

User Guide

vSync 0412i MPEG4 4Ch Triplex DVR with Audio



Features

DDNS Support

High Performance (120fps Recording/Playback)

Remote Control

Remote Monitoring

Built in Web Server

4 CH Audio/Video

Bidirectional Audio

Triplex

Remote Playback

Remote PTZ Control

- Real-Time Live Display
vSync 0412i – 120FPS
- vSync Client Software supports additional powerful remote control features
 - Powerful Live Connection & Customizable Camera Layout up to 80 channels
 - Embedded Web Server (Remote Configuration of all vSync DVRs)
 - Full Duplex Bi-directional Audio (2-way Communication)
 - Recording on Client PC, Alarm/Motion Indicator, eMAP, Digital Live Zoom
 - Remote Relay Control, Remote PTZ Control.

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CAUTION

- THIS PRODUCT HAS MULTIPLE-RATED VOLTAGES (110V AND 220V). MAKE SURE TO SET THE VOLTAGE SELECTION SWITCH AT THE REAR PANEL TO THE PROPER VOLTAGE LEVEL OF YOUR REGION.
- THIS PRODUCT USES A LITHIUM BATTERY. THERE IS RISK OF EXPLOSION IF THE BATTERY ON THE MAIN BOARD IS INSTALLED INCORRECTLY. DISPOSE OF USED BATTERIES ACCORDING TO INSTRUCTIONS.
- THIS EQUIPMENT AND ALL COMMUNICATION WIRING IS INTENDED FOR INDOOR USE.
- TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE.

Rack Mount Instructions

A) Elevated Operating Ambience - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

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

HDD Installation Guide

HDD JUMPER SETTING: HDD = MASTER

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1. Introduction

KEY FEATURES

DDNS Support

High Performance (120fps Recording/Playback)

Remote Control

Remote Monitoring

Built in Web Server

4 CH Audio/Video

Bidirectional Audio

Triplex

Remote Playback

Remote PTZ Control

1.1. Overview

- **Triplex MPEG-4** 4 Channel DVR with **Real-Time Live Display, Record**, and Simultaneous Play Back.
- **vSync412i**, (vSync412i Four channel model).
- **vSync412i** features powerful embedded **RTOS** (Real Time Operating System).
- **MPEG-4 video codec** (video encoder/decoder), delivers uncompromised performance providing high compression plus high quality video images.
- **vSync412i** increases the days of recording between overwrite periods while improving the quality of video images. Full triplex capability ensures uninterrupted recording.
- **vSync DVR** supports simultaneous:
 1. Video Recording
 2. Live Video Monitoring up to 80 cameras
 - Locally via video outputs.
 - Remotely via **vSync** network client software and **viSync** Central Monitoring Software.
 3. Play Back or File archiving via USB 2.0 port

Or

1. Video Recording
 2. Remote Playback via **vSync** network client software and **viSync CMS**.
- **vSync software** also allows the administrator to remotely connect to, monitor, and manage multiple networked DVRs. The **vSync** software logs the operation, motion, and alarm statuses of sites throughout the day for later analysis. The **vSync** software lets you search based on time or event, record on a remote PC, and retrieve video clips from remote sites.
 - **vSync software** supports additional powerful remote control features,
 - **Powerful Live Connection & Customizable Camera Layout up to 80 channels,**
 - **Embedded Web Server (Remote Configuration of all vSync DVRs)**
 - **Full Duplex Bi-directional Audio (2-way Communication)**
 - **Recording on Client PC, Alarm/Motion Indicator, eMAP, Digital Live Zoom**
 - **Remote Relay Control, Remote PTZ Control.**

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- **NAFS** (Network-Attached File Server) file systems provide a cluster-based network-attached file server which offers a high level of performance, reliability, and availability.
 - Ex. Prevention of data loss and corruption in the event of a power failure.
- **Multiplexing operation.**
- **State-of-the-art live monitoring and playback** both locally and remotely.
- **Individual channel recording and playback** with different frame rates.
- **Hidden Channel Mode** on selected channels provides extra privacy and uninterrupted recording.
- **Embedded Web-Viewer** provides direct access using IP address or DDNS address in Internet Explorer.
- **Multi-site management via network:** up to 80 cameras.
 - Supported by **vSync network client software and viSync CMS.**
 - Remote live monitoring & recording, playback, backup, PTZF control & Presets, relay sensor control, eMAP, and 2-way communication.
 - **Remote DVR management via embedded Web-Browser** for easy adjustments.
 - **Mobile phone & PDA viewing integration.**
- Network via LAN, **DDNS**, DHCP, ADSL (Dynamic and Static IP addresses).
- Full duplex 4 Channel **G.711** synchronized audio recording and **Bi-directional Audio Communication.**
- **User-friendly setup menu** with simplified **G.U.I.** (Graphic User Interface).
- Easy to schedule weekly recording plans.
- Motion detection – Use the 30x24 grid to define motion zones for each camera.
- Internal Pan/Tilt/Zoom/Focus/Preset controller.
- Easy operation via front panel and optional remote controller.
- Increased security by user name and password verification.
- Video loss detection.
- Backup - Still-images or AVI data onto USB storage device, or Network.
- USB port for JPEG/MPEG data backup and software upgrade using USB storage device.
- Still image capture and review as JPEG format.
- Variety of Hard Drive Sizes - up to 750GB internally (750GB HDD X 1) for long-term recording.
- Multi-Languages - User can easily select language from Setup menu.
- Various Video Outputs - VGA(800x600 24-Bit Color), TV-Out.

1.2. Summary of the Specifications of VSync412i

Item		Description	Remarks
Operating System		RTOS in firmware	
Video/Audio Compression		MPEG-4(video) / G.711-PCM (audio)	
Triplex Function		Record/Playback/Live Streaming or Record/USB archive/Live Streaming	
Video Input Format		NTSC/PAL	Auto-Detection
Video Input		4 Ch In	
Video Output		1Ch VGA , 1 Ch BNC(Composite)	
Display Frame Rate	NTSC	120 frames/sec Real-Time (Hidden Display Function)	4Ch x 30 frames/sec
	PAL	100 frames/sec	25 frames/sec/Ch
Recording Frame Rate (Quad)	NTSC	120 frames/sec (Hidden Record Function)	352x240 resolution
	PAL	100 frames/sec	352x288 resolution
Recording Frame Rate (Full)	NTSC	30 frame /sec (total)	704 x 480 resolution
	PAL	25 frame /sec (total)	704 x 576 resolution
Record Modes		Continuous/Motion/Schedule/Sensor/Manual	
Record Quality		Normal/High/Super	
Resolution		NTSC : 704 x 480(1 CH), 352x 240(Quad) PAL : 704 x 576(1 CH), 352 x 288(Quad) Supports CIF and Full D1	
Audio Input/Output Channel		4 Ch Input/1 Ch Output 2-way communication(Bi-Directional) Audio via network	
Alarm In/Alarm Output		4 Alarm Input (NC/NO selectable) / 1 Relay Output	
HDD		3.5", IDE type9 (IDE ATA133 Type), Min 80GB up to 1 IDE HDDs	
Motion Detection		Motion-Triggered Recording	
Search Mode		Date/Time/Event Search	
Playback Speed		1x, 2x, 4x, 8x, 12x, 16x, 32x	

Serial Interface	1 RS-232C (POS text inserter connection) 1 RS-422/485 (for PTZ control)
USB	Archiving (still images in JPEG format, video in AVI format), Firmware upgrade
Upgrade Method	USB 2.0 Port or Web-Browser
PTZ Control	Local & vSync Client Software
Network Interface	LAN(10/100Base-T), Static, DHCP, PPPoE, and DDNS
Client PC S/W (vSync)	Window2000/XP/Vista
	Live Connection & Customizable Camera Layout up to 80 channels Embedded Web Server (Remote Configuration of all vSync DVRs) Full Duplex Bi-directional Audio (2-way Communication) Recording on Client PC, Alarm/Motion Indicator, eMAP, Digital Live Zoom Remote Relay Control, Remote PTZ Control
Remote Playback	Via vSync Client Software
Power	110/220V, 50/60Hz, 12V/5A

1.3. Packing List

vSync412i	
Support CD includes: vSync Network Client, Utility Programs, Manual(s).	 Vsync.exe
Infrared Remote Control	
Batteries	
Screws for mounting HDD. (Preinstalled when unit is shipped with HDD)	
HDD connection cables (1 ea). (Preinstalled when unit is shipped with HDD(s))	
HDD Mounting Brackets (1ea) (Preinstalled when unit is shipped with HDD(s))	

2. Product Description

2.1. Operation Panel



Figure 2.1 Front Panel of vSync412i

Table 2.1.1. Indication LEDs

Name	Description
HDD	LED illuminates when system is accessing the hard disk drive.
REC	LED illuminates when recording is enabled.
ALARM	LED illuminates when alarm sensor(s) is/are triggered or detects video motion. (Alarm sensor(s) and/or video motion detection must be configured first).
NETWORK	LED illuminates when clients connect through vSync software via network port.
POWER	LED illuminates when the DVR unit is on.

Table 2.1.2. Buttons on the Front panel

Name	Description
ESC	Press for temporary storage of the changed value or to return to the previous menu screen.
SETUP	Press to launch SETUP menu.
SEARCH	Press to review the ARCHIVE LIST and LOG DATA in live display mode.
CAP/USB	Press to take a snapshot, or capture still images (JPEG format), during live or playback modes.
PTZ	Press to initiate PTZ control
SEQ	Press to start auto-sequencing in quad (4Ch) or full (1Ch) display modes.
REW	(During Playback) Press to rewind video footage at 1x, 2x, 4x, and 8x speeds or to see the LOG LIST in live display mode.

F/REW	Jump/Step backward. In playback mode, the playback position reverses/jumps backwards 60 seconds.
F/ADV	Jump/Step forward. In playback mode, the playback position moves forward 60 seconds.
FF	(From Playback Mode) Pressing fast forward advances footage at 1x, 2x, 4x, and 8x speeds.
PLAY/PAUSE	From Live Display Mode: Press to enter SEARCH menu. From Playback Mode: Press to play or pause video.
REC	Press to start or stop manual recording.
▲ UP	Press to scroll up in the menu or to change values in setup mode. (Also used as the number 1 when entering a password.)
▶ RIGHT	Press to scroll right in the menu or to change values in setup mode. (Also used as the number 2 when entering a password.)
▼ DOWN	Press to scroll down in the menu or to change values in setup mode. (Also used as the number 3 when entering a password.)
◀ LEFT	Press to move left in the menu or to change values in setup mode. (Also used as the number 4 when entering a password.)
SEL	(Surrounded by the direction control keys) Pressing selects desired menu item or saves setup values in menus.
USB Port	The USB Port is located on front panel's bottom left corner. This USB port is used to archive recordings onto a USB storage device or upgrade firmware with a USB storage device.

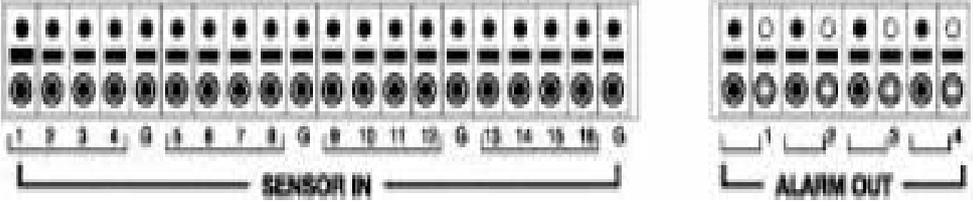
2.2. Rear Panel



vSync412i

Figure2. 2.1. Rear Panel

Table 2.2.1. Connectors and Switches on Rear Panel

Name	Function
VIDEO IN	4 BNC connectors for video input Connect camera output to Video-in (NTSC/PAL)
VIDEO OUT	1Ch VGA, 1 Ch BNC (Composite)
VIDEO	Composite video output in NTSC or PAL format
VGA	Connect to a VGA monitor 15-pin connector
AUDIO IN	4 RCA connectors for audio input
AUDIO OUT	1 RCA connector for audio output
RS-232	POS text inserter connection
LAN	RJ-45 connector for Ethernet connection
RS-485/422	For Pan/Tilt/Zoom control
SENSOR IN	<p>Connector for external alarm sensor/contact devices alerts the vSync DVR and allows it to respond to events. 4 sensors can be connected to the DVR sensor 1~4 dedicated to Video Channel 1~4 correspondingly.</p> <p>Connect 2 wires to activate a sensor input to the Terminal Block on the rear panel of the vSync DVR. A ground wire from the external device to the unit ensures that the ground reference voltage is identical. This line connects to the Terminal Block G input.</p> 
ALARM OUT	<p>1 (PGM) connectors for alarm device connection.</p> <p>Provides simple On/Off switching using relay (not included).</p> <p>0.5A/125V or 1A/30V. The relay is open when not triggered. The relay can be close by either a motion or a sensor input, only if enabled in the Recording Setup menu.</p>
POWER	Connector for AC115/220V 12V/5A power adapter.
DIP SWITCHES	
VGA	Turn ON for VGA display use.
PAL	Turn ON for PAL, Default is OFF
	<u>When you change the position of the switch, reboot the DVR to apply the new setting. When VGA is on, Video-Out will be disabled!</u>

2-3. Remote Controller



POWER	Power On/Off
DISPLAY	Displays Quad (4Ch) or Full (1Ch) display mode
F/REW	Jump 60 Seconds Backwards
PLAY	Play/Pause
F/ADV	Jump 60 Seconds Forwards
FREEZE/CAP	Freeze/Screen Capture
FF	Fast Forward
ALARM	Silence/Mute Alarm Operation
SETUP	Setup Menu
ARCHIVE	Displays Archive List
AUDIO	Disable/Mute or Highlighted Channel Only
LOCK	Locks front panel and remote for all functions
SEQ	Sequences Full or Quad View
RECORD	Manual Recording
SEARCH	Search Menu Screen
ID	DVR ID (ID Button + DVR ID number)
ESC	Escape
PTZ	PTZ Menu Screen

1 UP	Press to scroll up in the menu or to change values in setup mode. (Also used as the number 1 when entering a password.)
2 RIGHT	Press to scroll right in the menu or to change values in setup mode. (Also used as the number 2 when entering a password.)
3 DOWN	Press to scroll down in the menu or to change values in setup mode. (Also used as the number 3 when entering a password.)
4 LEFT	Press to move left in the menu or to change values in setup mode. (Also used as the number 4 when entering a password.)
SEL	(Surrounded by the direction control keys) Pressing selects desired menu item or saves setup values in menus.

3. Getting Started – Setting Up the DVR

The following sections detail the initial setup of the **vSync DVR**.

3-1. Setup – Main Screen

Pressing the **Setup** button prompts a user for entry of a password. The default password is “1111”.

Input the default password by pressing the **Up** button 4 times, followed by the **SELECT** button.

(We recommend that you protect your DVR system by assigning a new password. Refer to section 3.6 for instructions.) After assigning a new password, enter it by using the direction arrow keys (representing 1, 2, 3, & 4) or using the keypad, and then press the SEL button for entering into the Setup menu shown in Figure 3.1.1. Navigate through the menu icons using the directional buttons and press the **SELECT** button to enter into sub-category menus.



Figure 3.1.1. Set-up Main Menu Screen

3-2. Setup – Live

- Used for setting up the live display mode.

Navigate through menu items using the **Up/Down** buttons. Change the values using the **Left/Right** buttons.



Figure 3.2.1. Live Mode Setup Screen

Table 3.2.1. Menu items in LIVE mode setup

Item	Description
OSD	Enables/disables on-screen-display.
SEQUENCE	Enables/disables sequential video channels display in full screen mode.
SEQ-DWELL TIME	Sets dwell time for each channel in sequential display mode.
Event Beep	Enables/Disables beep sound upon Motion Detection, Alarm, or pressed button
OSD CONTRAST	Sets the contrast level of On Screen Display (OSD)
CHANNEL	Selects channel to apply settings.
DISPLAY	Enables/disables Hidden Channel Mode on selected channel.
SEQ LIST	Enables/disables each channel in sequential display mode.
BRIGHTNESS	Brightness value for the specified channel.
CONTRAST	Contrast value for the specified channel.
HUE	Hue value for the specified channel.
SATURATION	Saturation value for the specified channel.

3-3. Setup – Recording Mode

- Controls video recording attributes

Navigate through the menu items using **Up/Down** buttons. Change values using **Left/Right** buttons.

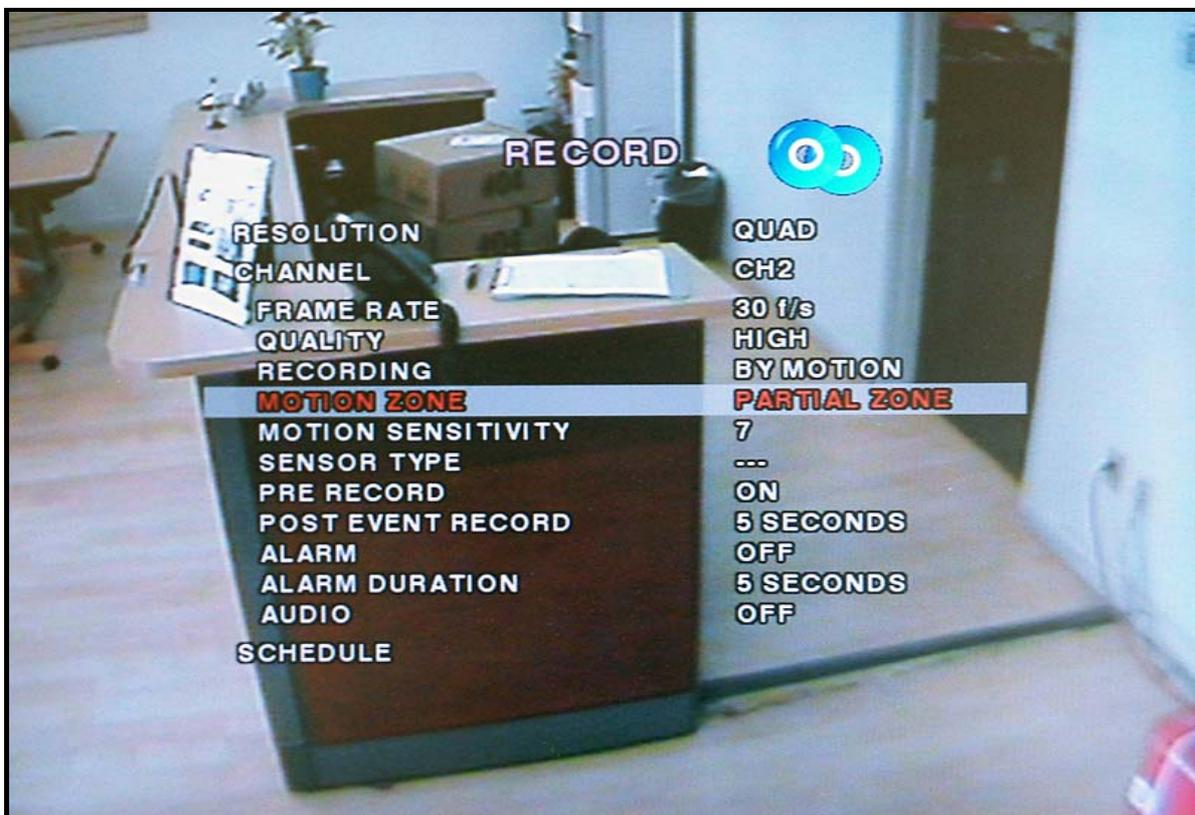


Figure 3.3.1. Recording Mode Set-up Screen

Table 3.3.1. Menu Items in Record Mode Setup

Menu item	Description						
RESOLUTION	Configures resolution as 704x480 or 352x240(NTSC).						
CHANNEL	Selects channel to apply settings.						
FRAME RATE	<p>Configures the frame rate for selected channel.</p> <p>Frame Rate and Recording Resolution are interdependent.</p> <p>The 4 channel frame rate sum may not exceed the maximum frame rate supported by the resolution.</p> <p>The following table shows the maximum frame rate for NTSC video.</p> <table border="1" data-bbox="531 1789 1399 1933"> <thead> <tr> <th>Resolution</th> <th>Max. Frame Rate</th> </tr> </thead> <tbody> <tr> <td>320x240</td> <td>120 FPS</td> </tr> <tr> <td>704x480</td> <td>30 FPS</td> </tr> </tbody> </table>	Resolution	Max. Frame Rate	320x240	120 FPS	704x480	30 FPS
Resolution	Max. Frame Rate						
320x240	120 FPS						
704x480	30 FPS						

QUALITY	Configures the recording quality for selected channel. Normal, High, or Super. Video quality is the best on “ SUPER ” setting
RECORDING	Assigns the recording method for a channel: Disable, Continuous, Motion, Sensor, or Schedule.
MOTION ZONE	Sets full zone or partial zone.
MOTION SENSITIVITY	Sets motion detection sensitivity for selected channel from 1 to 9. (9 is the most sensitive setting.)
SENSOR RECORDING	Configures Alarm/Sensor Inputs for triggered recording. There are 4 sensors total. A maximum of 4 sensor/alarm inputs may be assigned to an individual channel.
PRE RECORD	Enables/disables pre-event/pre-alarm recording. Pre-event/pre-alarm recording is 5 sec. Only i-frames are recorded.
POST EVENT RECORD	Set the length of time for post-event/post-alarm recording video. Configurable by channel from 1 to 30 seconds.
AUDIO	Enables/disables audio by channel. There are 4 channels of audio inputs and a single audio output.
SCHEDULE	Configures recording schedules. Launches new menu as shown in Figure 3.3.3.

3-3-1. Motion Zone set up

By selecting **Partial Zone**, users can define motion zones within a screen area, as shown in Figure 3.3.1. Move each rectangular zone around using the four direction key buttons. Press the **SELECT** button to save the defined rectangular region as part of the motion zone. Upon saving, the defined rectangular blocks will change color.

Important: Only selected zones will trigger motion recording.

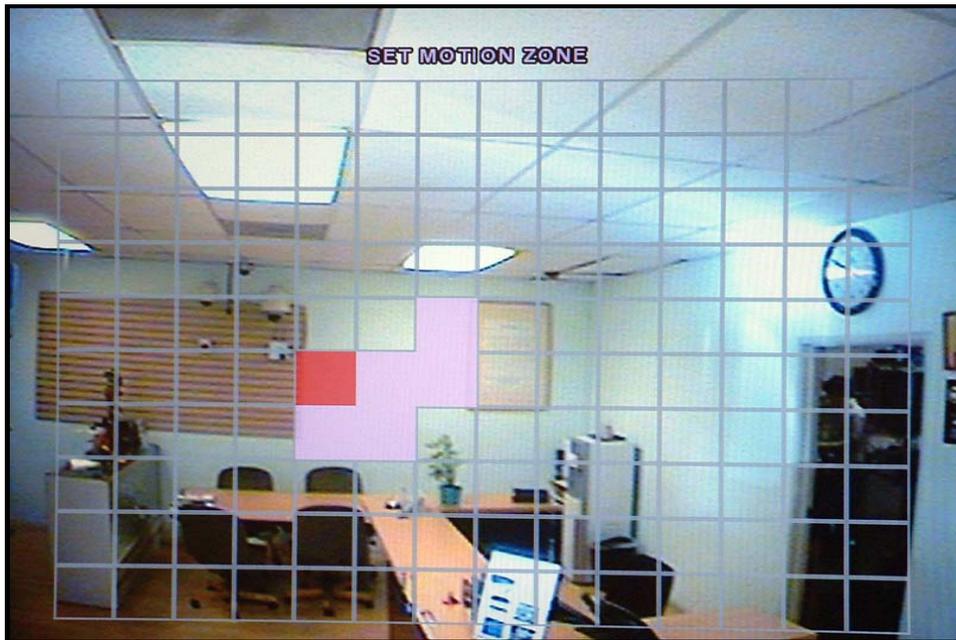


Figure 3.3.2. Motion Zone selection screen

3-3-2. Record Schedule

- Records video based on a defined schedule.

The following table (3.3.1) defines button functions within this menu.

Navigate through menu items using the **Up/Down** buttons. Change the values using the **Left/Right** buttons. Each vertical bar “|” corresponds to one hour. See Figure 3.3.3 for a menu example.

Rules:

1. Choosing **ALL, vSync DVR** globally applies the schedule to all time periods and channels.
2. Within a selected channel, a recording mode applies to the entire time period for the specific channel.
3. Within a selected time period, when highlighting one of the vertical bars “|”, the selected recording mode applies to all channels.

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Figure 3.3.3. Recording Schedule Set-up Screen

Table 3.3.1. Button Functions in Recording Time Scheduling Mode

Button	Function
REW	Use to set Continuous recording mode.
F/REW	Use to Disable recording setting.
PLAY/PAUSE	Use to enable Motion detection triggered recording.
FF	Use to enable Sensor triggered recording
UP	Move up in menu item.
RIGHT	Move right in menu item.
DOWN	Move down in menu item.
LEFT	Move left in menu item.
SEL	Exit from scheduling mode.

3-5. Setup – System Mode

- Configures system parameters

Navigate through menu items using the **Up/Down** buttons. Change the values using the **Left/Right** buttons.

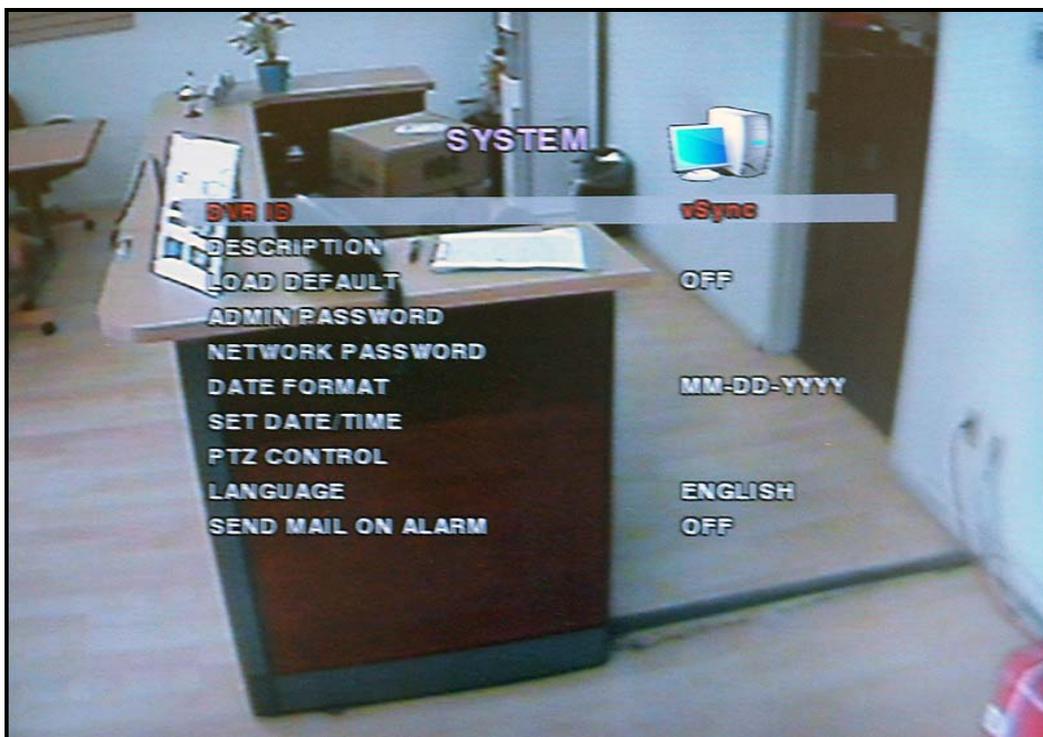


Figure 3.5.1. System Setup Screen

Table 3.5.1. Menu Items in System Setup Screen

Item	Description
DVR ID	Defines the system name. Navigate through the position for each alphanumeric character by using the left and right buttons. Up/down buttons change characters.
DESCRIPTION	Displays system information: Firmware Version, Storage Size, IP Address, and MAC Address.
LOAD DEFAULT	Select OFF or ON. To load default values, choose ON, then press the SEL button.
ADMIN PASSWORD	Sets the administrator password. Once selected, the DVR will prompt for the current password and new password. Follow the prompts. The numbers 1, 2, 3 and 4 can be input by using direction keys UP , RIGHT , DOWN , and LEFT , respectively. The default password is "1111". The Admin Password allows access to all DVR features.

NETWORK PASSWORD	Sets the network client connect password. The DVR prompts for the entire process of setting up a network password. The numbers 1, 2, 3 and 4 can be input by using direction keys UP , RIGHT , DOWN , and LEFT , respectively. The default user ID is " root " and the default password is " 1111 ".
DATE FORMAT	Configures the preferred display style for the date and time.
SET DATE/TIME	Set date and time. Launches new menu as shown in Figure 3.5.4.
PTZ CONTROL	Configure the PTZ camera protocol, speed, camera ID, and channel using the Left or Right buttons.
LANGUAGE	Select a language for all OSD (on screen display)
SEND MAIL ON ALARM	Setting this value to "ON" initiates e-mail transmission as follows through the designated email server. Set to "ON", and press SEL button to BEGIN e-mail configuration. For use with DHCP (Dynamic IP) servers. On : "ALARM EVENT" Off : alarm = alarm event : capture JPG file and emails

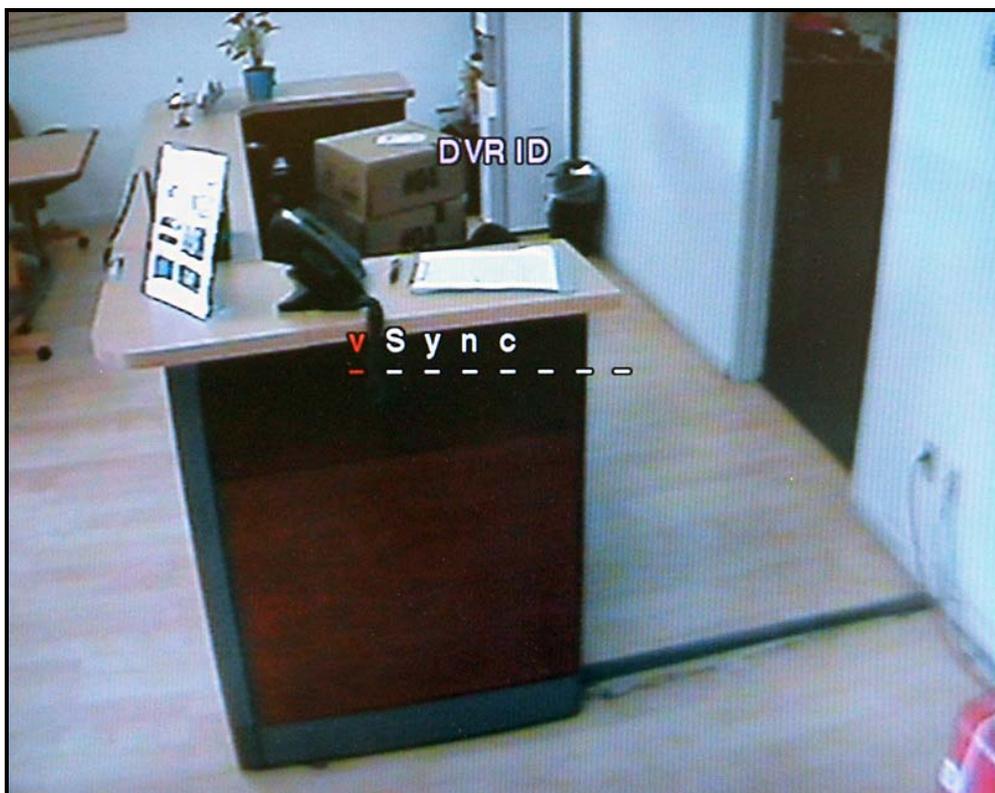


Figure 3.5.2. DVR ID Setup Screen



Figure 3.5.3. DVR Information Display Screen



Figure 3.5.4. Set Date & Time Setup Screen

Table 3.5.4. Menu Items in Date & Time Setup

SET DATE&TIME	Warning! Changing this setting initiates a system reboot. Set date and time. After changing, press the SEL button and select CONFIRM .
---------------	--

3-6. PTZ Control

To control the PTZ functions of a camera, connect the controller to the RS-485 port.

**For speed dome cameras that supports RS-485, connect them directly to the RS-485 port.
For cameras using RS-232C, a Signal Converter (RS-485 to RS-232C) is needed (not included).**

From the **PTZ** Control setting setup menu, select/set the protocol for the camera manufacturer you wish to control. If the camera uses a specific camera ID, select the camera ID by using the Left or Right buttons.



Figure 3.4.2.1. PTZ setup screen

Table 3.4.2.1. Menu item in PTZ Setup screen

Item	Description
CH	Select the channel number for the PTZ device setup.
NAME	Navigate through the list of PTZ cameras (protocol type) by using the LEFT and RIGHT arrow buttons and make a selection.
SPEED	Configure the speed (baud rate) of the RS-485 communication port by using the LEFT and RIGHT buttons.
ID	Program the PTZ address. (0-63)



Figure 3.6.1. PTZ Control Screen.

Press the **PTZ** button to initiate device control features for a selected channel. See Figure 3.6.1. Select a menu item for the respective control features.

Table 4.4.1 PTZ Control Menus

Item	Description
PAN/TILT	Select menu and use the directional keys for pan and tilt.
ZOOM/FOCUS	Select menu and use the UP/DOWN keys for zoom control. Use the LEFT/RIGHT keys to control focus.
INITIALIZE	Initializes PTZ function on selected cameras.

3-7. Setup – Network Mode

- Configures network parameters used for remote clients that connect to the DVR over a network or other network features.

Navigate through menu items using the **Up/Down** buttons. Change the values using the **Left/Right** buttons. If you do not understand the following settings, consult your network administrator.

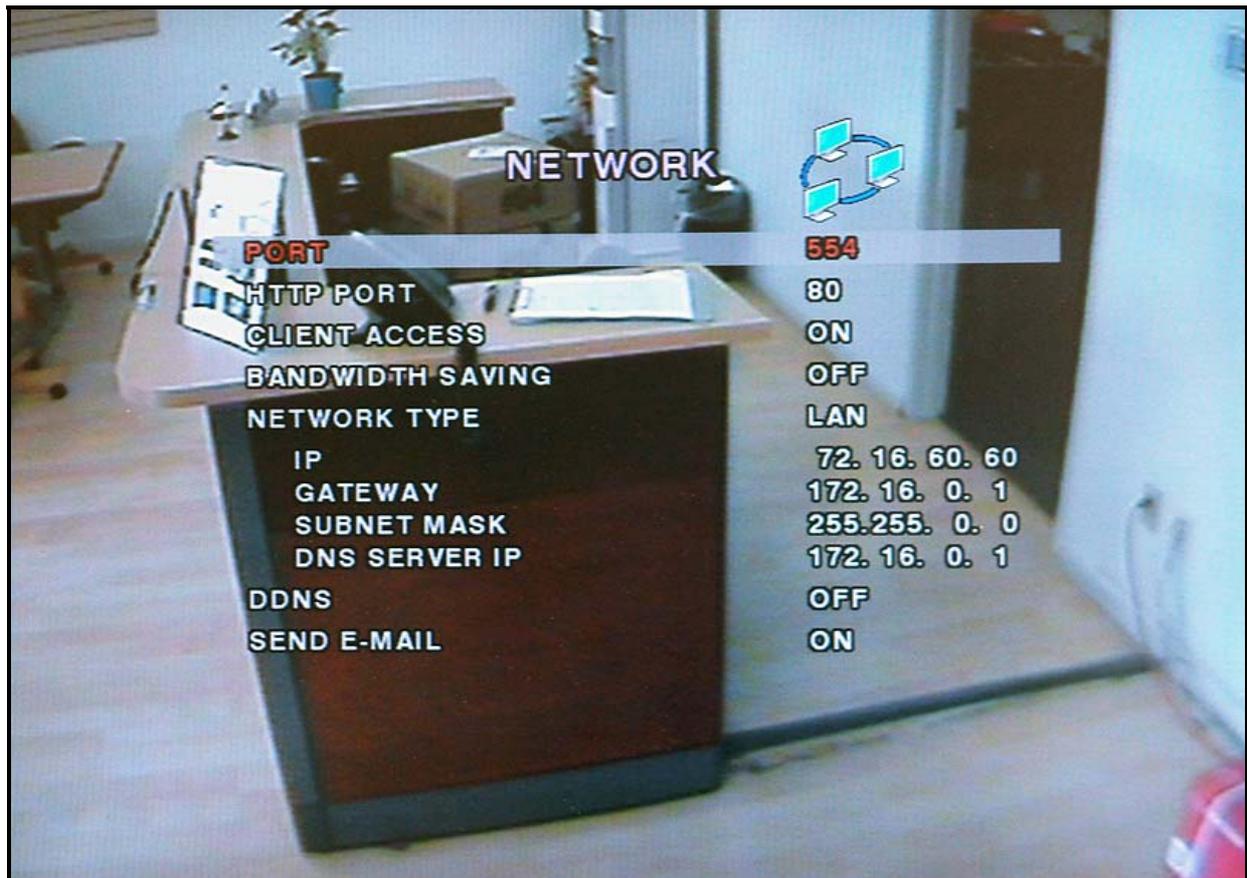


Figure 3.7.1. Network Setup Screen

Table 3.7.1. Menu Items in Network Set-up Setup Screen

Item	Description
PORT	RTSP port number
HTTP PORT	HTTP Port number
CLIENT ACCESS	Enables/Disables network client access
BANDWIDTH SAVING	Enables/Disables key frame transmission only. This feature is useful when network bandwidth is not enough for live streaming.

NETWORK TYPE	Type of network
DHCP	Enables/Disables DHCP connection (Dynamic IP address)
IP	Static IP address
GATEWAY	Gateway IP address
SUBNET MASK	Network Subnet Mask address
DNS	DNS server IP address. Valid DNS address is needed for E-mail transmission and use of DDNS.
DDNS	Domain name for the DDNS server. DDNS is used to resolve dynamic IP address by assigning a host name to replace the IP address for the connection.
Send E-mail	<p>Setting this value to "ON" initiates e-mail transmission as follows through the designated email server. Set to "ON", and press SEL button to BEGIN e-mail configuration.</p> <p>For use with DHCP (Dynamic IP) servers.</p> <p>On : "ALARM EVENT"</p> <p>Off : alarm = alarm event : capture JPG file and emails</p>
2. Alarm Event	If an event occurs, the DVR sends an email to a specified recipient with a JPG file of the event.
Mail Address	Input the designated recipient's address.
Mail Server Name	Enter the name of your SMTP server.
ID	Enter your SMTP server user ID.
Password	Enter your SMTP server password.
Return Address	Warning: Some incoming e-mail servers block e-mail reception from unverified return e-mail addresses. Enter a valid e-mail address associated with the passwords above.

3-7-1. Ports

Port-Forwarding for Access from a WAN

When one or more DVRs are connected through a IP sharing device (i.e. router) to a larger network (i.e. the internet), in order to access each unit from outside the local area network, each device must have a unique RTSP (Real Time Stream Protocol) and HTTP port number. You must also configure your IP sharing device for port-forwarding, so that each port, when accessed on the IP sharing device, will forward to the appropriate DVR's IP and or MAC address. The port number is listed next to the "Port" menu option in the Network menu.

If you only plan to access multiple units from within a local area network, you do not need to change the RTSP and HTTP port numbers, unless other IP sharing devices are established in-between the client and the DVRs. To access the DVR, you must have the following information:

Table 3.7.1.1 Information Needed for Network Access

When accessing from the same LAN	When accessing from outside the LAN
DVR IP Address	The router or Gateway IP addresses (The IP address of the IP sharing device)
RTSP port number	RTSP port number
HTTP port number	HTTP port number
Username	Username
Password	Password

3-7-2. Network Types

Configure one of three network types: LAN, DHCP, or ADSL

Each type requires different settings.

LAN

To use the LAN option when connecting the DVR to a network, the following information is required. If you do not have this information, see your network administrator.

Table 3.7.2.1. Network Parameters for LAN

Item	Description
IP	The fixed IP address of the DVR
GATEWAY	The IP address of the gateway
SUBNET MASK	The subnet mask for the LAN

DHCP

Select DHCP (*for Dynamic IP Addressing*) to enable this feature. The DHCP server or a router automatically assigns the unit an IP address and other appropriate TCP/IP settings. After connecting to the network, view the assigned IP address by selecting **DESCRIPTION** from the **SYSTEM** menu.

If the network connection does not offer additional IP addresses, use an IP sharing device to remedy the issue. Port-Forwarding may be necessary in order to connect to this device. Also, if a firewall is deployed in the IP sharing device, the selected ports must be opened to the outside network. For more information on Port-Forwarding, see the documentation for your IP sharing device (router) or contact your local authorized **vSync DVR** distributor.

ADSL

vSync DVR supports direct PPPoE connections to ADSL modems without a router. The following information is required. If you do not have this information, contact your network administrator.

Table 3.7.2.2. Network Parameters for ADSL

Item	Description
ID	The user ID for the ADSL connection
PASSWORD	The password for the ADSL connection

The ADSL modem connection must have an RJ-45 jack to connect to the DVR (USB Networking is not supported).

Sharing an ADSL connection with other devices requires an IP sharing device such as router. In this case, select LAN as the NETWORK type. Port-forwarding is required in order to access **vSync DVR** through a GATEWAY/Router and/or Firewall. See the documentation for your IP sharing device or contact your network administrator to learn more about port-forwarding. If your router has QoS (Quality of Service) and gaming feature, you may want to enable this for the IP address of the DVR. Some ISPs block some ports commonly used for streaming video. If your ISP blocks the default port, simply change the port number to an unblocked port. See the ISP technical support web page for additional help troubleshooting blocked ports.

3-8. Setup - Storage Mode

-Configures the hard disk record mode, or initiates a hard disk format.

Navigate through menu items using the **Up/Down** buttons. Change the values using the **Left/Right** buttons.



Figure 3.8.1. Storage Setup Screen

Table 3.8.1. Menus in Storage Setup

Item	Description
OVERWRITE	When enabled, the DVR will continue recording and overwrite the oldest existing recorded data once the hard drive is full. When disabled, recording will stop once the hard drive is full.
FORMAT	Formats the hard disk drive.

3-9. Saving Setup

To preserve changed setup values, select the SAVE SETUP menu and select YES. Unsaved setup values will be lost if this step is ignored or not applied properly.



Figure 3.9.1. Save Setup Screen

Certain changes require that the system is restarted in order to take place.

These features will ask for a confirmation and are as follows:

- Load Factory Default, Set Time & Date, Network, Format, Load Setup from a USB



Figure 3.9.2. Save Setup Screen

4. Local Viewing

4-1. Live Window

Video from connected cameras are displayed on the Live Setup configuration screen. Symbols indicate the DVR's status. Refer to Table 4.1.1 for a legend.



Figure 4.1.1. Live Window

Table 4.1.1. Indicator ICONS in Live Window

Icon	Description
C	Indicates Continuous recording is in progress
R	Indicates Manual recording is in progress
S	Indicates Sensor alarm recording is in progress
M	Indicates Motion alarm recording is in progress
	Sensor recording in progress

	Alarm indicator. This icon changes to bright red upon alarm activation (sensor alarm or motion detection) for individual video channel.
	Indicates activated alarm output.
	Indicates network client is connected to the DVR.
	Indicates sequencing mode is enabled.
	Indicates Audio status is enabled/disabled.
	Indicates the vSync DVR is locked

Table 4.1.2. Button Functions in Live Window

Button	Description
SETUP	Launches SETUP menu.
SEQ	Enables/disables automatic sequential switching in full or quad modes. Quad mode also follows these settings.
PLAY/PAUSE	Launches the SEARCH window.
Directional Buttons	Select a channel by using the directional keys. Selected channels show the channel ID in yellow.
SEL	When a channel is selected, press SEL button to expand the channel to full screen.
ESC	No action, backs out of last menu.
REC	Starts manual recording for all channels.

4-2. SEARCH Window

Press SEARCH button to launch the search menu. The screenshot shown in Figure 4.2.1 will appear.

Select “EVENT SEARCH”, “TIMELINE SEARCH”, “LOG”, or “ARCHIVE” to initiate a search for recorded video.



Figure 4.2.1. Search Mode Screen

4-2-1. EVENT SEARCH Window



Figure 4.2.2. Event Search Mode Screen

1. Select the option "EVENT" and a calendar will appear (Figure 4.2.2.).
2. Select the date of the video by using the LEFT, RIGHT, UP, and DOWN buttons to navigate through the days.
3. Press the SEL button to move to CHANNEL selection.
4. Use the LEFT, RIGHT, UP, and DOWN buttons to select a specific channel or All Channels.
5. Press the SEL button to move to TYPE selection.
6. Use the LEFT, RIGHT, UP, and DOWN buttons to select All, Motion Only, Sensor Only, Emergency Record Only, or Continuous Record Only.
7. Press the SEL button to see the event list and a list will appear (Figure 4.2.3.)
8. Use the UP and DOWN buttons to scroll through the list and use the RIGHT and LEFT buttons to move between pages.
9. Press the SEL button to playback the recorded video.



Figure 4.2.3. Event List Mode Screen

4-2-2. TIMELINE Window

1. Select the option "TIMELINE" and a calendar will appear (Figure 4.2.1).
2. Select the date of the video by using the LEFT, RIGHT, UP, and DOWN buttons to navigate through the days.
3. Press the SEL button to move to the timeline search window.
4. Use LEFT/F. REW or RIGHT/F. ADV buttons to select a starting time period on the 24 hour timetable.

NOTE: The modes used during recording are indicated below.

C: Continuous

M: Motion

S: Sensor

R: Emergency Record

5. Once you have selected the date, press the SEL button to move to the hourly timetable.
6. Select a specific channel or All Channels by using the UP and DOWN arrow buttons.
7. Once you have selected the channel(s), use the LEFT/F. REW or RIGHT/F. ADV buttons to move the timeline select bar (purple) to the point you wish to start playing the video clip.
8. Press the SEL button to playback the recorded video.



Figure 4.2.2. Timeline Search Mode Screen

4-2-3. LOG Window



Figure 4.2.3. Log Search Mode Screen



Figure 4.2.4. Log List Search Mode Screen

4-3. Play Mode

During recorded event playback, **vSync DVR** switches from the SEARCH screen to PLAY mode. To return to the SEARCH LIST press the **ESC** button.



Figure 4.3.1. Play Mode Screen

Table 4.3.1. Button Functions in Play Mode

Button	Description
ESC	Returns to the previous menu screen or exits from the setup menu.
REW	Rewinds. Pressing repeatedly adjusts playback speed. Reverse playback speeds are indicated as -1x, -2x, -4x and -8x for normal, twice, 4 and 8 times normal speed. The current speed is shown on the bottom right hand corner of the screen.
F/REW	Jumps/Step Backward – The playback position moves 60 seconds backward.
PLAY/PAUSE	Plays or pauses recorded video.
F/ADV	Jumps/Step Forward – The playback position moves 60 seconds forward.
FF	Fast forwards. Pressing repeatedly adjusts playback speed. Fast forward playback speeds are indicated as +1x, +2x, +4x and +8x for normal, twice, 4 and 8 times normal speed. The current speed is shown on the bottom right hand corner of the screen.
Directional Buttons	Used to move between the channels.
SEL	Change to full or quad split display by using the SEL button.
CAP/USB	Press to launch the archive feature.

5. Archiving Video via USB storage device.

Archives a still image or video clip onto a USB storage device. Data must be captured before archiving.

5-1. Capturing Images or Video Clip

Capture still images in live mode or while playing back recorded video. In live mode, pressing the CAP/USB button twice initiates capturing a still image. See Figure 6.1.1 for an example.



Figure 6.1.1. Archive Mode Screen

The still image is stored on the hard disk drive and may be transferred to a USB storage device by selecting YES, or a CD-RW disk by selecting CD-RW.

User can select backup to USB or CD-RW.

Do you want to backup? NO YES

Select media to backup USB stick

From playback mode, pressing the CAP/USB button launches the archiving menu.

vSync DVR offers two choices, store still image or video. Selecting still images or video captures the respective type of file to the hard disk.

Insert a USB storage device. Select the corresponding type of storage device, such as USB storage device.

vSync DVR converts the file to a AVI file type and writes to the selected device.

5-2. Transferring Still Images or Video Clips onto USB Storage Device.

From live mode, press the **ARCHIVE** button. This launches the **ARCHIVE** screen, which prompts with a calendar for date selection.



Figure 5.2.1. Archive Menu Screen

1. Press the **SEL** button to retrieve a list of archived images or video clips for the selected date.
2. Select a file from the archive list by using the **UP** or **DOWN** buttons and the **RIGHT** or **LEFT** buttons to move between pages.
3. Press the **CAP/USB** button to transfer to a USB storage device or CD-RW. **vSync DVR** checks for free space and will not save a file if there is insufficient free space on the storage media.
4. Video files are automatically converted to the AVI file format allowing easy playback from Windows Media Player, or other Media Players supporting MPEG4/AVI file formats.



Figure 5.2.2. List of Archived Files

vSync DVR converts USB archived video to the AVI file format for easy viewing with Windows Media Player 10 or higher. If the archived video from **vSync DVR** can not be played with standard video software, it is recommend that you install the FFDSHOW codec included on the installation CD on your Microsoft Windows based PC to properly review archived video files saved on the USB storage device or CD.

5.2.1. How to install Codec

1. Insert the **vSync**  installation CD provided with **vSync DVR** into the CD drive of your computer.
2. Open **Codec** folder.
3. Double-click the file **ffdshow-rev1322_XXXXX.exe** to install codec program.
4. Follow the setup wizard and install using the initial settings for codec, filters, etc.

Note: In case of any technical difficulties with replaying archived video clip, please contact the **vSync DVR** distributor or download GOM Player from: www.gomplayer.com.

GOM Player is a multimedia player that is free to download with a relatively small file at 4.13MB, free of spyware and malware.

5.2.12. Time Stamp Display

Due to the enhanced security of Windows Media Player 10 running on Windows XP, some further setup is required.

In Windows Media Player, go to Tools->Options->Security, then check “Show local captions when present” as shown below.

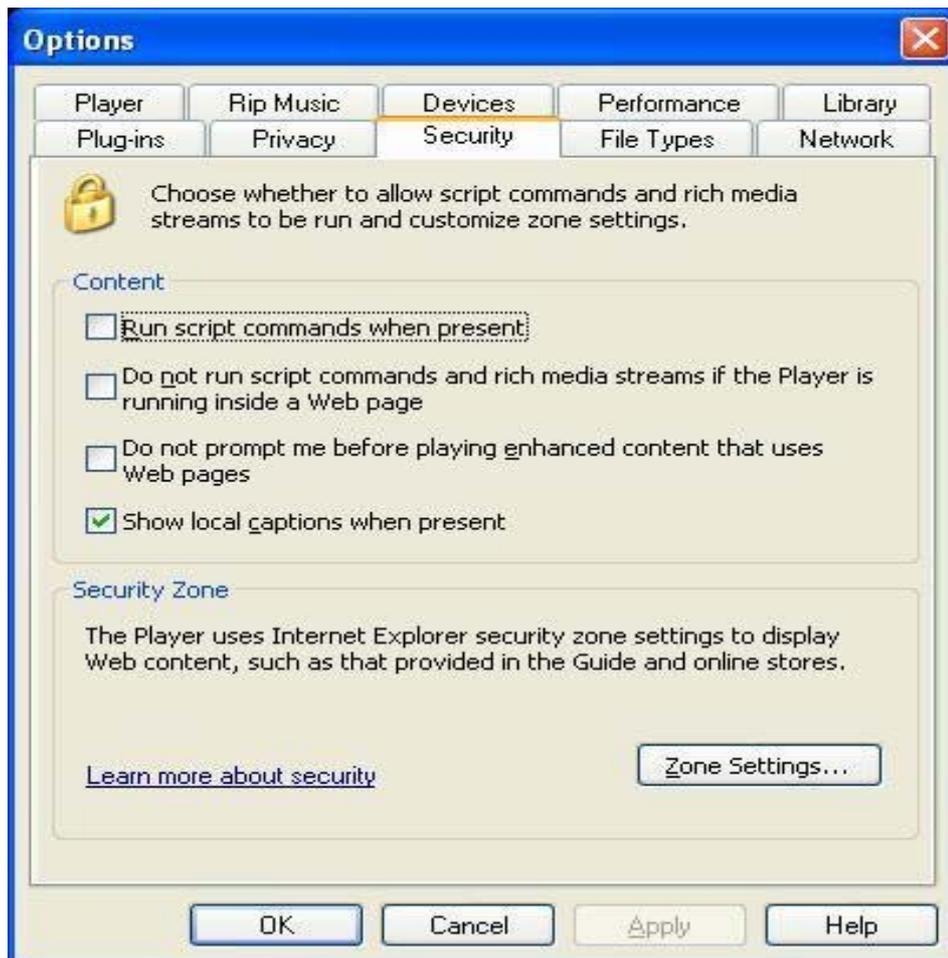


Figure 6.2.3. Setup Screen for Window Media Player 10

Caution!

Always backup the contents of your USB storage device before archiving data from vSync DVRs.

- Improper handling of a USB storage device may cause it to become unstable.

Unplugging the USB storage device during a data transfer can cause system errors on the USB storage device's file system.

Before archiving to a USB storage device, always ensure that there is enough free storage space remaining in the device.

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Specifications and content are subject to change without notice.

6. Firmware Upgrade

6-1. Preparing USB storage device with Upgraded Firmware

1. Before upgrading the system with your USB storage device, create the following directory “**E:\upgrade**” (E:\ is just an example, your drive letter may be different).
2. Copy the firmware file to the \upgrade folder.
3. Double-check the name of the firmware file. The filename should be “app9.bin” for the vSync912i (9 Channel DVR) and “app16.bin” for the vSync1612i (16 channel DVR).

6-2. Steps to Complete Upgrade

1. Press the **Setup** button and enter the password. Default password is **1111**
2. Select **Security** menu from the Setup Screen.
3. Select **Admin Password** followed by “**12341234**” and the **SEL** button.
4. The DVR will reboot in Test Mode.
5. Plug in the USB storage device containing the upgrade firmware.
6. Select the **USB UPGRADE** option to start the upgrade.
7. After the upgrade is finished, select the **BOOT APPLICATION** option and the DVR will restart to launch the new, upgraded firmware.

6-3. Verifying Software Installation.

1. Press **Setup** and log on.
2. Select **System** and press **SEL**.
3. Select **Description** and press **SEL**.
4. Check the version displayed.

The version number should match the new firmware version you have installed.

7. Network Client - Remote Monitoring and Playback

1. Install the **vSync** network client software to your PC.
2. Follow the appropriate instructions in the instructions detailed in section 3-7.
3. Connect the **vSync DVR** to the Network via the Ethernet Port on the rear of the DVR
4. The **vSync** Network Client Software features are explained in a separate manual.

When recording is in progress, **vSync** streams/transmits video identical to the quality settings applied in the record setup menu.

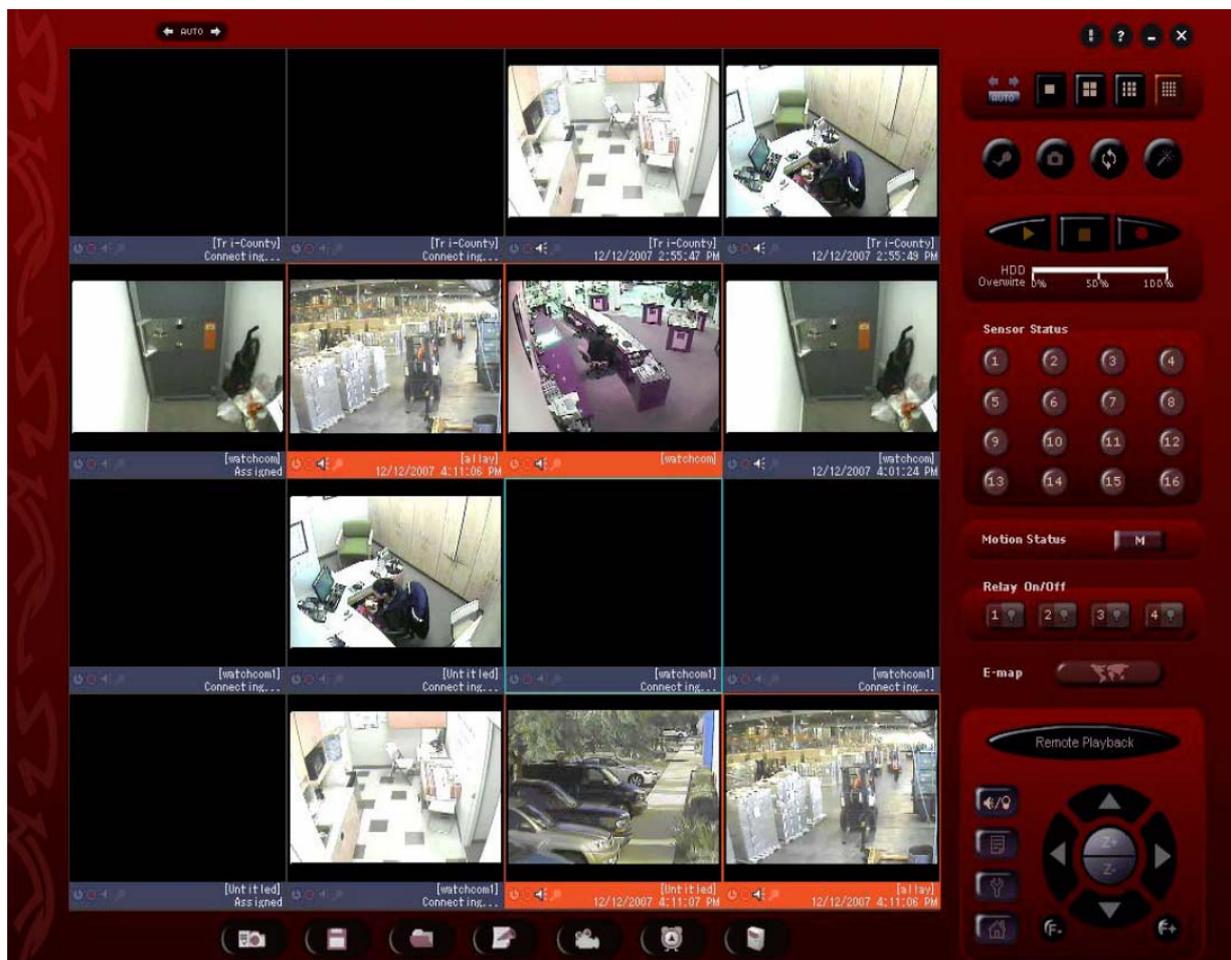


Figure 7.1. **vSync** Remote Client for Live Monitoring and Remote Search/Playback

For Networks with Limited Upload Bandwidth

Turning "BANDWIDTH SAVING ON" forces the **vSync DVR** to send only i-frames, saving network bandwidth. You can find this feature in the Network setup screen.

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8. Remote Setup Using **Embedded Web-Server** of **vSync412i**

***** Requires Configuring Network Settings in Section 3-7 *****

vSync client software provides a remote web interface to access most setup parameters. Please note that Schedule and Motion Zone setup parameters **are not supported** via the web interface.

To connect to the admin page over the web you can either click on the **“Magic Wand/Admin”** button  in the **vSync** client program or type <http://ip-address:http-port/admin.htm> in Microsoft Internet Explorer. (ex: <http://xxx.xxx.xxx.xxx/admin.htm>)

(Only Microsoft Internet Explorer is supported, we do not support other third-party browsers, i.e. FireFox.)

Before loading the admin page, the browser will prompt for the User ID and Password.

The default values are “root” and “dw2001,” respectively.

See Figures below for examples of Setup pages for each category. After setting all the parameters for each page, **make sure to press the APPLY button at the bottom of the page to temporarily store these settings.**

After inputting all setup values, go to the **“Save Setup”** menu and press the **SAVE** button. The system will reboot to allow the new parameters to take place.

To protect your DVR from unauthorized use, we strongly recommend changing the User ID and Password.

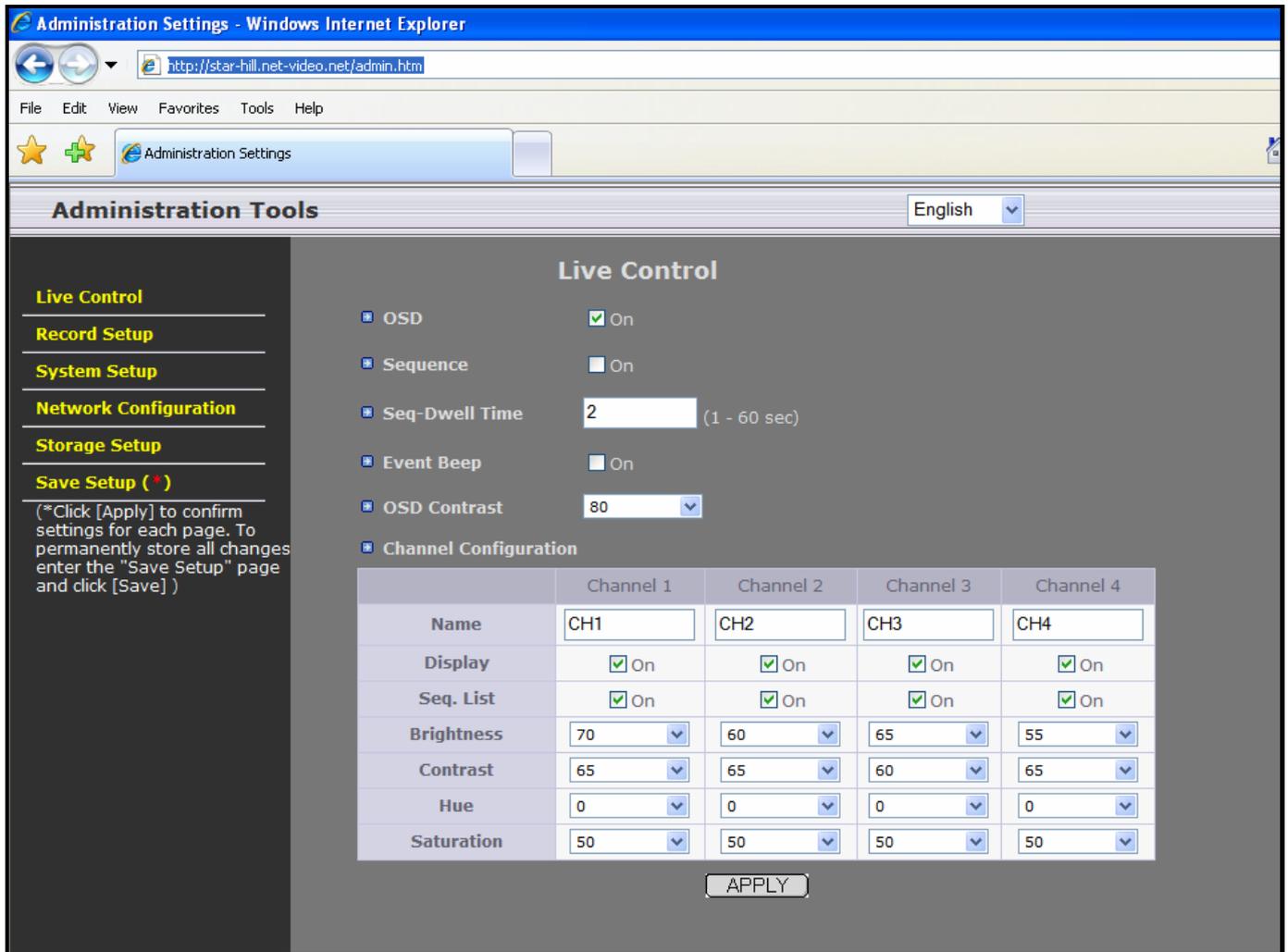


Figure 8.1. Live Control Setup Page

After finishing the set up on the page click on “**APPLY**” for temporal storage of the parameters.

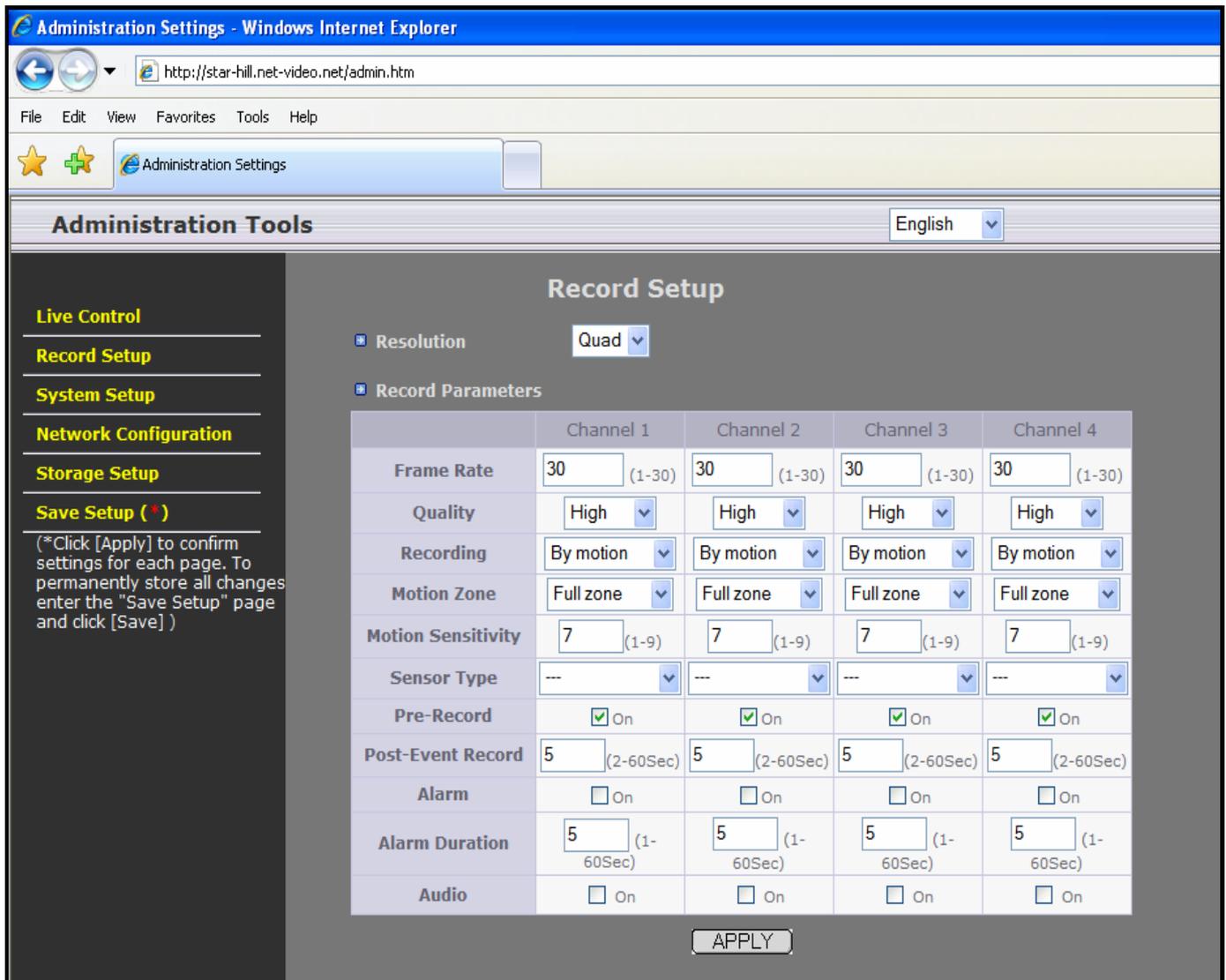


Figure 8.2. Record Setup Page

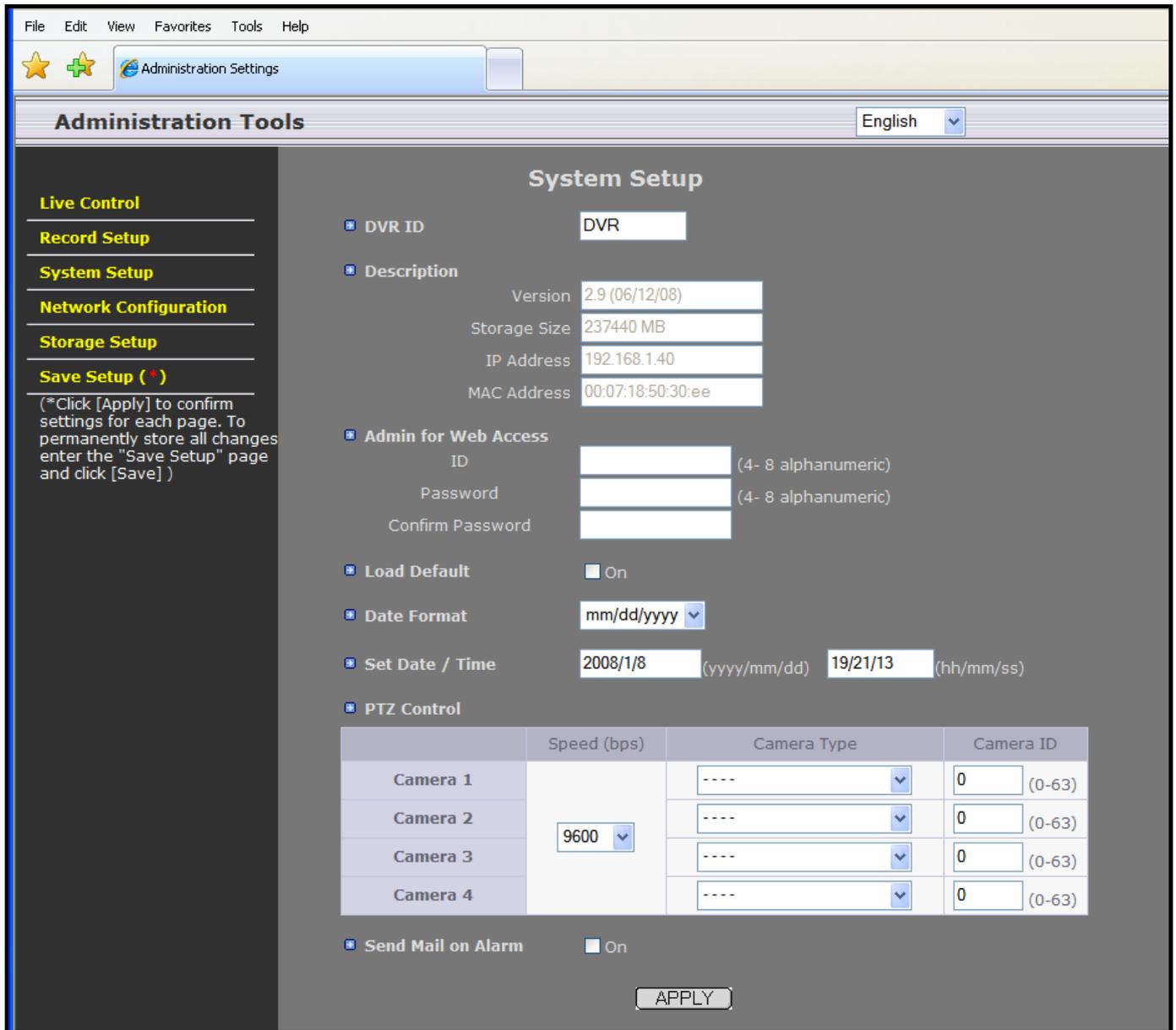


Figure 8.3. System Setup Page

File Edit View Favorites Tools Help

Administration Settings

Administration Tools English

Network Configuration

Port

Port (default: TCP 554) HTTP Port (default: TCP 80)

Client Access On

Bandwidth Saving

Network Type

LAN

IP Address	<input type="text" value="192.168.1.40"/>	Subnet Mask	<input type="text" value="255.255.255.0"/>
Gateway	<input type="text" value="192.168.1.1"/>	DNS Server IP	<input type="text" value="68.111.16.30"/>

ADSL

ID	<input type="text"/>	Password	<input type="text"/>
Service Name	<input type="text"/>		

DHCP

DDNS On

Send Email On

Mail Address	<input type="text"/>		
Return Address	<input type="text"/>		
Mail Server Name	<input type="text"/>		
ID	<input type="text"/>	Password	<input type="text"/>

APPLY

Live Control

Record Setup

System Setup

Network Configuration

Storage Setup

Save Setup (*)

(*Click [Apply] to confirm settings for each page. To permanently store all changes enter the "Save Setup" page and click [Save])

Figure 8.5. Network Configuration Page

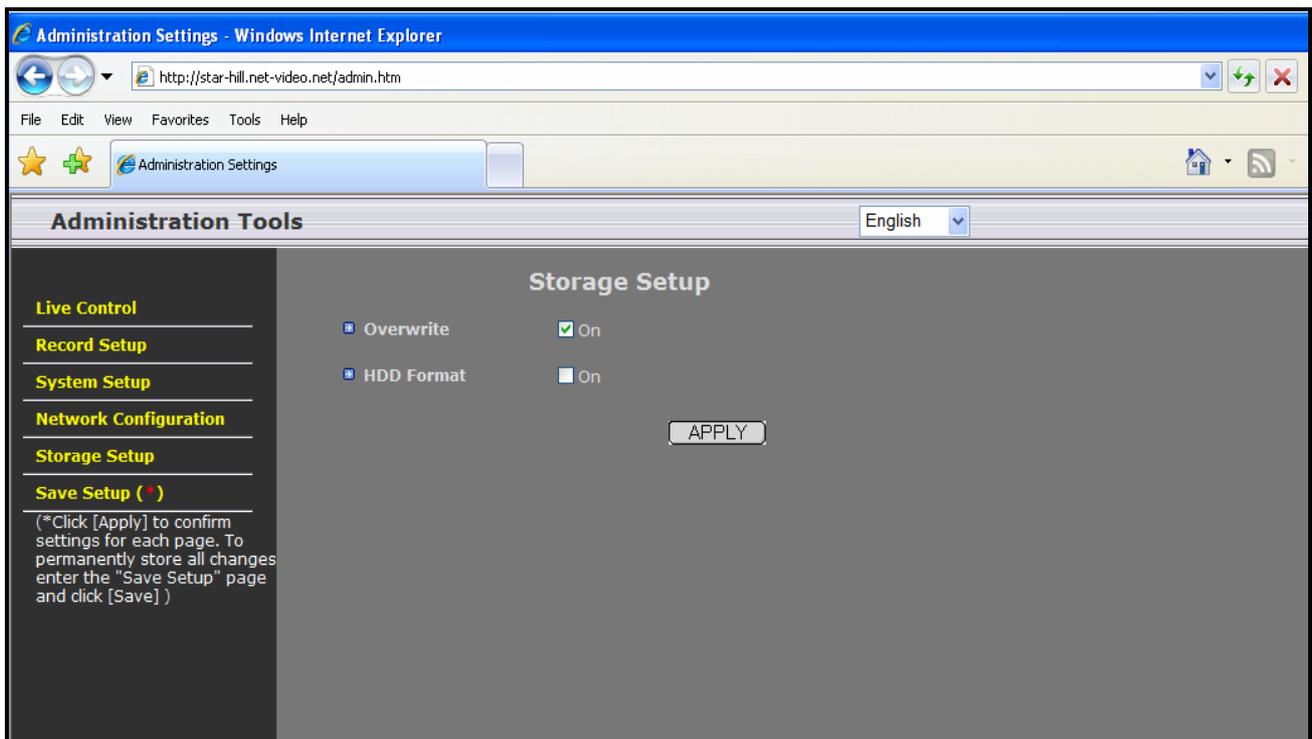


Figure 8.6. Storage Setup Page

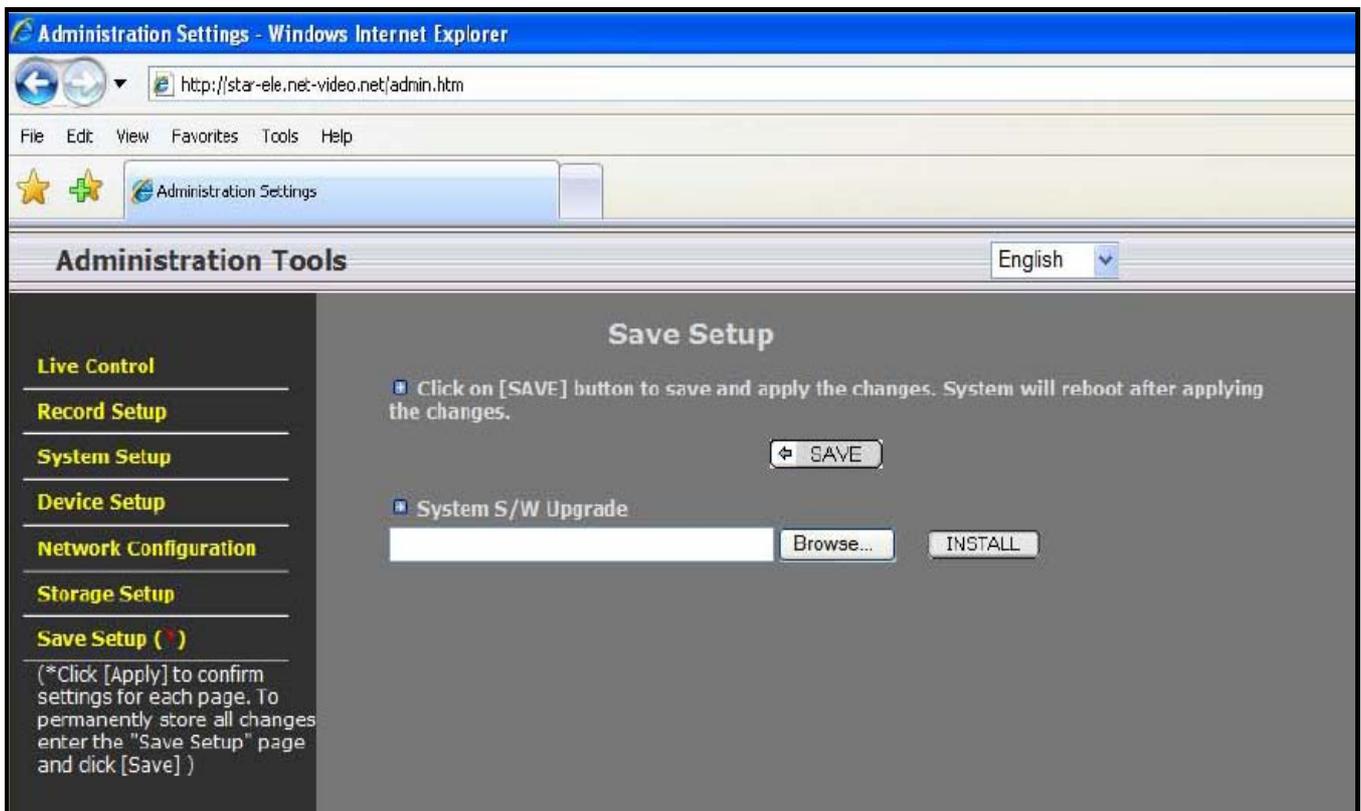


Figure 8.7. Save Setup Page