start the log in procedure you simply have to either **RIGHT CLICK** your mouse or **PRESS MENU** on your remote and you will be presented with the screen shown below;



Once you have input your **USERNAME** and **PASSWORD** you will be able to **RIGHT CLICK** the mouse or press the **MENU BUTTON** on your remote to access the menus. (shown below.)

- Main Menu Access the main menu.
- Channel switch Switch between number of channels.
- Data inquiry Access the playback function.
- PTZ control Displays the controls for a PTZ camera.
- **Video adjustment** Access settings for brightness, contrast, etc.
- **Digital Zoom** Starts the zoom function.
- Shutdown Starts the shutdown procedure.

Main Menu



You can gain access to the Main Menu after you've logged in. You have a choice of the following options.



The default Username is "admin" and the default Password is "888888".

General Settings

The parameters that can be configured in the "General" option (can be accessed from the "Config" menu) are:

- Overwrite Select if the HDD overwrites when full.
- Language Select Language.
- Video Format PAL (UK/EUROPE) or NTSC. (AMERICA(S))
- Resolution Adjust video output resolution.
- **Transparency** This option allows you to set whether you can see cameras through the menu screen.
- Auto Lock Time before the unit logs out
- Remove TV jitter Tick this box to stabilise the image if jittery.

If you wish to restore these settings to Factory Default you can select the "Default" button or if you wish to save any changes made you can select the "Save" button.

The Parameters that can be configured in the "Time" option (can be accessed from the "Config" menu) are:

- Date Day / Month / Year
- Time Hour : Minutes : Seconds
- Auto Update Whether you want your DVRs time to update automatically with an NTP server.
- Server Which time server you wish your DVR to sync with. For GMT use "time.nist.gov".
- Port What virtual port can the server be reached on. For most servers this can be left at default.
- **Time Zone** Which time zone you wish to sync with.
- Update Period How often you wish to sync the time/date.

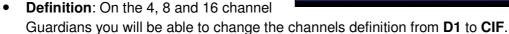


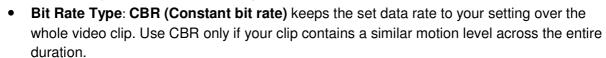


Record Setup

Within the record menu (can be accessed from the "Config" menu) you will be able to adjust different record parameters.

- Channel No: Here you will be able to choose which channel you wish to alter the settings on.
- Record Mode: This tab will allow you to choose which mode the channel will record in. The modes you can select are "MANUAL, SCHEDULE, MOTION, ALARM.". Each channel can be set independently.





VBR (Variable bit rate) adjusts the data rate down and to the upper limit you set, based on the data required by the compressor. VBR takes longer to encode but produces the most favourable results.

- Image Quality: 5 levels of quality to choose from are HIGHEST, HIGH, MIDDLE, LOW, and LOWEST.
- Frame Rate: With this tab you will be able to select the rate at which the channel will record.
- **Bit Rate**: The term *bit rate* is a synonym for data transfer rate. Bps = Bytes per second, bps = bits per second. The digital equivalent of bandwidth, bit rate is measured in bits per second. It is used to express the rate at which the compressed bit stream is transmitted. The higher the bit rate, the more information that can be carried.
- **Pre-record**: Here you can define how much footage in seconds (e.g. 20 seconds worth) will be saved **before** any motion event starts.
- **Post-record**: Here you can define how much footage in seconds will be recorded **after** the motion event has stopped.

Record Icons

Motion record: will display a YELLOW tape icon when recording. Scheduled record: will display a BLUE tape icon when recording. Manual record: will display a GREEN tape icon when recording. Alarm record: will display a RED tape icon when recording.

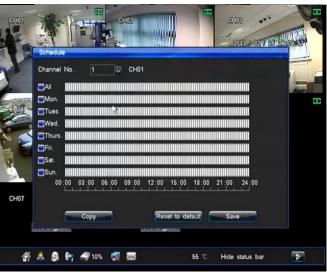


Scheduling

The Scheduling menu (can be accessed from the "Config" menu) will cover all aspects of setting up a schedule. The two settings pages that are used for schedule creation are Record Settings and Alarm Settings.

As an example this guide will show setting up a schedule for opened and closed periods of a typical shop.

- First locate the Record Settings tab > then select the Schedule tab. Within here you will be setting when you wish the DVR to record constantly.
- If you wish to have the same schedule for every day tick ALL. However you are able to create individual schedules for each day by using the provided days.
- Once you have ticked ALL you will see the entire row turn orange (orange means it will record at these points.)
- Now you will be able to click and drag to make a grey gap in the middle (or area of your choosing) of the orange bar. These grey areas are where the DVR is NOT recording. (Note: Make note of the start time and end time of the grey areas as this will be the start and end points for the motion schedule.)
- Now that you have chosen the areas (in orange) where you wish the DVR to record
 constantly you can now click SAVE. If you wish to apply this schedule to more than one
 camera channel click COPY.
- Next you will need to set the motion schedule to cover the points in the day when the DVR isn't recording constantly. You will need to locate the ALARM SETTINGS tab> MOTION tab.
- You will need to click and drag the orange bars from the start time and end time where the DVR is not recording constantly, these orange areas are where the DVR is recording on motion detection only.
- Click SAVE.



Output

The Output menu (can be accessed from the "Config" menu) is where you will be able to choose how and what information will be displayed on screen.

To enter the **Display Settings** tab you will need to locate the **OUTPUT SETTINGS** tab.



Channel Settings

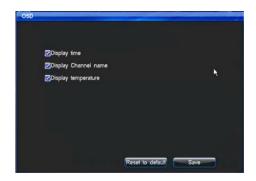


- Channel no.: The box will allow you to make changes to individual cameras. Select each one using the drop down box.
- Channel name: In this box you can name the individual channels whatever you wish and it will replace the default CH01, CH02, etc on the live view.
- **Video adjustment**: This button will take you to the settings where you can adjust the brightness, contrast, etc for each channel.
- **Channel name position**: This button will allow you to re position where the channel name will sit on the screen. By default it is the in top left hand corner.

OSD Settings (On screen display)

 Date Format: Drop down box gives you the option of changing the date layout.

The next four tick boxes will allow you to turn off the time, day of the week, the channel name and the DVRs temperature from being visible on the status bar.



Output Continued...

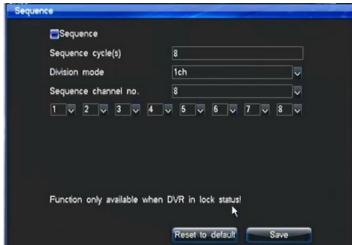
Sequence

The sequence tab will allow you to set your DVR's cameras to display in sequence. i.e. each camera will take turns in displaying for a programmed amount of time at full screen or a set number of channels (4 and 8 way division sequencing is only available on DVRs with more than

4 channels.)

Note: In order for the sequencing to be activated the user must log out and the DVR needs to be in "locked" status.

- Sequence cycle(s): In this box you will determine how many seconds the cameras will stay full screen before changing to the next one.
- **Division mode**: Set the number of channels to be displayed per sequence page to 1, 4, 8 channels. (4 and 8 channel division sequencing not available on 4GL or 4G.)
- **Sequence channel no.**: This drop down box will allow you to set how many channels are involved in the sequencing.
- The final row of numbered drop down boxes will allow you to change the order in which the sequence will display the channels.



Alarm

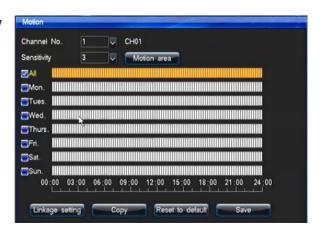
The Alarm section (can be accessed from the "Config" menu) of the manual will cover Motion Masking and Motion Sensitivity.



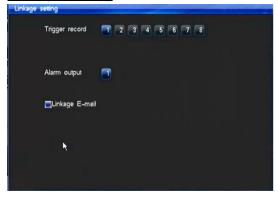
**If you wish to learn about using the motion schedule please refer to "Scheduling" on page 17. **

Motion

- Channel no.: This drop down box will allow you to set each channel individually.
- Sensitivity: This option will allow you to adjust the sensitivity for each channel, 1 being the least sensitive and 5 being the most. If the channel is set to a lower sensitivity it will take bigger movements to activate the DVR to record, whereas a higher sensitivity will activate recording with less motion.



Linkage setting



- Trigger Record Links the corresponding camera to trigger motion recording on any selected camera.
- Alarm Output Triggers the alarm output when motion is triggered.
- Linkage E-mail Triggers e-mail sending when motion is triggered. Please see page 28 for email setup.

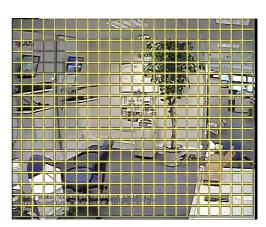
Alarm Continued...

Motion Area

The Motion Area is a function you can use to "mask out" certain areas of the cameras view so that the DVR does not detect motion in these areas.

For example, if a tree was swaying a lot in the wind it will trigger motion recording. If you were to mask out the area of the tree it would not trigger motion.

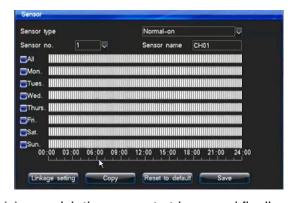
- If you wish to mask out an area simply click and drag to create GREY boxes over the area you no longer wish to trigger motion.
- Yellow areas are motion areas. If it is completely grey it will not detect motion anywhere.
- Double click twice to cancel your changes.



Sensor (excluding K-DVR-4G1 model)

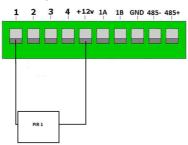
This menu allows you to configure what input sensors (that can be connected to the DVRs Alarm inputs) trigger. Examples of input sensors: Pressure pads, PIR sensors, IR beams, dry contacts etc.

You can schedule when you want sensors to activate recording on certain cameras and/or activate external alarms. You can first select which sensor input you wish to configure, you can give



the sensor a name, select which hours of which day(s) you wish the sensor to trigger and finally the expected result from the sensor triggering (record, alarm output, PTZ preset point or Email).

Below is an example on how you could set up a sensor.



Alarm outputs

You can schedule when you want your alarm outputs (connected to the DVR) to trigger. The alarm outputs can be activated by different "events" such as;

- HDD Errors
- Video Loss
- Network Disconnect
- High temperature warning
- Motion detection
- Alarm Inputs (sensors) **Not available on selected 4ch Guardians**



You can schedule when you want the alarm outputs to be active. You can first select whether the sensor is normally on or normally off, the dwell time of the alarm (in seconds), how the DVR displays to you that the alarm output is active (by audio, buzzer or full screen) and select which hours of which day(s) you wish the alarm outputs to be active.

It is important that you schedule the alarm outputs if you wish to use them. If your alarm outputs are not scheduled then any function that is configured to utilise them won't be able to trigger.

Alarm linkage

Here you can configure other Alarm types to set off the alarm outputs.



COM (Guardian 4, 8 and 16 channel only)

Com (can be accessed from the "Config" menu) is where you can configure all of the presetup of a PTZ camera.

You can configure the following options:

- COM no. Here you can select which communications port you are using. 1 is RS485 and 2 is RS232.
- Serial Device Select here what type of device you are connecting to. You will probably most likely be using the PTZ option.
- Baudrate Here you can select the corresponding Baudrate that your PTZ camera is set to.



Usually if the protocol of the PTZ camera is set to either Pelco D or P then the Baudrate is 2400, 4800 or 9600.

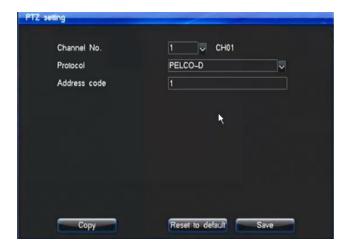
- **Data bit** This is part of the PTZ protocol code, please consult your PTZs manual for this information. (this option is usually set to 8).
- **Stop bit** This is part of the PTZ protocol code, please consult your PTZs manual for this information. (this option is usually set to 1).
- **Parity bit** This is part of the PTZ protocol code, please consult your PTZs manual for this information. (this option is usually set to N/A).
- **Bit rate** control This is part of the PTZ protocol code, please consult your PTZs manual for this information. (This option is usually set to N/A).
- Enable Remote control lock Enables remote control lock when using the DVRs remote to control your PTZ camera.
- **Host control code** Use this option if you have a keyboard plugged into multiple DVRs. This code identifies this DVR.

PTZ (Settings) (Guardian 4, 8 and 16 channel only)

PTZ is where you can configure your PTZ (Pan Tilt Zoom) options.

You can configure the following options:

- Channel no. Here you can associate the camera channel with your PTZ. E.g. if your PTZ was plugged into channel 3 you would choose the number 3.
- Protocol What protocol is your PTZ camera(s) set to? There is wide selection, but the
 most common protocols are PELCO D and PELCO P.
- Address code This depicts the ID that the PTZ camera is set to. This can be set to a numerical value. (0 to 255)
- **Polling** Configure automated polling. You can set the interval time.
- Cruise interval(s) These are the presets the PTZ cam will go to when polling.



PTZ control (Guardian 4, 8 and 16 channel only)

This section concerns PTZ (Pan Tilt Zoom) cameras.

Once you have configured your DVR to control your PTZ camera(s) you can bring up the PTZ control interface by clicking on the desired camera (to make the PTZ camera picture appear full screen), right click on the camera for the menu and click on "PTZ control".



Once the PTZ camera panel has appeared you should have full control over your PTZ camera. You should be able to pan the camera in any direction you like by clicking on the directional

arrows on the panel. You can adjust the speed of which the PTZ camera moves (adjusting the "**Speed**" option). Zoom, focus and IRIS functions can also be adjusted with the **+ & - buttons**. The switch button will take you to a slightly different panel where you can program and call presets. It is here that you can also change the channel number of the camera. The cruise setting option will send the PTZ on cruise of presets that have been pre-defined.



**Tip: Avoid using the centre button (located in the middle of the directional keys) which initialises pattern programming as this takes a very long time to setup and must be completed once started **

Network Settings

In Network settings (can be accessed from the "Config" menu) you can configure your DVR so you can put it on a LAN (Local Area Network). Once your router has been configured you will be able to access your camera system across the internet.



Network

Options within this menu

 DHCP – This option can be checked or unchecked. When this option is enabled the DVR will pick up all IP information from your router or independent DHCP server. If this option is disabled you can edit all the criteria below.

The IP, Subnet Mask, Default Gateway, Primary DNS and Backup DNS can only be edited if the DHCP option is unchecked. These boxes should be filled in by an IT professional or with instruction from one.



Putting inconsistent or incorrect values in here could have a detrimental effect on your network.

- **IP** You can edit the IP address of the system in these four boxes.
- Subnet Mask You can edit the Subnet mask in these four boxes.
- **Default gateway** You can edit the Default Gateway in these four boxes.
- **Primary DNS** You can edit the Primary DNS in these four boxes.
- Backup DNS You can edit the Backup DNS in these four boxes.
- **Command port** This port is used for data transmitting. Port range is between 8000-9000. Default is 8101.
- **HTTP port** The port is used for the web interface. Port range is between 80-65535. Default is 81.
- Multicast Can be used when utilising UDP stream.

DDNS (Dynamic DNS) Settings

Dynamic DNS is a service that maps Internet domain names to IP addresses. This service will need to be used if you are **NOT** on a **static** (public) **IP address**.

The service we use that is tried and tested is called No-IP. (www.no-ip.com).

For instructions on how to set up a No-IP account and hostname please refer to "Setting up a No-IP account." on page 37 + 38.

If possible we suggest applying the DDNS information to your router instead of the DVR. If your router does not support this function this menu is where you will need to enter the information.

- Server: In this drop down box you will find three options "orey.net" and "dyndns.com" and "no-ip.com". You need to select "no-ip.com".
- Username: Once your No-IP account has been created you will need to enter the username you chose in the username box.
- Password : Once your No-IP account has been created the password you create for your account will be entered here.



- Auto Login: This option will need to be "ticked".
- **Domain**: The domain name will be the hostname you created that will be linked with your dynamic IP address. The domain hostname will be entered in this box.
- Click SAVE before exiting this menu.

Email

In order to use the email function successfully we suggest you create an account on the free webmail service gmx.com. (Other email services may vary in success rate.)

GMX.com will only be used as the email **sender** you may still use any email service to **receive** emails from the DVR.

Server : This box needs to be filled in with your sender emails mail server. **For example**, gmx mail server is "smtp.gmx.com".

Mail username: This option needs to be filled in with the sender emails username. (Sometimes the entire email address is the username, this differs between services.) **For example:** gmx requires the whole email address as a username so in here you would enter "email@gmx.com".



Mail Password: The email sender password is to be typed here.

Sender Email: This is the email address that will be sending the notifications from the DVR.

Receiver Email: This is the email address you wish to receive the notifications on.

Port Number : The port will also be defined by the mail server. **For example**, gmx mail server uses port 465.

Cycle (minute): This option will set the minimum amount of time (minutes) after each motion event before another email can be sent. This option is used to stop excessive amount of emails being sent if motion events are short.

Upload Snapshot : Ticking this option a snapshot of the initial trigger will be sent in the email along with the channel number and time and date.

SSL Encrypt: This usually needs to be **TICKED**.

StartTLS: This usually needs to be UNTICKED.

Email Test: Pressing this button will send a test email which will allow you to check all the settings are correct.

Once you have completed these settings you will need to go into either **MOTION**, **ALARM** or **SENSOR** tabs (depend on which you use) and activate **EMAIL LINKAGE**.

User Management/Account Settings

The account creation option will be found in "Sys. Settings" and in here you will be able to create personal login usernames and passwords whilst also defining what privileges and functions are available for specific user accounts.

- Add: The Add button will take you to the privileges selection screen. (see 2nd image below)
- Delete: If you wish to delete one of the user accounts, highlight the name and click delete.
- Edit: If you wish to edit any of the privileges of a certain user, highlight the name and click "edit" to be taken to the privileges screen.





The "privileges" screen will be where you define what each user has access to from being only allowed to view playback for certain cameras to being able to shutdown the unit.

Simply tick which cameras and menu areas you wish to allow the user access to then click save.

Playback

Click on "Playback" within the Main menu to bring up the playback screen.

The first screen you are presented with is "Time Inquiry", from here you will be able to do a precise time and date search to find a piece of footage. (providing it has been recorded.)

- **Date** Here you can select a specific date to play back from.
- **Time** You can select a time by dragging the bar across the table at the botton
- Camera Selection You can select which camera(s) you wish to playback or "All" of them.
- Inquiry This button will then produce you a list of footage files from the specified date and channel.



Once you selected a time, date and camera press play to view the footage.



- Camera Selection You can select which camera(s) you wish to playback or "All" of them.
- Mode This drop down box will allow you to choose which type of record mode you wish to search. (Motion, alarm, etc.)
- Date Here you can select a specific date to play back from.
- Inquiry This button will then produce you a list of footage files from the specified date and channel.

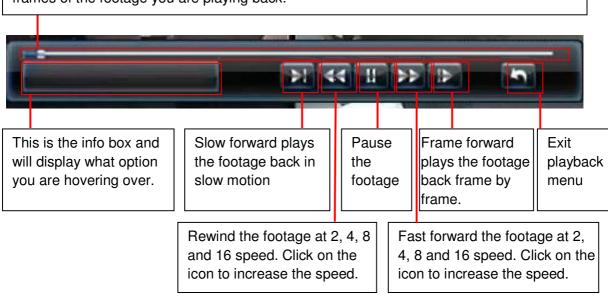
To play a file select the desired file and then press play.

Once you selected a time, date and camera press play to view the footage.

Playback Continued...

Once in playback a control bar will appear. The control bar at the bottom of the screen will display various video controls.

Slider bar: By clicking and dragging this you can seamlessly scroll through different time frames of the footage you are playing back.



Playback screen



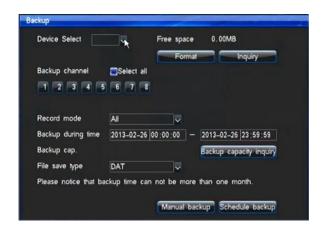
Backing Up (Backup)

First insert your **USB storage device** in the one of the USB slots provided, this will cause the DVR to automatically connect your backup device. Once connected you will see a prompt as shown below.



This icon will appear at the bottom of the screen

Now you need to enter Backup from the main menu.



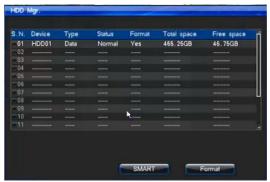
- 1. You must now select the CHANNEL NUMBER you wish to back up from.
- 2. Now double click on the **DATE** to bring up a calendar and choose which day you would like to backup footage from.
- 3. Input the relevant **START TIME** and **END TIME** of the segment of footage you wish to backup.
- 4. Now click **ADD** to add the file to the **ITEMS** list. (You are able to add 25 files to the item list for backing up.)
- 5. Once you have added all the files to the list click BACKUP

After you have started the backup process you will see "Backup in progress...." and a percentage informing you of what stage the backup is at. Once the backup is finished you will see a prompt confirming its completion.



HDD (Hard disk drive)

In the HDD menu (located in main menu) you will be able to check the status of your hard drive and how much space has been used.



You will also be able to see the status of a USB stick if you have one plugged in via one of the USB ports.

If you wish to format the HDD (**WARNING: THIS WILL ERASE ALL FOOTAGE FROM THE HARD DRIVE.**) simply tick the relevant box next to the HDD you wish to format then click the "Format" button at the bottom of the screen.

A percentage bar will show you the progress of the format.

Default Restore

The default menu (located in the "other settings" menu) is where you are able to reset all the settings to factory default. You can also select individual sections to reset using the tick boxes.

We advise giving our support team a call if you ever reset the DVR to default as some aspects are pre configured before shipping and may need to be re configured.



System Info

The Sys. Info. menu and the other info options are primarily used for checking the status of the various functions.



System Info



This option will provide useful information such as the current user level, IP address and firmware versions. You will also use this screen to update your DVRs firmware via USB if you are provided with one from DDS.

Record Status



This option will show you the current settings for each channel. It will indicate what record type, quality, definition the DVR is set to and it will also indicate with audio is set on each channel.





This option will show you when events such as sensors, motion detection and video loss are triggered, the triggers are indicated by coloured lights



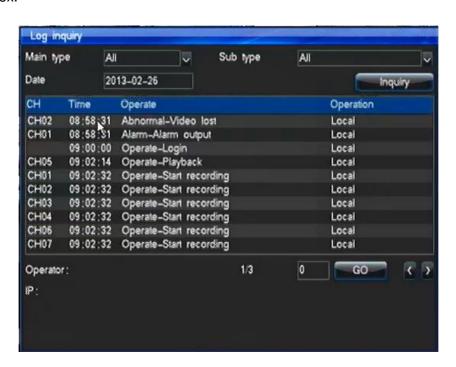
Sensor = Red Motion = Yellow Video loss = Blue.

This tab will also display when there is an HDD error and if the network cable becomes disconnected.

Log Inquiry

The log inquiry will serve as a place where you can check the entire goings on with your DVR. It will provide information such as when certain functions are used like PTZ to if the unit is ever shutdown abnormally.

- Main type: In this drop down box you will be able to select from;
 - Operate: This option covers functions activated by the user, such as Playback and shutting down the unit.
 - Alarm; This option will cover when functions such as motion and sensors have been triggered.
 - o **Abnormal**: This option will cover errors such as video loss and HDD failures.
- **Sub type**: In this drop down box you will be able to specify further on the option you choose in the **Main type** box
- Date: This box will let you choose which date you wish to search.
- Inquiry: Once you have selected the Main type, Sub type and Date you can now click the
 Inquiry button and providing there is data to be found a list will be populated in the Inquiry
 result box.

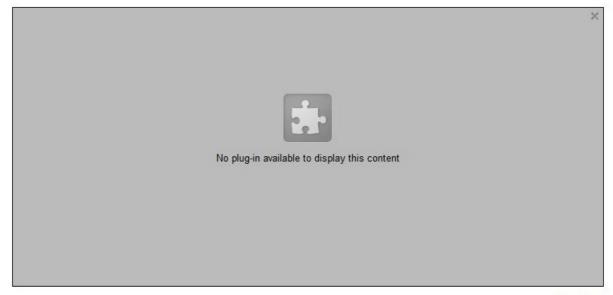


Remote Access Part I

LAN access/ Local access

To gain remote access to your DVR on your computer you will first have to plug your DVR into your router using an Ethernet network cable.

- 1. Now you must go into the **Main Menu** on the DVR and select the **Network Settings** menu.
- 2. Now in the **Network Settings menu** you will find a **DHCP tick box** in the top left hand corner, make sure this is ticked then press **Save**.
- 3. You should now see the **default IP address** has changed.
- 4. Take note of the **IP address** and type it into an **Internet browser address bar at the top of the screen (make sure you add :81 to the end)** on a computer that is connected to the same router as the DVR.
- You will be presented with the screen **below**. You will be prompted to download **WebControl.exe** before you can go any further. After installation you will need to restart your browser.



Download

Note: for the first time after installation, you need to restart your browser!

Please note above snapshot is taken from Google Chrome and screen may look slightly different in other browsers.

- 6. Now that the **WebControl.exe** has been install and you have restarted your browser you will see the **login screen** as shown below.
- 7. Next simply log in using the same login details as you would on the DVR itself.



For details on how to use the Netviewer please refer to the Netviewer section of this manual.

Note: This method will only give you local Internet access to your DVR.

Remote Access Part II

WAN access/ Anywhere access

Remote access part two will guide you through setting up your router so you are able to connect to your DVR from anywhere in the world were a reasonable broadband service operates.

First thing you need to do is follow the steps from part one (If you haven't done so already) so you are able to connect to your DVR locally

- Now you are able to connect locally you will next need access to your router. You can
 access your router by typing its address into an Internet browser address bar. (The
 address will be your networks default gateway and may be written somewhere on the
 actual router)
- Now you have accessed your router the first thing you may wish to do is reserve the DVRs IP address to the routers IP reservation table* (Please consult with your router vendor or manual if you are unsure on how to do this)
- 3. You will now need to find a section on your routers configuration page called either "virtual server", "port forwarding", "game and application sharing" or "firewall rules". In here you need to make a TCP rule for ports 8101 and 81.
- 4. Once you have made a rule that forwards these **ports** you need to **assign** them both to your **DVRs internal IP address**.
- 5. If you have a **static IP** you will now be able to access your DVR from anywhere using the static IP. If however you have a **floating dynamic address** you will need to read the section within this manual called "**Setting up a No-IP account.**". This will guide you on how to setup a **dynamic DNS account** so that you can access your unit using a **No-IP hostname/website**.
 - * Router may not have this function

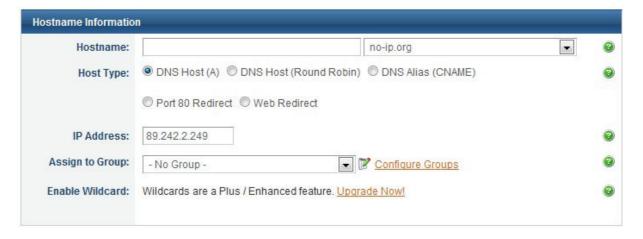
Due to the wide range of routers available we unfortunately can't produce specific guides to each one within this manual, however please contact us if you need a guide for your router and we will do our best to source one.

We understand this configuration setup can be quite difficult so please do not hesitate in calling us for assistance. One of our support engineers can configure your router remotely for you.

Setting up a No-IP account

To set up your No-IP account you will need to be using the **same Internet connection** you used for the initial DVR network setup. (Same router)

- First thing you will need to do is go to www.no-ip.com. Once the page has loaded click on "Create Account". You will then be presented with the "Create your No-IP account" page.
- Fill in the relevant details and make sure you use an email address you can access straight away for verification purposes. Once you have clicked "I Accept, Create my Account" a verification email will be sent to the specified email address.
- 3. Open the email from "unmonitored-webmaster@no-ip.com" and click the "activate your account" link (3rd link down). You will need to sign in to complete the verification process.
- 4. Now you have signed in you will need to locate and click "Host/Redirects". Once on the "Manage Hosts" page you will next need to click "Add a Host".
- 5. You should now see the "Hostname Information" form. In this section you will be able to create a hostname which will act as a website address which you will use to access your DVR.

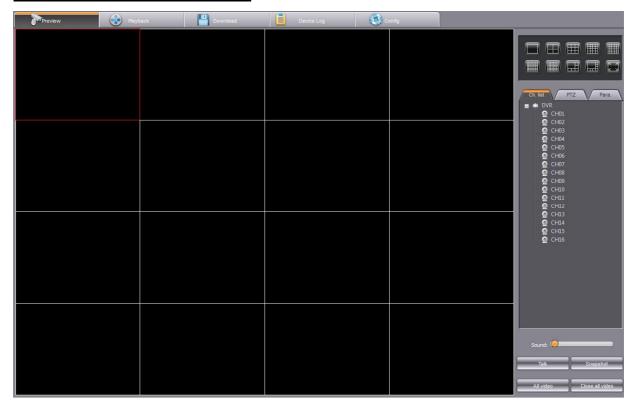


- In the "Hostname" box, type something that is relevant to you (this will make up the first part of your web address) and make sure the drop down box next to it is set to "noip.org"
- 7. Now you have completed the hostname creation page click "Create Host"
- 8. You should now see your new hostname listed on the "Manage Hosts" page.

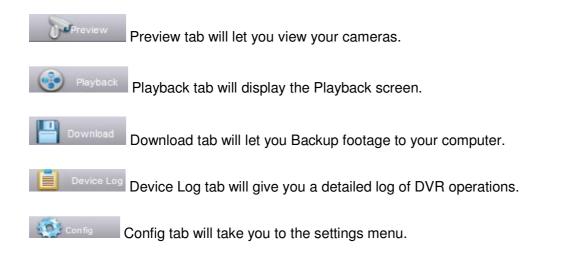
- 9. You will now need to access your **router** and locate the section called "**Dynamic DNS**" or "**DDNS**".
- 10. You will need to input the **hostname**, your no-ip.com **email** and your no-ip.com **password**. You must also make sure the **service provider** is set to **www.no-ip.com**. (Note all routers will vary consult your routers manual if you are unsure.)

In rare cases where a router does not support no-ip.com you will be able enter your information into the actual DVR

Net Viewer Functions

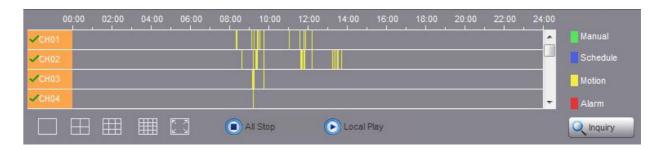


First thing you need to do **once** you have logged in is **RIGHT CLICK** on any channel and then press **OPEN ALL**, this will start the video stream for each of your cameras.



Inquiry

Playback (Netviewer)



This activity timeline will display where footage has been recorded. Depending on the type of record mode (Manual, Schedule, Motion, Alarm) certain colours will indicate the exact time a recording has occurred.

By default it will always display the **current** days footage. If you wish to view another date you will find a **calendar** (see image below) on the right and side of the screen.



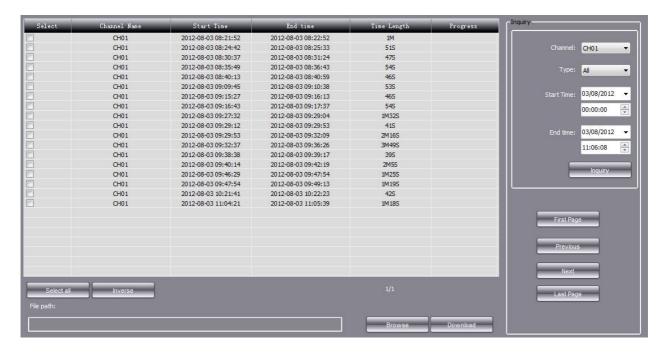
Once you have clicked which date you wish to search you next need to press the Inquiry button.

When you want to play a piece of footage simply double click the coloured part of the timeline you wish to view.



The Local Play button will let you play footage already saved on your PC.

Download/Backup (Netviewer)



This menu will allow you to backup footage straight to your computer.



When searching for footage you will use the inquiry box. In here you will define which **channel** you wish to search and the **start time/date** and **end time/date**.

Once all the information has been entered you will need to press **Inquiry.** This button will return a list of video events that have occurred between the two points you previously defined.

Once the list has been populated you will be able to select which files you wish to backup by ticking the tick boxes on the left.

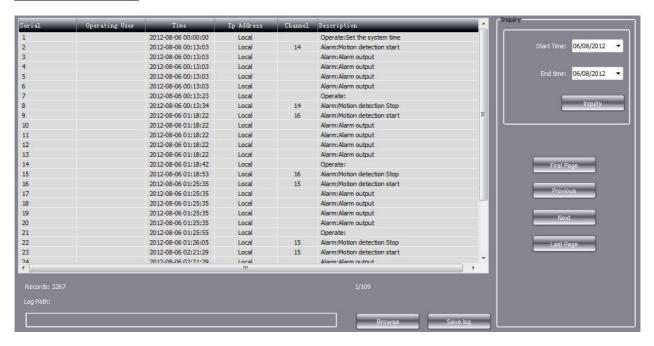
If satisfied with your selections next you will need to select where on your PC you wish to save these files. You can select a destination by using the button.

The final step once the have been selected is files will now begin to



files and save destination to press the button. You download.

Device Log



The device log with provide you with information regarding the DVRs operations.

You are able to define the start date and end date which will allow you to narrow the number of log pages returned. You can do this by using the **Inquiry** box.

If you wish to save the log information you can do so by using the **Log Path** option. To save you will need to select a folder you wish to save it to using the **browse** button. Once chosen click **Save Log**.



Config



The Config section will let you configure every setting of the DVR.

Please refer to the main manual for a description of each setting and what it changes.

PTZ Control



Whilst on the **Preview Tab** you will have access to the PTZ control panel. From here you will be able to pan, tilt and zoom your PTZ camera as well as access the presets.

Note : Your camera must have PTZ capabilities in order to use this

Para (Parameters)

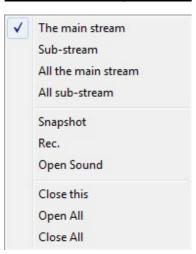


Whilst on the **Preview Tab** you can access the **Para** tab which will allow you to **individually** alter the brightness, contrast, saturation and hue of each channel.

This can be used to improve the picture which may also improve motion detection.

If you wish to return the settings to their original state press the **default** button.

Channel Options



Whilst on the **Preview Tab** you are able to bring up channel options by **right clicking** will allow you too.

- Switch between the main stream and the sub stream
- Take a snapshot.
- Force manual record
- Open audio channels (requires a mic)
- Close individual channels.

Interface Map

