



1080p DVR
User Manual

THANK YOU

Congratulations on your Defender HD purchase! You've made a great choice to protect what you value most.

We take our products performance very seriously and want to ensure that you are completely satisfied with your purchase. If you have any questions, or to get more out of your product, please visit defender-usa.com first regarding any additional information on product features, specifications or assistance with setup.

Please contact us via one of the methods below:

Email: support@defender-usa.com

Online web chat: www.defender-usa.com

WARRANTY INFORMATION

All of our products come with a one-year warranty from the original purchase date against defects in workmanship and materials. If you have warranty or support issues, please contact us: support@defender-usa.com

DEFENDER® Canada: 4080 Montrose Road Niagara Falls, Ontario, Canada L2H 1J9

DEFENDER® USA: 840 Aero Drive Cheektowaga, NY, USA 14225

For more information about your product's warranty, please visit our website at www.defender-usa.com

Warranty Terms

1. DEFENDER® products are guaranteed for a period of one year from the date of purchase against defects in workmanship and materials. This warranty is limited to the repair, replacement or refund of the purchase price at DEFENDER®'s option.
2. This warranty becomes void if the product shows evidence of having been misused, mishandled or tampered with contrary to the applicable instruction manual.
3. Routine cleaning, normal cosmetic and mechanical wear and tear are not covered under the terms of this warranty.
4. The warranty expressly provided for herein is the sole warranty provided in connection with the product itself and no other warranty, expressed or implied is provided. DEFENDER® assumes no responsibilities for any other claims not specifically mentioned in this warranty.
5. This warranty does not cover shipping costs, insurance, or any other incidental charges.
6. You MUST contact DEFENDER® before sending any product back for repair. You will be sent a Return Authorization number with return instructions. When returning the product for warranty service, please pack it carefully in the original box with all supplied accessories, and enclose your original receipt or copy, and a brief explanation of the problem (include RA #).
7. This warranty is valid only in Canada and the continental U.S.
8. This warranty cannot be re-issued.

DISCLAIMERS

1. The IR illumination range is up to 130ft in low light conditions and up to 100ft in complete darkness. Objects at or beyond this range may be partially or completely obscured, depending on camera application.
2. When viewing remotely: Video quality is dependent on network performance. The speed of the Internet connection going to the DVR may affect the products performance.
3. Cameras are weather resistant; they are not weatherproof. Not intended for use in direct exposure to water, rain or snow.
4. The user must set up a password in the menu before using.
5. Defender HD cameras are not compatible with the 21000 series DVRs.
6. The DVR requires a broadband router and Internet connection—not included. An Internet browser is required.
7. This product contains small parts. Exercise care when unpacking and assembling the product around children.
8. The date must be entered correctly into DVR to ensure that footage is recorded on the correct date.
9. DEFENDER® highly recommends the use of an Uninterruptable Power Supply (UPS) with surge protection for all products.
10. Audio Recording may be prohibited in your location. Please check local laws before recording any audio.
11. DEFENDER® does not endorse any DEFENDER® products for illegal activities. DEFENDER® is not responsible or liable in any way for any damage, vandalism or any other action that may occur while a DEFENDER® product is in use.
12. We reserve the right to change models, configuration or specifications without notice or liability. Product may not be exactly as shown.
13. For regions with climates that drop below -10°C it is recommended to bring the camera indoors during the coldest winter months.
14. This product and its included technologies may be protected by one or more international patent(s) or patent(s) pending. ©2016 DEFENDER®. All rights reserved. DEFENDER®, the DEFENDER® logo and other DEFENDER® marks may be registered.



FCC STATEMENT

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.

FCC Caution:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Non-modification Statement:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator.

IC STATEMENT

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This device complies with RSS 247 of Industry Canada. This Class B device meets all the requirements of the Canadian interference-causing equipment regulations.

Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

RF exposure statement:

IC Radiation Exposure Statement

This equipment complies with IC RSS-102 radiation exposure limit set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Déclaration d'exposition à la radiation : Cet équipement respecte les limites d'exposition aux rayonnements IC définies pour un environnement non contrôlé. Cet équipement doit être installé et mis en marche à une distance minimale de 20 cm qui sépare l'élément rayonnant de votre corps.

L'émetteur ne doit ni être utilisé avec une autre antenne ou un autre émetteur ni se trouver à leur proximité.

ICES-003:

CAN ICES (B) / NMB-3 (B)

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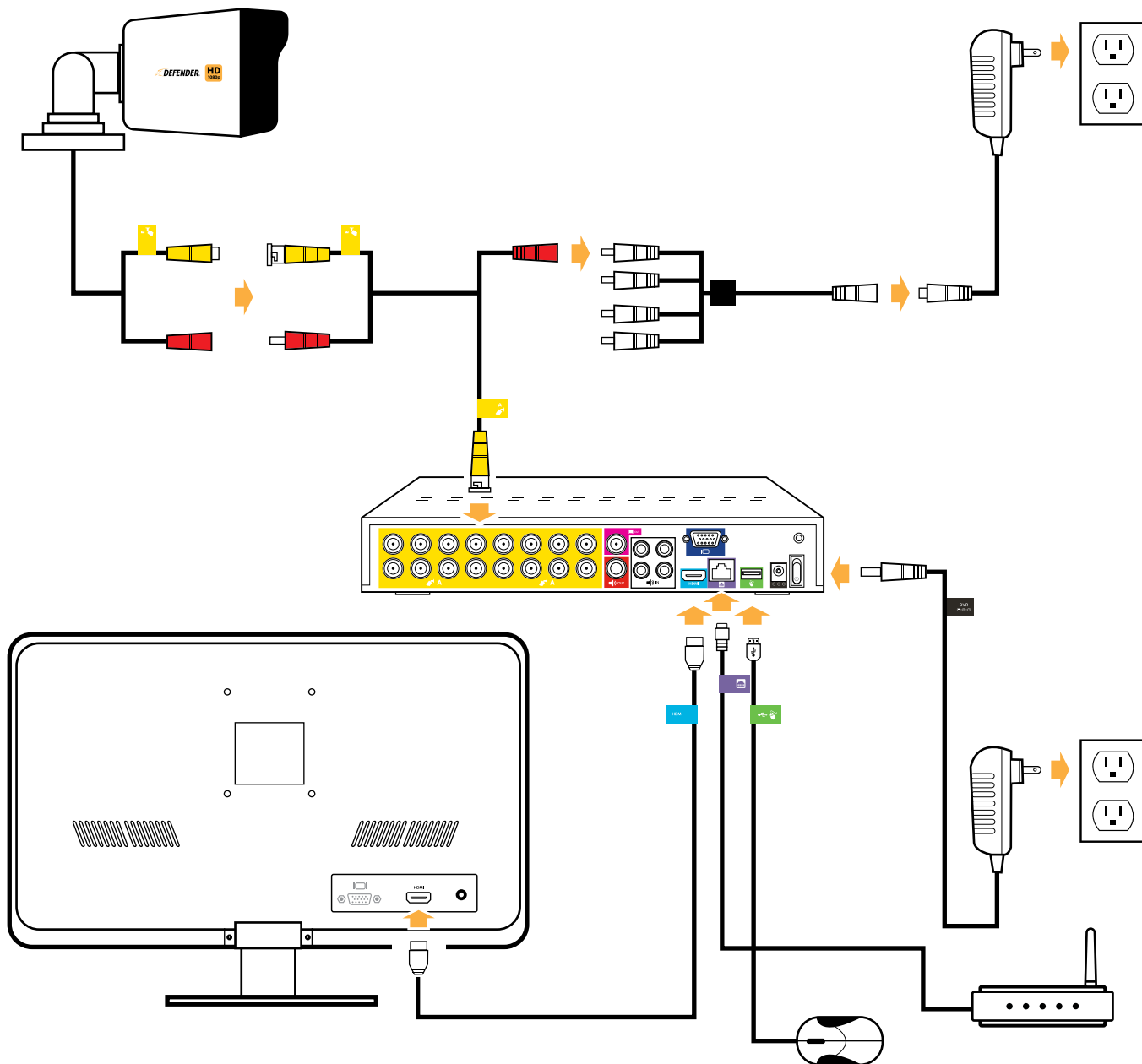
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Before you begin, ensure that all components are present. Before installing your cameras, test all connections.

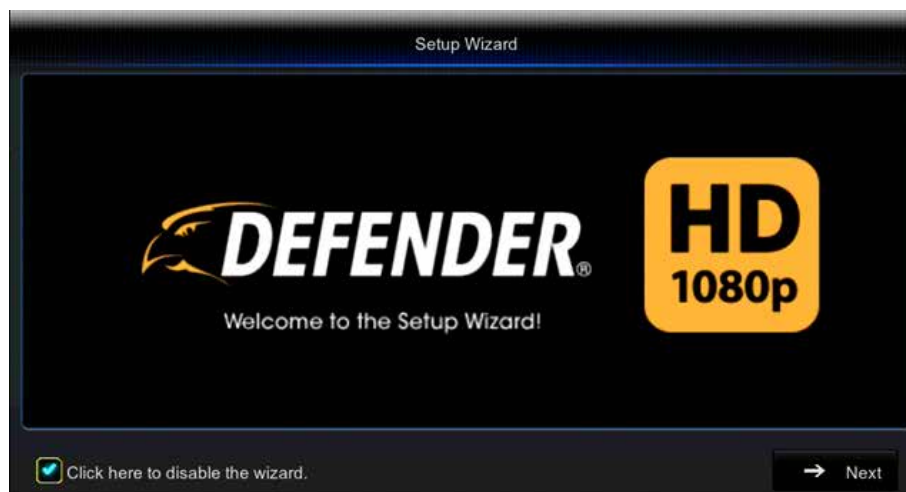
CONNECTING YOUR SYSTEM

This section will guide you through the initial connection of your system. The connections on the DVR may vary depending on the number of channels on your model.



Monitor/TV not included. Connections applicable to all 4, 8, and 16 channel models. Connections may vary by model
 Please ensure the DVR is connected to a monitor/TV and that you have chosen a password on your DVR before proceeding
 Please ensure the monitor/TV is powered off when connecting DVR.

When powered on for the first time, the Setup Wizard can be used to set common DVR functions. By default, the Setup Wizard will be disabled after the initial setup. If the DVR's factory settings are restored, the Setup Wizard will be shown once the DVR powers back up. To re-enable the Setup Wizard, see page 36.



USER CONFIGURATION

The second page of the Setup Wizard is the User Configuration page. To access your DVR, the default user name is admin and the default password is 123456. To ensure your privacy, you will be required to update the DVR password from the default to a new 6-digit password. We recommend choosing something that you will remember, but others would be unlikely to guess. The new password cannot be the same as the default.

Default User Name: Change the user name from admin.

Default Password: The default password is 123456.

Password: Enter a new 6-digit password. This cannot be the same as the default password.

Confirm Password: Enter a new 6-digit password.

Previous: Move back to the previous page of the Setup Wizard.

Next: Proceed to the next page of the Setup Wizard.

HDD MANAGEMENT

This page shows the current state of the DVR's internal hard drive.



Hard Drive Status: Status of the hard drive.

Available/Total: Amount of available hard drive space in GB.

Available Time: Amount of available recording time on the hard drive in hours.

Select: Select a hard drive.

Overwrite: Select the frequency for which the footage will be overwritten on the hard drive. The options are:

- Off
- Auto
- 1 Day
- 3 Days
- 7 Days
- 14 Days
- 30 Days
- 90 Days

NOTE:

If Auto is selected, the hard drive will overwrite the oldest footage as soon as space is needed. If the DVR is not set to Auto, it is possible that the hard drive may become full and the DVR will stop recording. The recommended setting for this is Auto.

Format HDD: This will remove all recorded footage from the hard drive. To format the hard drive, check the Select box and then click Format HDD. **Note that once formatting has started it cannot be stopped and all recorded footage will be deleted from the hard drive selected.** This action will not erase or change settings. The hard drive information can also be located in the DVR main menu under Device. See page 34 for more information.

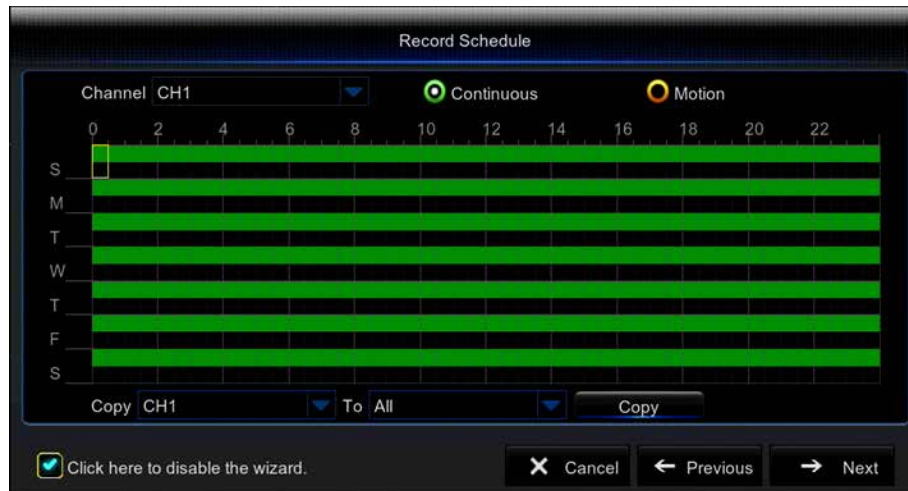
Cancel: Exit the Setup Wizard.

Previous: Return to the previous page of the Setup Wizard.

Next: Proceed to the next page of the Setup Wizard.

RECORD SCHEDULE

This section allows you to adjust the recording schedule for your DVR. By default, the DVR will record on a 24/7 schedule. You can set a specific schedule for every channel for each day of the week. You can also set the DVR to record only when motion is detected. The recording settings can also be found in the main menu under the Parameter option. See page 19 of the manual for more information.



Channel: The Channel you wish to adjust. To set the same schedule for every day, leave the channel set to CH1.

Continuous: Set the calendar for constant recording.

Motion: Set the calendar for motion only recording.

Calendar: To set recording for certain days of the week and time frames, click into each square. Each square represents a 30 minute time frame. Click and drag to highlight and select multiple time frames at once. Green squares indicate a constant recording schedule. Yellow squares indicate a motion recording schedule.

Copy: Copy the settings to multiple or all channels. Select the specific channel, or all channels from the drop downs. Select Copy.

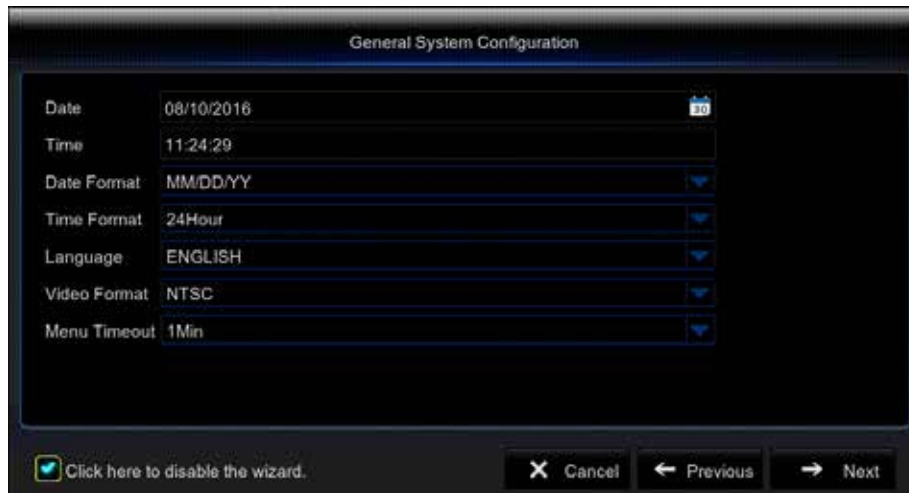
Cancel: Exit the Setup Wizard.

Previous: Return to the previous page of the Setup Wizard.

Next: Proceed to the next page of the Setup Wizard.

GENERAL SYSTEM CONFIGURATION

This page allows you to adjust the General System Configuration settings. This can also be accessed through the DVR Main Menu under System Option. See page 36 for more information.



The screenshot shows a 'General System Configuration' window with a dark background and blue text. It contains several settings, each with a label and a value field, and a dropdown arrow on the right. The settings are: Date (08/10/2016), Time (11:24:29), Date Format (MM/DD/YY), Time Format (24Hour), Language (ENGLISH), Video Format (NTSC), and Menu Timeout (1Min). At the bottom left, there is a checkbox labeled 'Click here to disable the wizard.' with a green checkmark icon. At the bottom right, there are three buttons: 'Cancel' with an 'X' icon, 'Previous' with a left arrow icon, and 'Next' with a right arrow icon.

Setting	Value
Date	08/10/2016
Time	11:24:29
Date Format	MM/DD/YY
Time Format	24Hour
Language	ENGLISH
Video Format	NTSC
Menu Timeout	1Min

Date: Enter the current date. The date set is the date where the recorded footage will be found. If the incorrect date is set, the footage will be found on the incorrect date.

Time: Set the current time.

Date Format: Set how the date will appear on the live view screen. The options are:

- MM/DD/YY
- DD/MM/YY
- YY-MM-DD

Time Format: 24Hour clock or a 12Hour clock.

Language: Select your desired language.

Video Format: NTSC is the North American video format. PAL is the European format. If located in North America changing this setting will stop the live stream of your cameras.

Menu Timeout: How long the menu will stay on the screen without activity. The options are:

- 30s
- 1Min
- 2Min
- 5Min
- 10Min
- Off

Cancel: Exit the Setup Wizard.

Previous: Return to the previous page of the Setup Wizard.

Next: Proceed to the next page of the Setup Wizard.

REMOTE VIEWING SETUP

This page allows you to set up remote viewing on your smartphone using the QR code in the Defender HD app. The Remote Viewing Setup can also be located in the System tab of the main menu, under Info. See page 40 of the manual for more information.



From the app store on your smart phone, download the Defender HD app. Once downloaded, create an account and scan the QR code to access your DVR.

Cancel: Exit the Setup Wizard.

Previous: Return to the previous page of the Setup Wizard.

Next: Proceed to the next page of the Setup Wizard.

FUNCTION TOOL BAR



Main Menu: Select  to access the menu. You will be required to enter your password to access the main menu, unless the password has been disabled.

Manually Lock Screen: Select  to lock the main menu from access until the password is entered.

Layout: Select   to adjust how the camera images are shown when in live view. The channel viewing options are Quad, Nine, or Six and Eight, available from the More Layout option. 

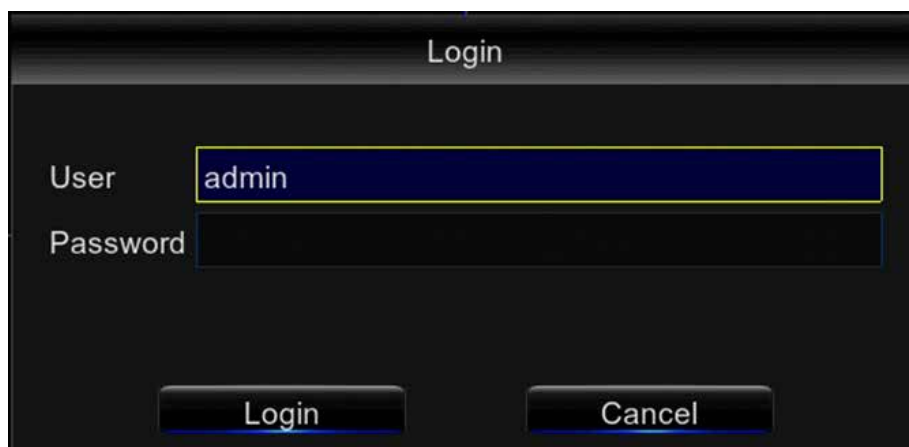
Start SEQ: Select  to rotate through the channels one at a time on the screen. Select the SEQ icon again to stop the sequence.

Mute: Select  to stop audio from the cameras. Please note that you must have a microphone, or audio enabled camera, for the audio feature to work.

Playback: Select  to access the playback function.

LOGIN

When the Main Menu icon is selected from the Function tool bar, you will be required to enter your user name and password. The login feature can be disabled from the main menu under System. We do recommend, for your security, that the password is enabled.

A screenshot of a 'Login' dialog box. The title bar at the top is labeled 'Login'. Below the title bar, there are two input fields. The first is labeled 'User' and contains the text 'admin'. The second is labeled 'Password' and is currently empty. At the bottom of the dialog box, there are two buttons: 'Login' on the left and 'Cancel' on the right.

The top of the menu will show the menu tabs. Along the left hand side, you will see the options available within each tab.



DISPLAY

Adjust the settings for live view on an external monitor.



LIVE

Channel: Edit the live view settings for the selected channel.

Channel Name: Change the channel name. By default, this will be CH followed by the channel number.

Show Name: Enable/Disable the channel name to be shown in live view.

Record Time: Enable/Disable the time to be shown on recorded footage.

OSD Position (On Screen Display): Change the position of the channel name, and date/time shown on the screen. Right click with the mouse to exit the OSD Position screen.

Colour: Adjust the colour balance on the camera image.

Covert: Block a channel from live view. With this enabled, the channel will still record but will not be seen in the live view screen.

AHD EQ (Analog High Definition Equalizer): Enable/Disable this setting to allow for a clearer image at longer distances.

Show Time: Enable the time to be shown in live view.

Copy CH1 to All: Copy your settings to all channels.

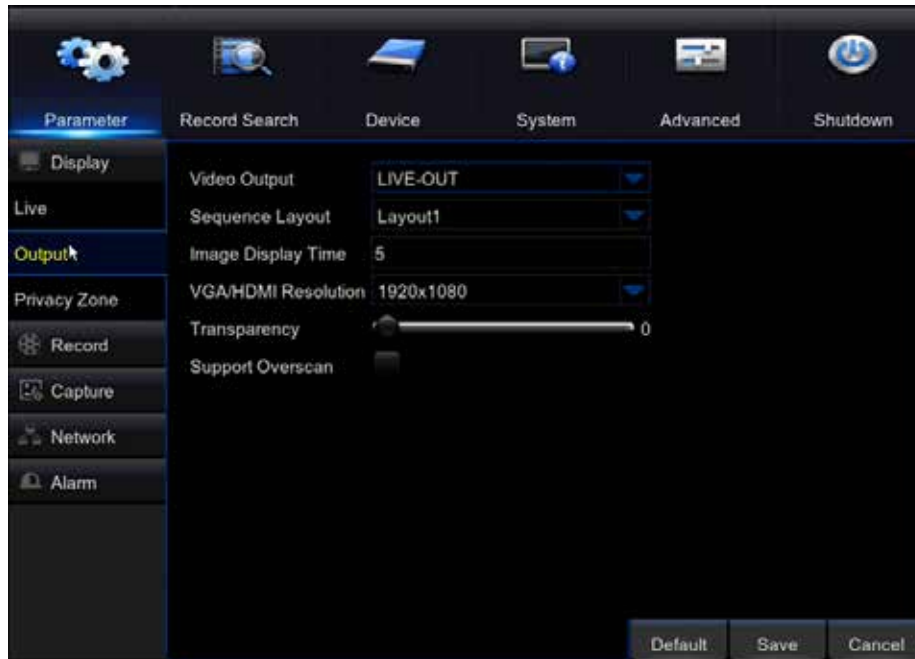
Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

OUTPUT

Adjust the output settings for the DVR video output to an external monitor.



Video Output: By default, the DVR automatically selects the output based on the cable connected to the back of the DVR.

Sequence Layout: Adjust the layout of the cameras in sequence mode (found in the function toolbar). The options are:

- Layout1: Single camera view
- Layout2: Quad camera view
- Layout3: Six camera view

Image Display Time: Adjust the number of seconds the images are displayed in sequence mode.

VGA/HDMI Resolution: Change the display output resolution. VGA is a 640x480, HDMI is 1920x1080.

Transparency: Adjust the transparency of the menu over the live view screen.

Support Overscan: Enable/Disable overscan for monitors that have this feature.

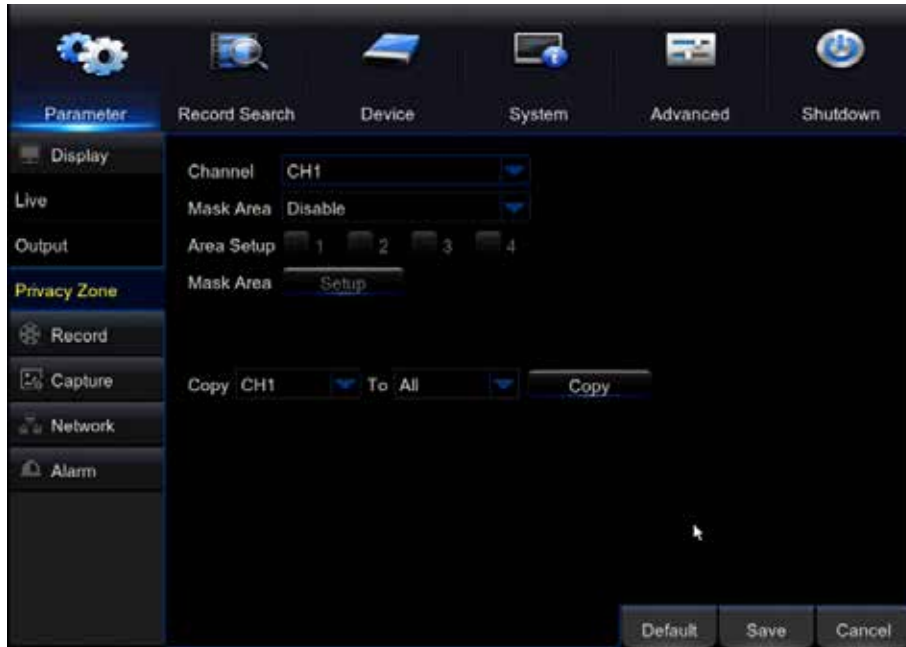
Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

PRIVACY ZONE

Create a privacy zone to disable a section of the camera view from live view, and from the recorded footage.



Channel: Create a privacy zone for the selected channel.

Mask Area: Enable/Disable this feature.

Area Setup: For each channel, you can create up to four privacy zones. Check the box next to the zone you wish to set up.

Mask Area Setup: Select Setup and you will see the camera image. Click and drag with your mouse to set the area you wish to block for live view and recorded footage.

Copy CH1 to All: This will copy any changes made to all channels. **Do not select this option if you want to customize the privacy zone for each channel.**

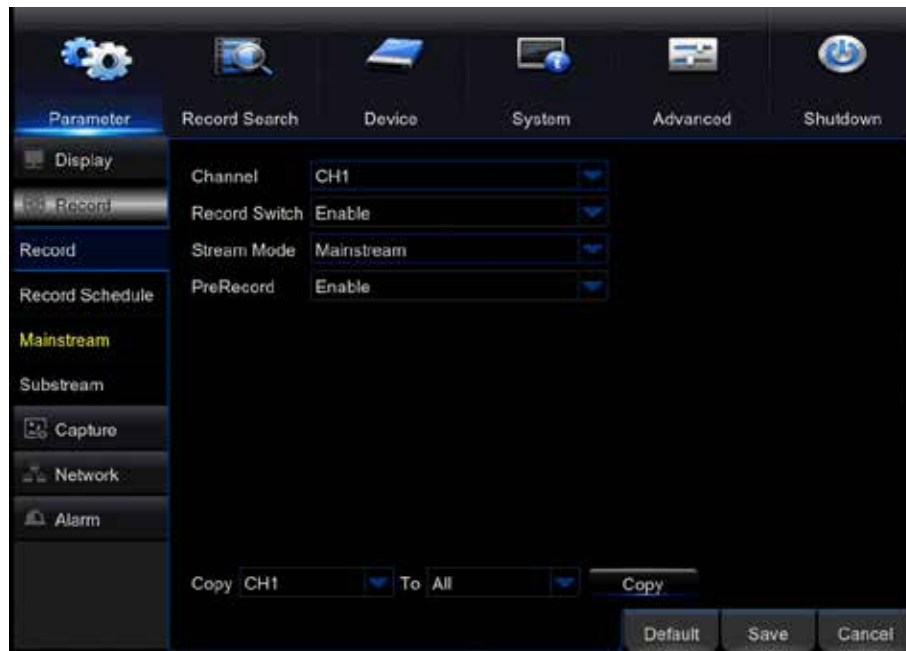
Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

RECORD

Adjust the record settings for each channel.



Record:

Channel: Edit the record settings for the selected channel.

Record Switch: Enable/Disable to turn recording on/off.

Stream Mode: Select High Quality Stream or Standard Quality Stream. For more information, see pages 20 & 21

PreRecord: Select Enable/Disable to set a prerecord time.

Copy CH1 to All: Copy these settings to all channels.

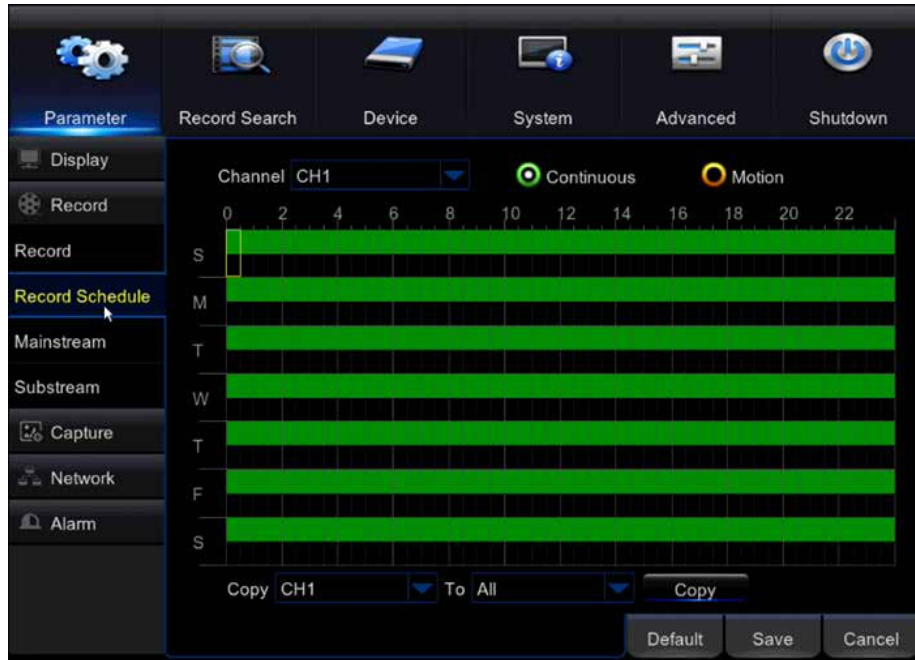
Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

RECORD SCHEDULE:

Set up a recording schedule for each channel. By default, the DVR is set to record continuously, 24 hours a day, 7 days a week. It can also be set to record on a specific schedule, or only when motion is detected. Each channel can have the same schedule or individual schedules.



Channel: Shown is the channel you wish to set up. To change the channel, click the dropdown arrow.

Continuous: Set the DVR record continuously.

Motion: Set the DVR record only when motion is detected.

NOTE:

If both continuous and motion are selected, the DVR will record on a continuous schedule.

Calendar: To set a recording schedule for certain days of the week and time frames, click each square. Each square represents a 30 minute time frame. Click and drag to highlight and select multiple time frames at once. Green squares indicate a constant recording schedule. Yellow squares indicate a motion recording schedule.

To set up a schedule, follow these steps:

1. Set a schedule for the selected channel.
2. Select Continuous or Motion. For motion recording, motion **MUST** be enabled on the Alarm page of the menu. See page 30 for more information.
3. In the Calendar, click and drag to select the days of the week, and times of day you want to record. Each square represents a 30 minute time frame. If you have Continuous selected, the boxes will be green. If you select Motion, the boxes will be yellow.

CH1 to All: Copy these settings to all channels.

Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

HIGH QUALITY STREAM

High Quality Stream will allow you to get the highest resolution recorded footage.



NOTE:

The higher the resolution and FPS settings, the more space the footage will take up on the hard drive.

Channel: Edit the High Quality Stream settings for the selected channel.

Resolution: Select a recording resolution from the dropdown options available.

FPS (Frames Per Second): The frames per second.

Bitrate Control: The number of bits that are conveyed or processed per unit of time.

Set the Bitrate to a Variable Bitrate, or a Controlled Bitrate.

- **CBR (Controlled Bitrate):** Cap the amount of data transferred between the DVR and your remote viewing device.
- **VBR (Variable Bitrate):** Allows a variable amount of data within each setting. The options are:
 - Good
 - Better
 - Best

Bitrate Mode: Set the bitrate options to Predefined, or to User Defined.

- Predefined: The bitrate is determined by the DVR.
- User Defined: The user can define the bitrate to the parameters they wish to set.

Bitrate: Based on the selected Control and Mode options, select the bitrate. If you have selected User Defined, you can enter any bitrate between 1024-6144 Kbps.

Audio: Select to Enable/Disable Audio recording for the selected channel. (4 and 8 channel DVRs will have one audio connection; 16 channel DVRs will have four audio connections). You must have a microphone, or audio enabled camera, for this feature.

Copy CH1 to All: Copy these settings to all channels.

Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

STANDARD QUALITY STREAM

Standard Quality Stream is a second video stream that runs at a lower quality in order to preserve bandwidth and reduce data consumption when viewing remotely.



Channel: Edit the Standard Quality Stream settings for the selected channel.

FPS (Frames Per Second): The frames per second.

Bitrate Control: The number of bits that are conveyed or processed per unit of time. Set the Bitrate to a Variable Bitrate, or a Controlled Bitrate.

- **CBR (Controlled Bitrate):** Cap the amount of data transferred between the DVR and your remote viewing device.
- **VBR (Variable Bitrate):** Allow a variable amount of data within each setting. The options are:
 - Good
 - Better
 - Best

Bitrate Mode: Set the bitrate options to Predefined, or to User Defined.

- Predefined: The bitrate is determined by the DVR.
- User Defined: The user can define the bitrate to the parameters they wish to set.

Bitrate: Based on the selected Control and Mode options, select the bitrate. If you have selected User Defined, you can enter any bitrate between 1024-6144 Kbps.

Audio: Select to Enable/Disable Audio recording for the selected channel. (4 and 8 channel DVRs will have one audio connection; 16 channel DVRs will have four audio connections). You must have a microphone, or audio enabled camera, for this feature.

Copy CH1 to All: Copy these settings to all channels.

Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

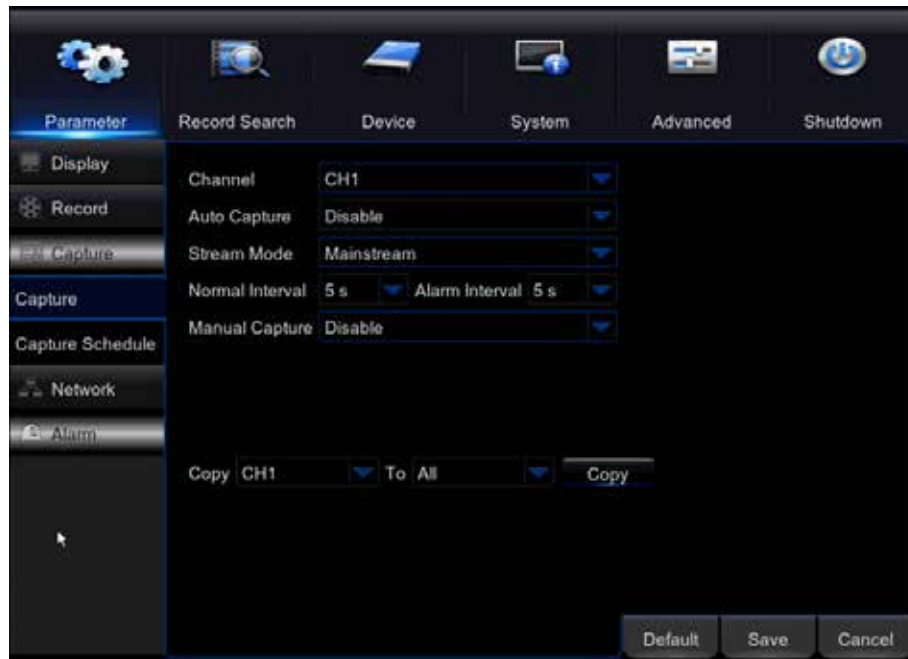
Cancel: Revert any changes, and exit the menu.

NOTE:

The higher the resolution and FPS settings, the more bandwidth the live stream will use.

CAPTURE

Set the DVR to capture still images.



Capture:

Channel: Edit the capture settings for the selected channel.

Auto Capture: Select Enable/Disable to automatically capture snapshots based on the settings entered. (i.e. constant recording, motion only recording)

Stream Mode: High Quality Stream or Standard Quality Stream.

Normal Interval: The frequency in which images are taken when in constant capture mode.

Alarm Interval: The frequency at which images are taken when in motion capture mode.

Manual Capture: Selecting Enable will allow you to manually take a snap shot.

Copy CH1 to All: Copy these settings to all channels.

Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

CAPTURE SCHEDULE

Set up a schedule for the DVR to take snap shots.



Channel: Set the Image Capture Schedule for the selected channel.

Continuous: Set the DVR to capture snapshots continuously.

Motion: Set the DVR to capture snapshots only when motion is detected.

Calendar: To choose the days of the week and time frames you want to capture snapshots for, click each square. Each square represents a 30 minute time frame. Click and drag to highlight and select multiple time frames at once.

Follow these steps to set the Capture Schedule:

1. Set the schedule for the selected channel.
2. Select if you wish to have continuous capture, or motion only capture.
3. Using your mouse, click and drag to highlight the days and times you wish to capture snap shots for. Each square represents a 30 minute time frame.
4. If you wish to have different schedules for all channels, select the next channel from the drop down at the top. To have all channels have the same settings, select Copy.
5. Select Save to save your changes.
6. Select Default to restore this page back to the factory default settings.
7. Select Cancel to leave the menu without saving changes.

Copy CH1 to All: Copy these settings to all channels.

Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

NETWORK

The DVR can be connected to the internet and viewed online. If you do not wish to use a QR code/UID for setup, the DVR can be manually networked. For assistance with this set up, please contact your Internet Service Provider. The recommended online viewing method is with a QR code/UID.

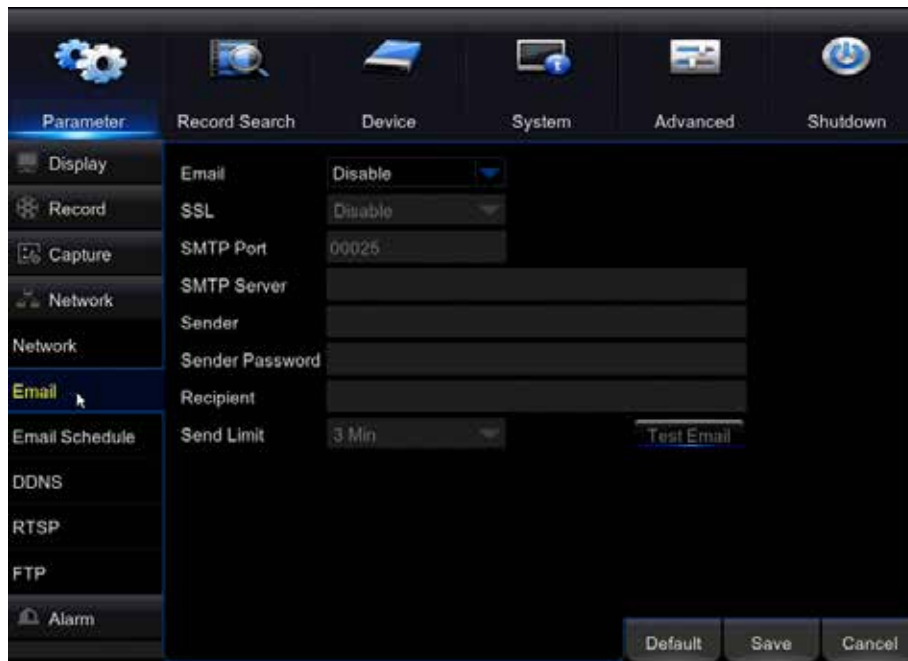
The screenshot shows the 'Network' configuration screen of a DVR. The interface has a dark theme with a sidebar on the left containing icons and labels for various settings: Parameter, Record Search, Device, System, Advanced, Shutdown, Display, Record, Capture, Network, Email, Email Schedule, DDNS, RTSP, FTP, and Alarm. The 'Network' option is currently selected. The main area is titled 'PPPoE' and features two radio buttons: 'DHCP - Recommended' (which is selected) and 'Static'. Below these, there are input fields for 'Client Port' (set to 09000) and 'HTTP Port' (set to 05000). Further down, there are five stacked input fields for 'IP Address', 'Subnet Mask', 'Gateway', 'DNS1', and 'DNS2'. At the bottom of the main area, there is a 'UPNP' section with a dropdown menu currently set to 'Disable'. In the bottom right corner, there are three buttons: 'Default', 'Save', and 'Cancel'.

NOTE:

If using the port forwarding method, the interface and options will not be the same as when using a QR code/UID to access the DVR.

EMAIL

Setup automated email alerts when motion is detected, and other system alerts.



Email: Enable to setup automated email alerts.

SSL (Secure Sockets Layer): The standard security technology for establishing an encrypted link between a web server and a browser. This link ensures that all data passed between the web server and browsers remain private and integral. This setting will vary based on your email provider.

SMTP Port (Simple Mail Transfer Protocol Port): This is commonly port 25. The DVR requires a five-digit number to be entered. If the port your provider uses is not five digits, please add zeros in front of the number. (Example: Using port 25, enter it as: 00025).

SMTP Server: (Simple Mail Transfer Protocol Server). The server your email provider uses.

Sender: Your email address.

Sender Password: The password for your email account.

Recipient: The email address you wish to receive email alerts to. This can be the same as the sender email, or it can be different.

Send limit: The interval in which emails are sent. The options are:

- 1 Min
- 3 Min
- 5 Min
- 10 Min

Test email: Send a test email when setting up to ensure that the settings are correct.

Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

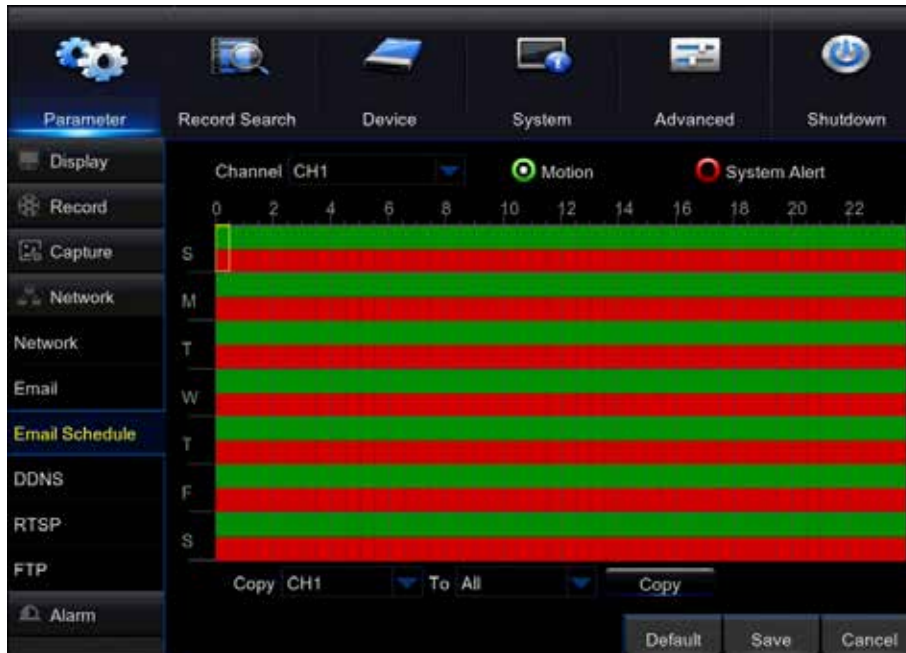
Cancel: Revert any changes, and exit the menu.

NOTE:

The SMTP settings for your email address can be located in the support section of your email provider's website, or by contacting their support department.

EMAIL SCHEDULE

Channel: Set the email schedule for the selected channel.



Motion: Set an email schedule based on motion

System Alert: Set an email schedule based on System Alerts. See page 32 for more information on the system alert types.

Calendar: To select the days of the week and time frames you want to set, click each square. Each square represents a 30 minute time frame. You can also click and drag to highlight and select multiple time frames at once. Green squares indicate motion detection emails. Red squares indicate system alert emails.

Copy CH1 to All: Copy the schedule to all channels.

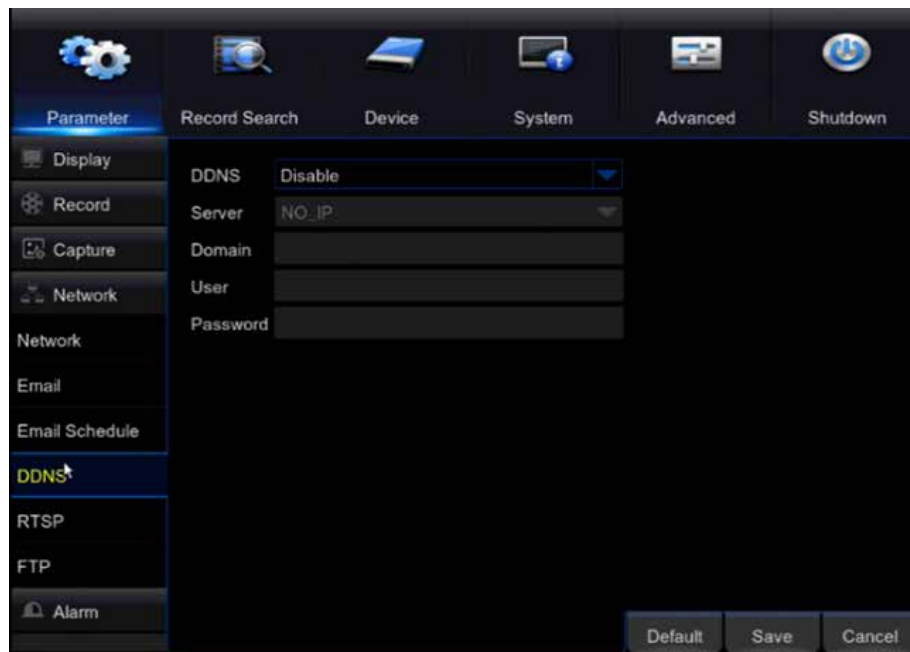
Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

DDNS

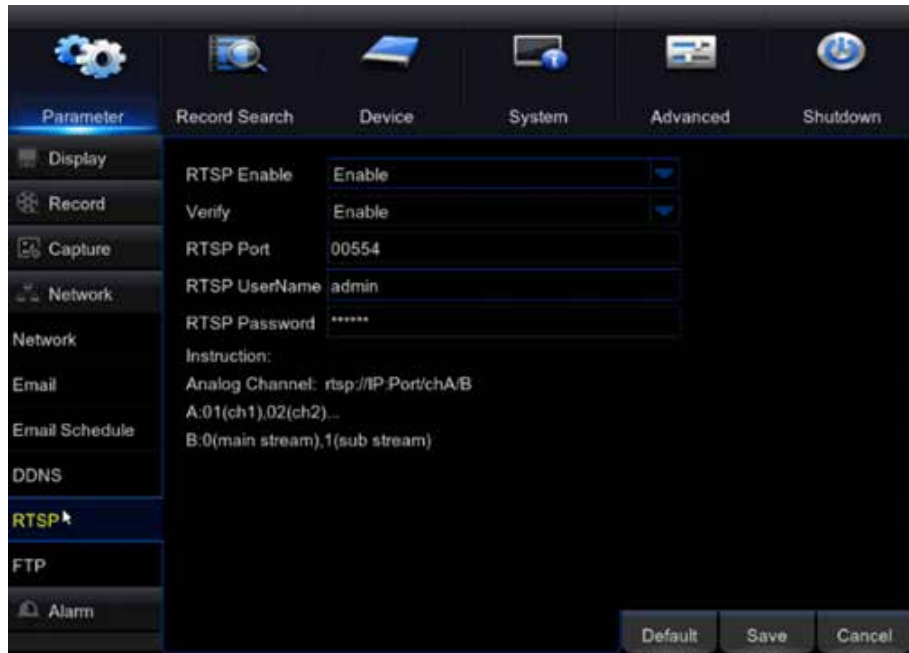
Create a DDNS (Dynamic Domain Name System), which uses a URL to identify your DVR instead of using an IP address. While the DVR is compatible with the use of a DDNS server, Defender does not provide DDNS accounts.



See the dropdown in the menu for the list of compatible servers. There may be a monthly service fee based on the server you use. The settings for this page will be provided by the DDNS server.

RTSP

This setting is for advanced users. This feature enables raw video embedding/streaming into a webpage. Support for this is limited as it is intended for advanced users with a technical background.



RTSP: Enable/Disable this feature.

Verify: Enable/Disable this feature.

RTSP Port: This port is used when embedding footage.

RTSP Username: The DVR user name.

RTSP Password: The DVR password.

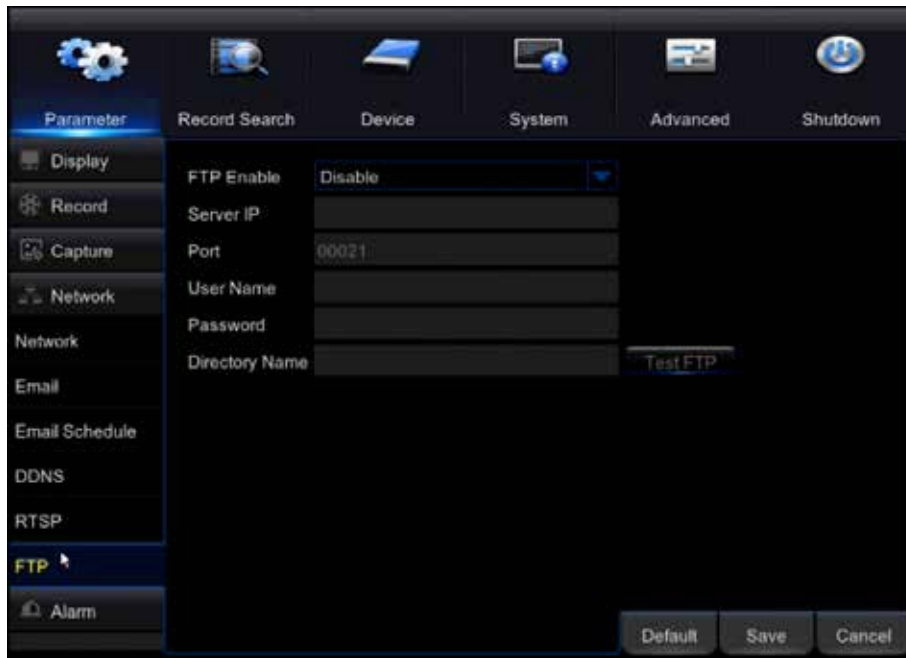
Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

FTP

File transfer protocol is used to transfer files between a client and server on a network computer. Support for this is limited as it is intended for advanced users with a technical background.



FTP Enable: Enable/Disable this feature.

Server IP: The IP address for the server that you would like to transfer files to.

Port: The Port for the server you would like to transfer files to.

User Name: The server user name.

Password: The server password.

Directory Name: The area on the server you would like the files to be saved to on the server.

Test FTP: Perform a test on the settings entered.

Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

ALARM

Enable the DVR to detect motion, and adjust the motion detection settings.



MOTION

Channel: Set up automated alarms for the selected channel.

Enable: Enable/Disable the alarm on the channel.

Buzzer: Enable/Disable the DVRs internal buzzer. The buzzer will go off when motion is detected. The buzzer length can be adjusted from the Events section of the Alarm Tab.

Sensitivity: Adjust the duration of the buzzer sound.

Area: Block areas from motion detection. This is used to remove an object that has constant motion from the camera field of motion detection. This area will still show in the recorded footage.

Post Recording: The duration in seconds that the DVR will record when motion is no longer detected.

Show message: A Red M will show in live view to indicate that motion is being detected.

Send email: Send an automated email when motion is detected. Your DVR must be hardwired to a router or modem for this option to work. See page 25 for the steps to set up email alerts.

Full screen: The channel detecting motion will go into full screen mode.

Record Channel (Analog Channels): Select the cameras that will record when motion is detected from one camera. The DVR can be set to record on all channels, or select channels when motion is detected on one channel.

Copy CH1 to All: Select to copy these settings to all channels.

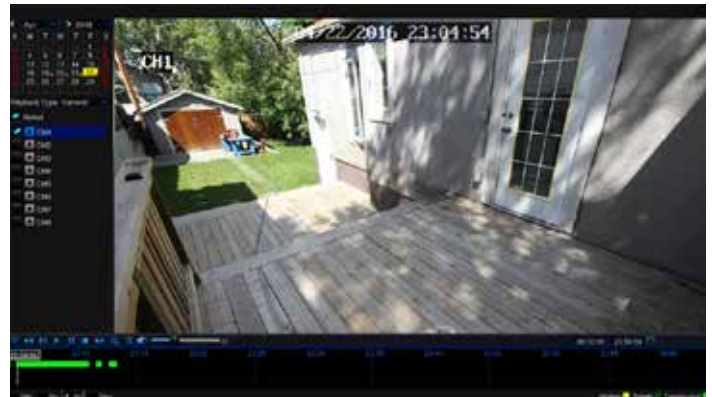
Default: Restore the settings on this page back to default settings.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

GENERAL

Playback recorded footage and view snapshots from the DVR hard drive.



Channel: Select the channel to view recorded footage. Select All to search for recorded footage from all channels.

Type: Select the type of footage. The options are:

- All
- Continuous
- Motion

Date Range: The Date Range (Month/Year) to find recorded footage. Select Search.

Calendar: Days that contain recorded footage will appear with an orange marker in the corner. The most recent date will be selected by default. Click the date to view the footage from.

Playback Channel (Analog Channels): The channels to playback footage from.

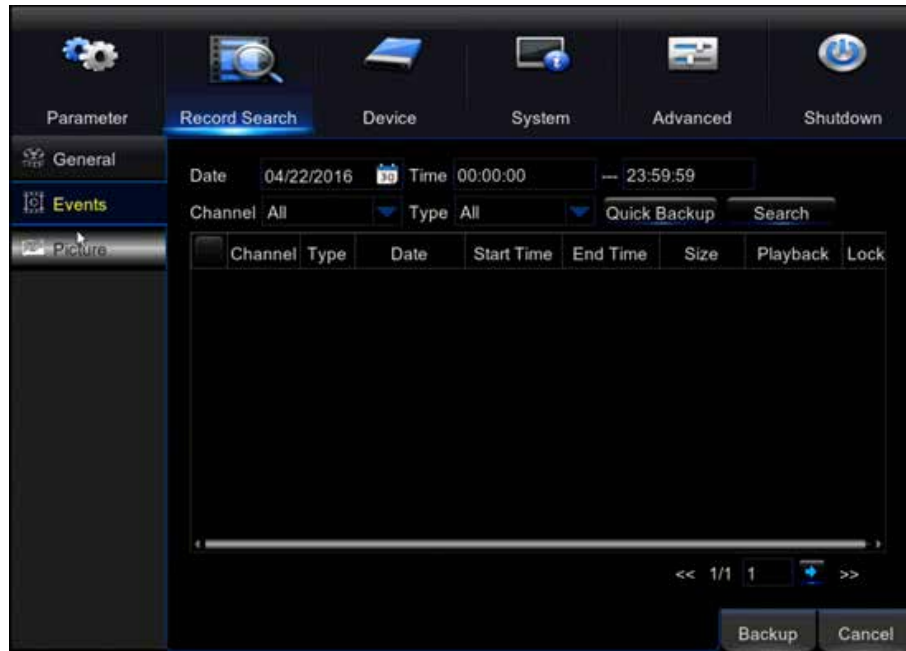
Start/End Time: The time frame to start and end playback for.

Play: Begin playing the footage back.

Cancel: Exit the menu.

EVENTS

View a list of events from the DVR.



The event types are:

- Motion Detection
- Adjustment of Settings
- Reboot
- Playback
- Hard Drive Failure
- Alarms

Date: View events for the selected date.

Time: View events for the selected time.

Channel: View events for the selected channel.

Type: The type of event.

Quick Backup: Backup the event list to a USB flash drive. Please note that the maximum size flash drive that can be used is 32GB.

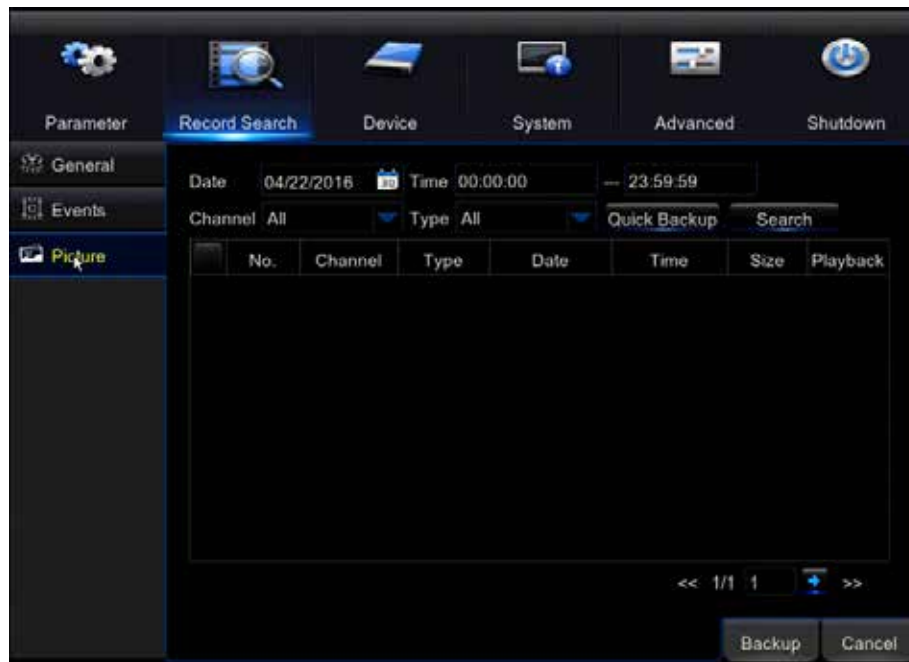
Search: Select to search for the specified data.

Backup: Backup the event list to a USB flash drive. Please note that the maximum size flash drive that can be used is 32GB.

Cancel: Cancel the search and exit the menu.

PICTURE

View snapshots taken from the DVR.



Date: View snapshots for the selected date.

Time: View snapshots for the selected time.

Channel: View events for the selected channel.

Type: The type of snapshots.

Quick Backup: Backup the snapshots to a USB flash drive. The maximum size flash drive that can be used is 32GB.

Search: Search for the specified data.

Backup: Backup the snapshots to a USB flash drive. The maximum size flash drive that can be used is 32GB.

Cancel: Cancel the search and exit the menu.

HDD

View the current state of the DVR's internal hard drive.



Hard Drive Status: The status of the hard drive.

Available/Total: Available hard drive space in GB.

Available Time: Available recording time on the hard drive in hours.

Select: Select a hard drive.

Overwrite: Select the frequency for which the footage will be overwritten on the hard drive. The options are:

- Off
- Auto
- 1 Day
- 3 Days
- 7 Days
- 14 Days
- 30 Days
- 90 Days

NOTE:

If Auto is selected, the hard drive will overwrite the oldest footage as soon as space is needed. If the DVR is not set to Auto, the hard drive may become full and the DVR will stop recording. The recommended setting for this is Auto.

Format HDD: This will remove all recorded footage from the hard drive. To format the hard drive, check the select box and then select format. **Once formatting has started it cannot be stopped and all recorded footage will be deleted from the hard drive selected.** This action will not erase or change settings.

PTZ

This section allows you to setup a Pan Tilt Zoom (PTZ) camera on your DVR. Note you can setup one PTZ camera on your DVR. The PTZ camera can be controlled using the DVR, Web UI, and the Defender HD app. The setup details for this screen can be found in your PTZ camera product manual.



The image shows a PTZ setup interface with a top navigation bar and a left sidebar. The top bar includes icons and labels for Parameter, Record Search, Device (highlighted), System, Advanced, and Shutdown. The left sidebar has icons and labels for HDD, PTZ (highlighted), and Cloud. The main area contains a list of PTZ parameters with dropdown menus for selection. At the bottom, there is a 'Copy' button with dropdowns for 'CH1' and 'All', and three buttons: 'Default', 'Save', and 'Cancel'.

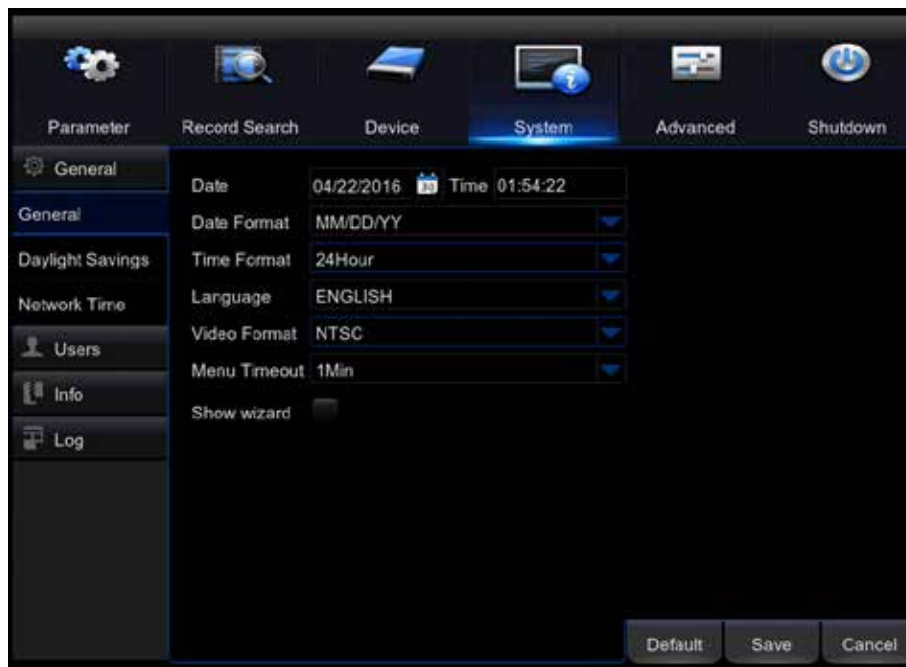
Parameter	Value
Channel	CH1
Protocol	Pelco-D
Baudrate	9600
DataBit	8
StopBit	1
Parity	None
Cruise	Enable
Address	001

Copy CH1 To All Copy

Default Save Cancel

GENERAL

Set the Date/Time formats for your DVR.



Date: The current date.

Time: The current time.

Date format: Select the format for the date. The options are:

- MM/DD/YY
- YY-MM-DD
- DD/MM/YY

NOTE:

Please ensure that the DVR is set to the correct date and time. Recorded footage will be listed on the date the DVR was set to when it was recorded.

Time format: 12-hour or 24-hour clock.

Language: The Language the menu will be in. Once you have made your selection, select save and exit the menu. When you next access the menu, it will be in the language you have selected.

Video Format: Select NTSC or PAL. See page 11 for more information on NTSC and PAL.

NOTE:

PAL is a European Video Format and may not work with some North American TVs or monitors.

Menu Timeout: Set the length of time the menu will remain on screen without activity. The options are:

- 30 Sec / 1 Min / 2 Min / 5 Min / 10 Min / OFF

Show Wizard: Enable the Setup wizard.

Default: Restore the settings on this page back to default.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

DAYLIGHT SAVINGS

Set the automatic Daylight Savings Time update on your DVR.

The screenshot shows the 'System' menu of a DVR interface. The left sidebar contains icons for 'Parameter', 'Record Search', 'Device', 'System' (selected), 'Advanced', and 'Shutdown'. Below these are sub-menus: 'General', 'Daylight Savings' (highlighted), 'Network Time', 'Users', 'Info', and 'Log'. The main area displays the 'Daylight Savings' settings. It includes a 'Daylight Savings' dropdown set to 'Disable', a 'Time Offset' dropdown set to '1 Hour', and a 'Specify By:' dropdown set to 'Week'. Below these are 'Start Time' and 'End Time' settings, each with a date and time selection. The 'Start Time' is set to 'Mar. The 2nd Sun. 02:00:00' and the 'End Time' is set to 'Nov. The 1st Sun. 02:00:00'. At the bottom right are 'Default', 'Save', and 'Cancel' buttons.

Parameter	Record Search	Device	System	Advanced	Shutdown
General					
Daylight Savings					
Network Time					
Users					
Info					
Log					

Daylight Savings	Time Offset	Specify By:	Start Time	End Time
Disable	1 Hour	Week	Mar. The 2nd Sun. 02:00:00	Nov. The 1st Sun. 02:00:00

Default Save Cancel

Daylight Savings (DST): Select to enable.

Time Offset: The number of hours the time will change.

Specify By: Week or Date.

Start/End Time: The Start/End Dates for DST.

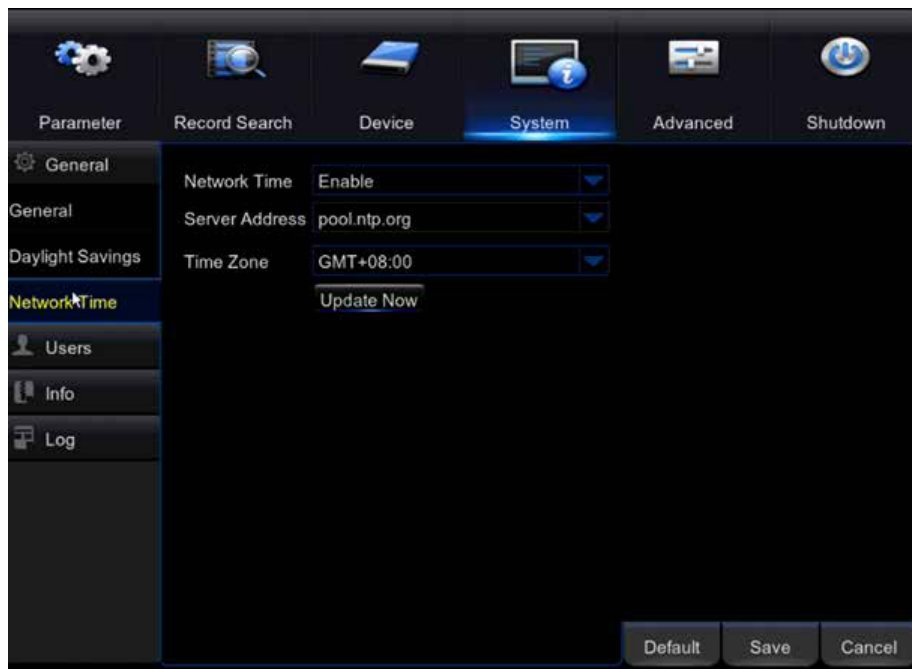
Default: Restore the settings on this page back to default.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

NETWORK TIME

Network time protocol allows the DVR to synchronize its clock with a network.



NOTE:

The DVR must be connected to a router or modem with an Ethernet cable in order to enable Network Time Protocol.

Network Time: Enable to update the Network settings.

Server Address: Enter the name of the Server to synchronize with the DVR.

Time Zone: Set your Time Zone.

Update Now: Update the Network Time based on the server entered.

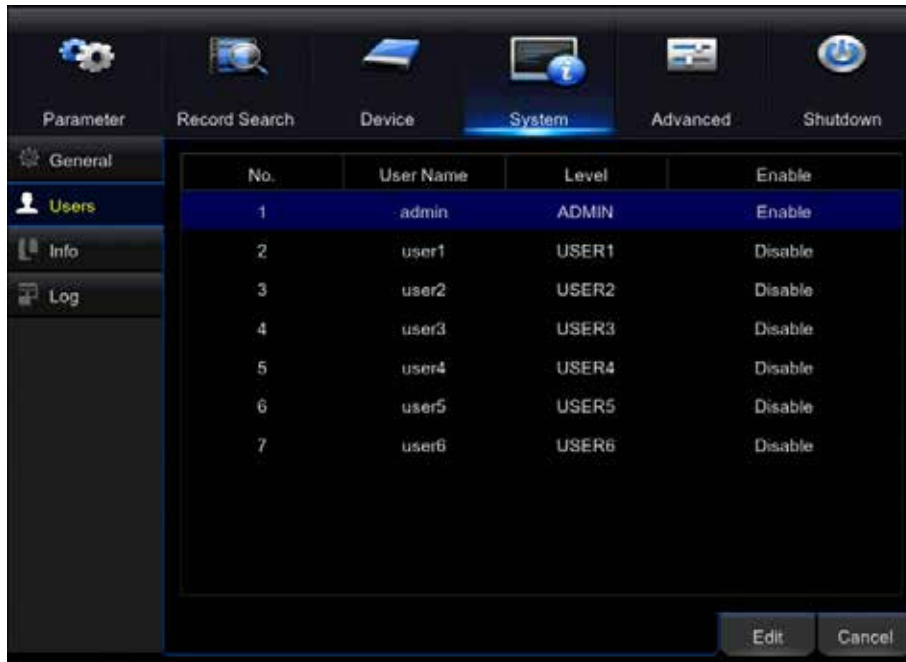
Default: Restore the settings on this page back to default.

Save: Save the settings made on that page.

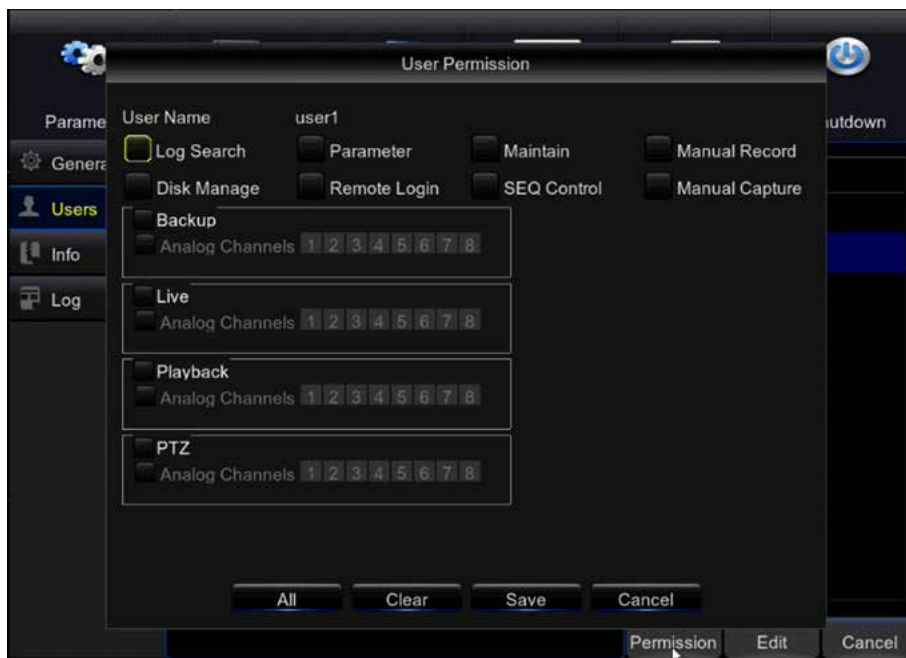
Cancel: Revert any changes, and exit the menu.

USERS

Manage User Profiles. The system allows you to setup up to seven (7) profiles, including an Admin Profile.



To create user profiles, highlight the user account that you would like to setup, and select Permission.



Permissions: Select the checkbox beside each permission for each channel.

All: Give all permissions.

Clear: Clear all.

Save: Save all permission settings and go back to the User menu.

Enable: Highlight the user you have updated and select enable. Enter a username and password for the user.

INFO

View the DVR information.



NOTE:

The DVR model number is not listed in the Info tab. To locate the model number, please refer to the sticker on the back or bottom of the DVR.

- Device ID:** The ID and Name can be changed here. This information is required on the Login screen.
- DVR QR Code:** Used to scan in the Defender HD App. Refer to the Defender HD app manual for more details on setting up and using the app.

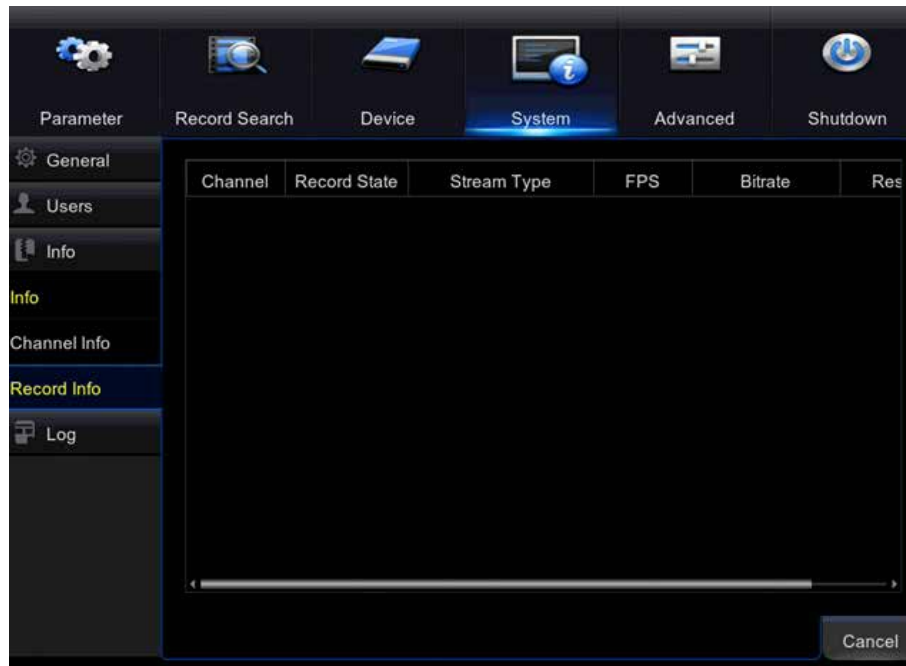
CHANNEL INFO

Lists the settings for each channel of the DVR. See the recording and display sections to adjust these settings.

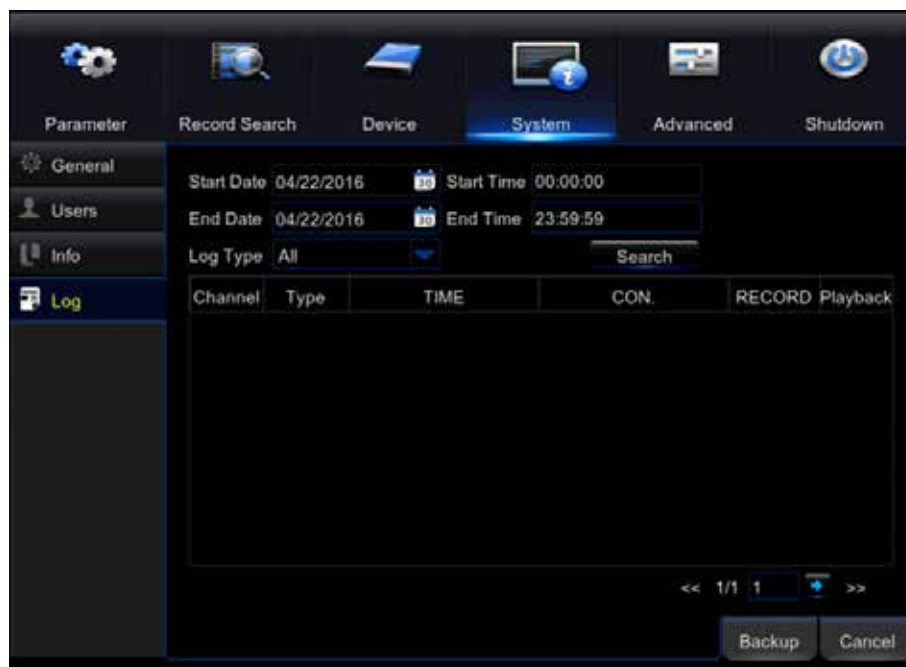


RECORD INFO

The recording information for all channels.



LOG

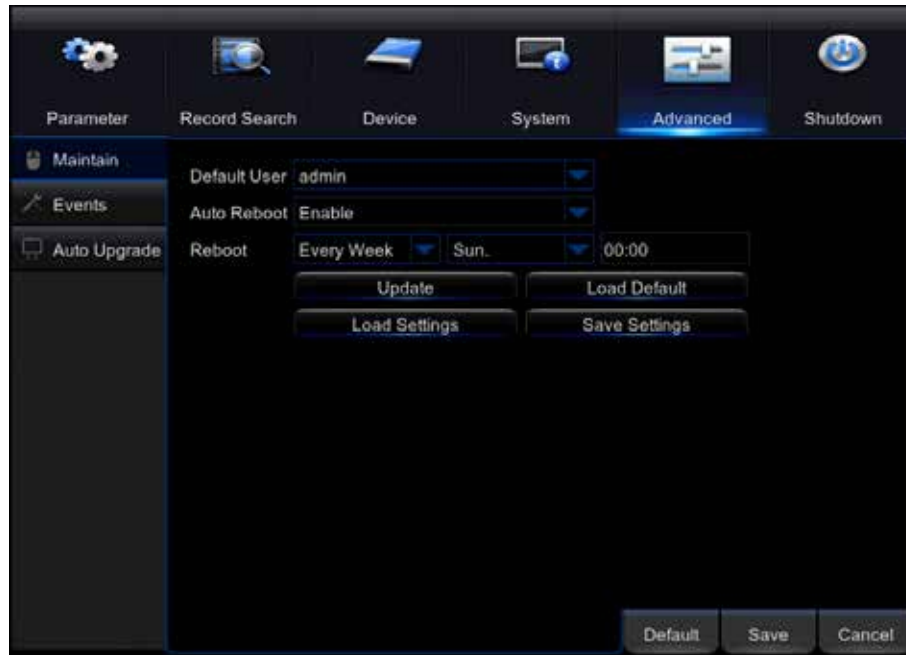


This section lists the actions that have happened on the DVR. This includes the following:

- Motion Detection
- Adjustment of Settings
- Reboot
- Playback
- Hard Drive Failure
- Alarms

MAINTAIN

Adjust the system settings.



Default User: Select the user profile that will be used as the default, if not the admin account.

Auto Reboot: Enable the Auto Reboot function. This will automatically reboot the DVR at the specified time.

Reboot: Select the frequency in which you would like the DVR to reboot.

Update: Update the DVR firmware.

NOTE:

Defender does not recommend updating the firmware unless directed to do so by a Defender representative. Installing the incorrect firmware can cause issues with the DVR functionality.

Load Default: Restore the DVR back to the default settings. Click Load Default, check the settings you wish to restore, or select all. Select Save and the DVR will restore the settings.

Load Settings: Load settings that have been saved to a USB flash drive.

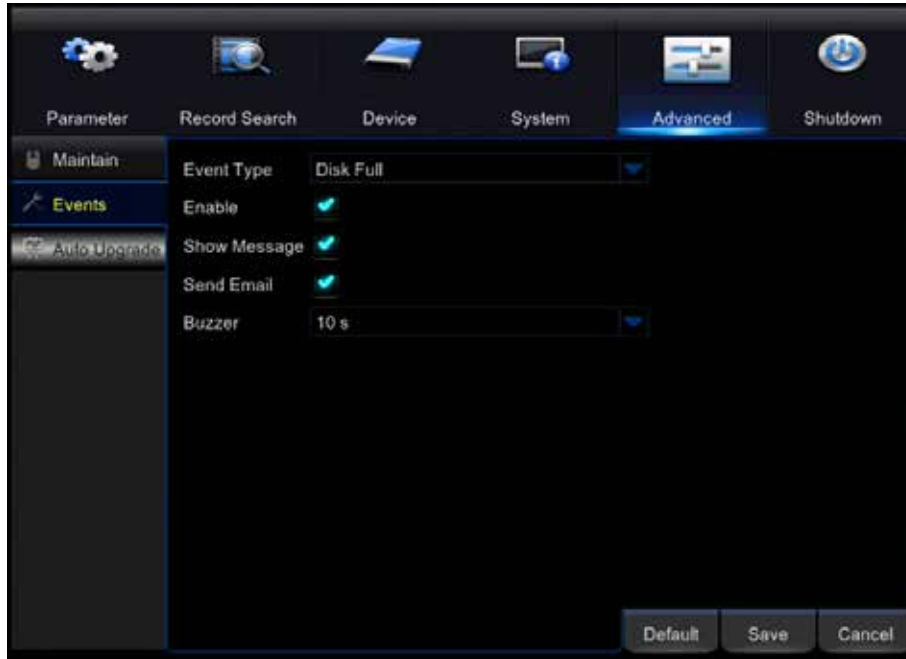
Save Settings: Save changes made.

NOTE:

Loading the default settings will not erase footage from the DVR. It will revert any settings to the factory default levels. This will include the password. Once this process has started it cannot be stopped.

EVENTS

Determine what will happen when an event occurs on the DVR.



Event types:

- **Disk Full:** The hard drive is full and has stopped recording.
- **Disk Error:** There is a hard drive error, and recording has stopped.
- **Video Loss:** A camera has experienced video loss.

Enable: Check to receive an event notification.

Show Message: Check to receive a message on the Live View screen.

Send Email: Check to receive an automated email alert.

Buzzer: Select to set the type of buzzer notification. The options are:

- OFF
- 10 S
- 20 S
- 40 S
- 60 S

To be notified of an event, follow these steps:

1. Check Enable
2. Select Show Message to receive a message on the live view screen. Select send email to receive email notifications. The DVR must be connected to the internet to send emails.
3. Set the time of the DVR internal buzzer
4. Select Save to save your changes.

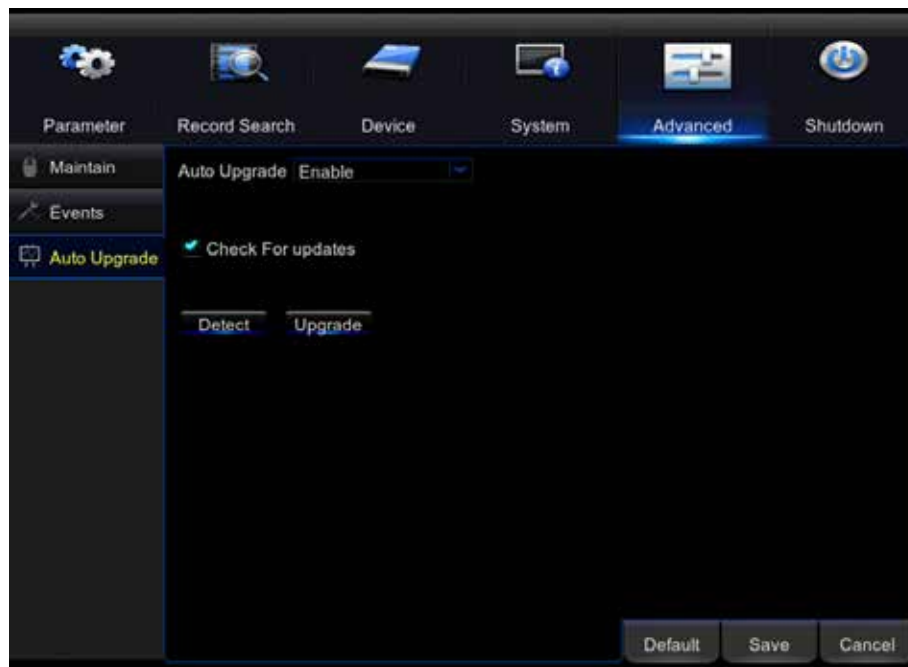
Default: Restore the settings on this page back to default.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

AUTO UPGRADE

Set the DVR to automatically update the firmware. The DVR must be connected to the internet for this feature to work.



Auto Upgrade: Set the DVR to automatically update the firmware.

Check for Updates: Enable the DVR to automatically check for firmware updates.

Detect: Manually search for an update.

Upgrade: Update when found.

To search for a firmware update, follow the steps below.

1. Select Check for updates to allow the DVR to automatically check for updates
2. Select Detect to search for updates.
3. Once the update is located, select upgrade. Once you have selected this, it cannot be stopped.
4. Select Save to save your changes.

Default: Restore the settings on this page back to default.

Save: Save the settings made on that page.

Cancel: Revert any changes, and exit the menu.

SHUTDOWN

Manually shut down the DVR. You will need to enter your admin user name and password to use this feature.

A screenshot of a 'Shutdown' dialog box. The title bar at the top is black with the word 'Shutdown' in white. Below the title bar, there are two input fields: 'User Name' and 'Password'. The 'User Name' field is currently empty and has a yellow border. The 'Password' field is also empty. At the bottom of the dialog box, there are three buttons: 'Shutdown', 'Reboot', and 'Cancel'. The 'Shutdown' button is highlighted with a blue border.

Shutdown

User Name

Password

Shutdown Reboot Cancel

Shutdown: Power off the DVR. The unit will shut down immediately and all unsaved settings will be lost.

Reboot: Restart the DVR. The unit will shut down immediately and all unsaved settings will be lost.

Cancel: Exit the menu without shutting down or rebooting the DVR.

After the Defender Logo disappears, the screen is blank	The DVR resolution may not be supported by the monitor/TV. Connect the DVR using a VGA cable, or to a different monitor/TV. Go to DISPLAY › OUTPUT to change the resolution to one supported by the monitor/TV.
Mouse is not working	- Ensure the mouse is connected to the proper USB port. - Unplug the mouse from the USB port and plug it back in.
Remote control is not working	- Be sure the batteries are installed correctly. - Be sure you are pointing the remote at the IR sensor on the DVR. - Try replacing the batteries in the remote.
HDD light is blinking	If the hard drive is playing back footage or recording, the light will blink to notify you that there is activity.
Prompted to put in a password for everything	The password is enabled in the system menu. Go to SYSTEM – USERS to disable the password.
Cannot power off DVR	- The DVR is set to run as long as it is plugged in. - To power off the DVR, go to MAIN MENU › SHUT DOWN.
The hard drive fills up too quickly	- Check the video quality you are using. If you are using a high video quality, then the hard drive will fill up faster. Try lowering the video quality. - Adjust your schedule or resolution – If you are on Schedule Record for 24 hours a day the hard drive will fill up faster. Try switching periodically to Motion record.

DVR beeps whenever motion is detected	Buzzer is set to on. Go to ALARM SETUP and turn the buzzer function OFF.
Camera images do not show on the screen when there are cameras connected	The video format may be set to PAL. This is a European format and not supported by North American monitors/TVs. Go to SYSTEM – GENERAL and set the format to NTSC.
The DVR reboots every week.	By default, the DVR is set to reboot weekly on Sundays. To adjust this, go to ADVANCED › MAINTAIN.
The DVR keeps beeping	- There could be video loss, HDD loss, motion detection or no HDD space on your DVR. The DVR can be set to alarm when these actions take place. The alarm alerts you if there is tampering with the camera to DVR connections. Check the connections and keep the DVR in a safe place where it will not be tampered with or moved around. - Disconnect and reconnect all camera connections to make sure they are snug and tight fitting.
The DVR is not recording according to my schedule	- Ensure the proper time is set on your DVR. Refer to the instruction manual under Record Schedule. - Double check your schedule record times – it may be set on the no record function.
Playback video is choppy	Check the FPS for each camera that is recording the choppy video. Refer to your settings in the main menu. The higher the FPS the smoother the video. If the FPS is set too low the video will appear choppy.
Cannot see all/one of the camera(s) on the monitor	- Check if the cameras are properly connected to the back of the DVR and to a power source. - If using the 4 to 1 power connector, make sure it is plugged into a power source and each of the cameras. - Check CAMERA SETUP from the MAIN MENU to see if any of the cameras are turned OFF.

Lost video footage	• The cameras might have been tampered with. Be sure to check that all connections are secure and properly set. • The HDD overwrite feature is enabled. When enabled, the DVR will begin overwriting the earliest stored footage when the HDD is full. • Unplug the power to the cameras and/or DVR and plug it back in.
The cameras are not appearing in sequence mode	• Check if you have selected START ROTATE in the FUNCTION TOOLBAR. The cameras will start to sequence according to the sequence dwell time. • You must be in live viewing mode for this feature to work. • To stop, click STOP ROTATE in the FUNCTION TOOLBAR.
Nothing is recording however all the images are appearing on the screen	• You must initiate the recording to start by pressing the record button on the remote. • Check under Record Setup in the main menu to make sure all the cameras are set to ON. • Check your record schedule to make sure the DVR is set to record that hour. • Verify that the HDD is installed and formatted in the device menu.
The camera picture is too dark	• Adjust the camera's brightness settings under MAIN MENU › PARAMETER › DISPLAY › COLOR. • Try moving your camera to a brighter area. • Make sure the camera is not pointing directly into a light source. • Your camera may not be getting enough light towards it during the day. Adjust the sunshade (top of camera) to allow more sunlight.
The night vision will not turn on/I can't see at night	• Night vision turns on automatically when the sensor detects a lack of light. If your cameras are in a space with too much light, the night vision will not turn on.



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