



DIVAR AN 3000 / DIVAR AN 5000

Digital Video Recorder



BOSCH

en Installation Manual

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1 Basic Safety

This safety section describes safety requirements and the format used for warnings and cautions.

1.1 Safety precautions



Danger!

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Warning!

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Caution!

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



Notice!

Indicates a situation which, if not avoided, could result in damage to the equipment or environment, or data loss.

1.2 Important safety instructions

Read, follow, and retain for future reference all of the following safety instructions. Heed all warnings on the unit and in the operating instructions before operating the unit.

1. **Cleaning** - Unplug the unit from the outlet before cleaning. Follow any instructions provided with the unit. Generally, using a dry cloth for cleaning is sufficient but a moist, fluff-free cloth or leather shammy may also be used. Do not use liquid cleaners or aerosol cleaners.
2. **Heat Sources** - Do not install the unit near any heat sources such as radiators, heaters, stoves, or other equipment (including amplifiers) that produce heat.
3. **Ventilation** - Any openings in the unit enclosure are provided for ventilation to prevent overheating and ensure reliable operation. Do not block or cover these openings. Do not place the unit in an enclosure unless proper ventilation is provided, or the manufacturer's instructions have been adhered to.
4. **Water** - Do not use this unit near water, for example near a bathtub, washbowl, sink, laundry basket, in a damp or wet basement, near a swimming pool, in an outdoor installation, or in any area classified as a wet location. To reduce the risk of fire or electrical shock, do not expose this unit to rain or moisture.
5. **Object and liquid entry** - Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the unit. Do not place objects filled with liquids, such as vases or cups, on the unit.
6. **Lightning** - For added protection during a lightning storm, or when leaving this unit unattended and unused for long periods, unplug the unit from the wall outlet and disconnect the cable system. This will prevent damage to the unit from lightning and power line surges.

7. **Controls adjustment** - Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may cause damage to the unit. Use of controls or adjustments, or performance of procedures other than those specified, may result in hazardous radiation exposure.
8. **Overloading** - Do not overload outlets and extension cords. This can cause fire or electrical shock.
9. **Power supply cord and plug protection** - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, playing particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
10. **Power disconnect** - Units have power supplied to the unit whenever the power cord is inserted into the power source. The power cord plug is the main power disconnect device for switching off the voltage for the unit.
11. **Power sources** - Operate the unit only from the type of power source indicated on the label. Before proceeding, be sure to disconnect the power from the cable to be installed into the unit.
12. **Servicing** - Do not attempt to service this unit yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
13. **Damage requiring service** - Unplug the power unit from the main AC power source and refer servicing to qualified service personnel when any damage to the equipment has occurred, such as:
 - the power supply cord or plug is damaged;
 - exposure to moisture, water, and/or inclement weather (rain, snow, etc.);
 - liquid has been spilled in or on the equipment;
 - an object has fallen into the unit;
 - unit has been dropped or the unit cabinet is damaged;
 - unit exhibits a distinct change in performance;
 - unit does not operate normally when the user correctly follows the operating instructions.
14. **Replacement parts** - Be sure the service technician uses replacement parts specified by the manufacturer, or that have the same characteristics as the original parts. Unauthorized substitutions could void the warranty and cause fire, electrical shock, or other hazards.
15. **Safety check** - Safety checks should be performed upon completion of service or repairs to the unit to ensure proper operating condition.
16. **Installation** - Install in accordance with the manufacturer's instructions and in accordance with applicable local codes.
17. **Attachments, changes or modifications** - Only use attachments/accessories specified by the manufacturer. Any change or modification of the equipment, not expressly approved by Bosch, could void the warranty or, in the case of an authorization agreement, authority to operate the equipment.

1.3 Important Notices



Accessories - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury and/or serious damage to the unit. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer. When a cart is used, use caution and care when moving the cart/apparatus combination to avoid injury from tip-over. Quick stops, excessive force, or uneven surfaces may cause the cart/unit combination to overturn. Mount the unit per the manufacturer's instructions.

All-pole power switch - Incorporate an all-pole power switch, with a contact separation of at least 3 mm in each pole, into the electrical installation of the building. If it is needed to open the housing for servicing and/or other activities, use this all-pole switch as the main disconnect device for switching off the voltage to the unit.

Battery replacement - For qualified service personnel only - A lithium battery is located inside the unit enclosure. To avoid danger of explosion, replace the battery as per instructions. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of the replaced battery in an environmentally friendly way and not with other solid waste. Refer all servicing to qualified service personnel.



Notice!

Batteries must not be disposed of in household waste. Dispose of batteries only at suitable collection points and, in the case of lithium batteries, mask the poles. For further information refer to: <http://www.BoschSecurity.com/standards>



Caution!

Class I Laser Product

Invisible laser radiation when open. Avoid exposure to beam.

Coax grounding:

- Ground the cable system if connecting an outside cable system to the unit.
- Connect outdoor equipment to the unit's inputs only after this unit has had its grounding plug connected to a grounded outlet or its ground terminal is properly connected to a ground source.
- Disconnect the unit's input connectors from outdoor equipment before disconnecting the grounding plug or grounding terminal.
- Follow proper safety precautions such as grounding for any outdoor device connected to this unit.

U.S.A. models only - *Section 810 of the National Electrical Code, ANSI/NFPA No.70*, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.



Disposal - Your Bosch product was developed and manufactured with high-quality material and components that can be recycled and reused. This symbol means that electronic and electrical appliances, which have reached the end of their working life, must be collected and disposed of separately from household waste material. Separate collecting systems are usually in place for disused electronic and electrical products. Please dispose of these units at an environmentally compatible recycling facility, per *European Directive 2002/96/EC*.

**Caution!**

Electronic Surveillance - This device is intended for use in public areas only. U.S. federal law strictly prohibits surreptitious recording of oral communications.

Electrostatic-sensitive device - Use proper CMOS/MOS-FET handling precautions to avoid electrostatic discharge. NOTE: Wear required grounded wrist straps and observe proper ESD safety precautions when handling the electrostatic-sensitive printed circuit boards.

Environmental statement - Bosch has a strong commitment towards the environment. This unit has been designed to respect the environment as much as possible.

Fuse rating - For protection of the device, the branch circuit protection must be secured with a maximum fuse rating of 16 A. This must be in accordance with *NEC800 (CEC Section 60)*.

Grounding and polarization - This unit may be equipped with a polarized alternating current line plug (a plug with one blade wider than the other blade). This safety feature allows the plug to fit into the power outlet in only one way. If unable to insert the plug fully into the outlet, contact a locally certified electrician to replace the obsolete outlet. Do not defeat the safety purpose of the polarized plug.

Alternately, this unit may be equipped with a 3-pole grounding plug (a plug with a third pin for earth grounding). This safety feature allows the plug to fit into a grounded power outlet only. If unable to insert the plug into the outlet, contact a locally certified electrician to replace the obsolete outlet. Do not defeat the safety purpose of the grounding plug.

Moving - Disconnect the power before moving the unit. Move the unit with care. Excessive force or shock may damage the unit and the hard disk drives.

Outdoor signals - The installation for outdoor signals, especially regarding clearance from power and lightning conductors and transient protection, must be in accordance with *NEC725* and *NEC800 (CEC Rule 16-224 and CEC Section 60)*.

Permanently connected equipment - Incorporate a readily accessible disconnect device external to the equipment.

Pluggable equipment - Install the socket outlet near the equipment so it is easily accessible.

Rack-mount (only DIVAR 5000 family)

- Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.
- 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.
- Mechanical loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- 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.
- Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

SELV - All the input/output ports are Safety Extra Low Voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits.

Video loss - Video loss is inherent to digital video recording; therefore, Bosch Security Systems cannot be held liable for any damage that results from missing video information. To minimize the risk of lost digital information, Bosch Security Systems recommends multiple, redundant recording systems, and a procedure to back up all analog and digital information.

1.4

FCC and UL

FCC & ICES Information

(U.S.A. and Canadian Models Only)

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 and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a **residential installation**. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference 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 the 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.

Intentional or unintentional modifications, not expressly approved by the party responsible for compliance, shall not be made. Any such modifications could void the user's authority to operate the equipment. If necessary, the user should consult the dealer or an experienced radio/television technician for corrective action.

The user may find the following booklet, prepared by the Federal Communications Commission, helpful: How to Identify and Resolve Radio-TV Interference Problems. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

UL Disclaimer

Underwriter Laboratories Inc. ("UL") has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested fire, shock and/or casualty hazards as outlined in Standard(s) for Safety for Information Technology Equipment, UL 60950-1 . UL Certification does not cover the performance or reliability of the security or signaling aspects of this product.

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

2 System overview

The Bosch Video Recorder DIVAR 3000/5000 is a multi-channel digital recorder that uses the latest 960H high resolution technology, plus modern compression techniques. Simultaneous monitoring, recording, archiving and playback are guided remote or local by simple menu selections and operator commands. If required, a variety of optional storage capacities can be added (including built-in HDDs and/or a DVD writer).

The DIVAR 3000/5000 records multiple video and audio signals while simultaneously providing live multi-screen viewing and playback. Comprehensive search and playback functions provide quick recall and viewing of recorded video.

3 Quick install

To get the unit operational, perform the following quick install steps:

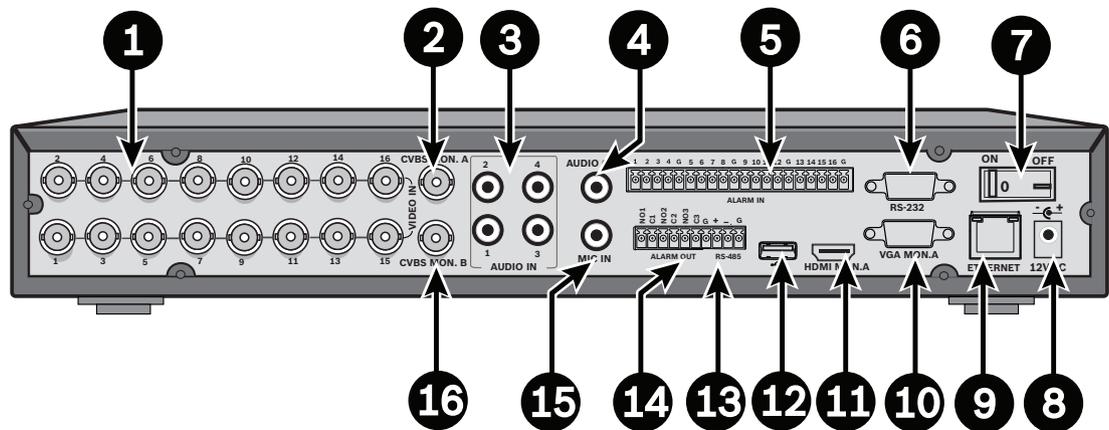
1. Make all the hardware connections – see *Connections*, page 10.
2. Power up the system – see *Powering up*, page 13.
3. Log in – see *Login*, page 14.
4. Correctly configure your system software with the Startup wizard (this appears the first time the unit is started) – see *Startup Wizard*, page 15.

After completing this initial setup, the system is ready to run and will show a live view of the camera image(s). If required, you can alter the settings later using the menus and/or factory defaults, or you can run the Startup wizard again.

3.1

Connections

Connections on back of DIVAR AN 3000



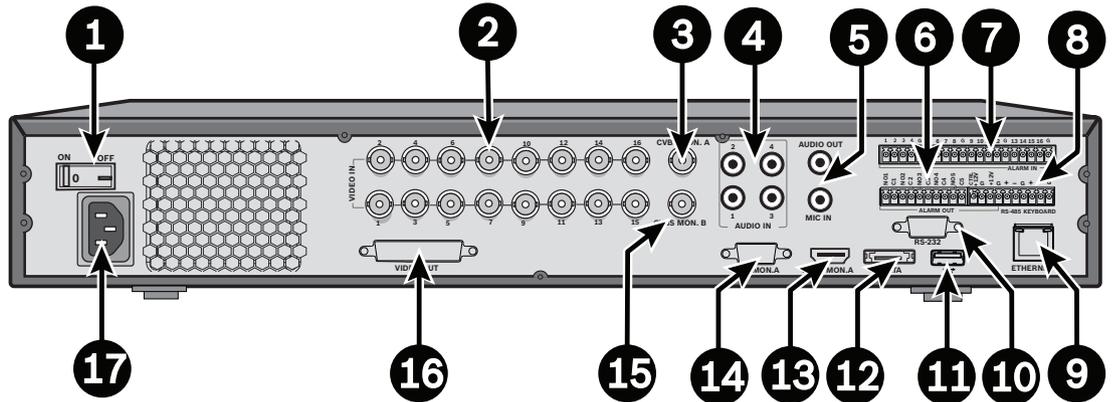
1	Camera VIDEO IN BNC connectors	9	RJ45 ethernet connector
2	CVBS output - Monitor A	10	VGA output - Monitor A
3	Audio inputs	11	HDMI output - Monitor A
4	Audio output	12	USB connector
5	Alarm inputs	13	RS485 connector for Dome control
6	RS232 connector for Dome control	14	Alarm outputs
7	Power ON/OFF switch	15	Microphone input
8	12 VDC Power connector	16	CVBS output - Monitor B



Notice!

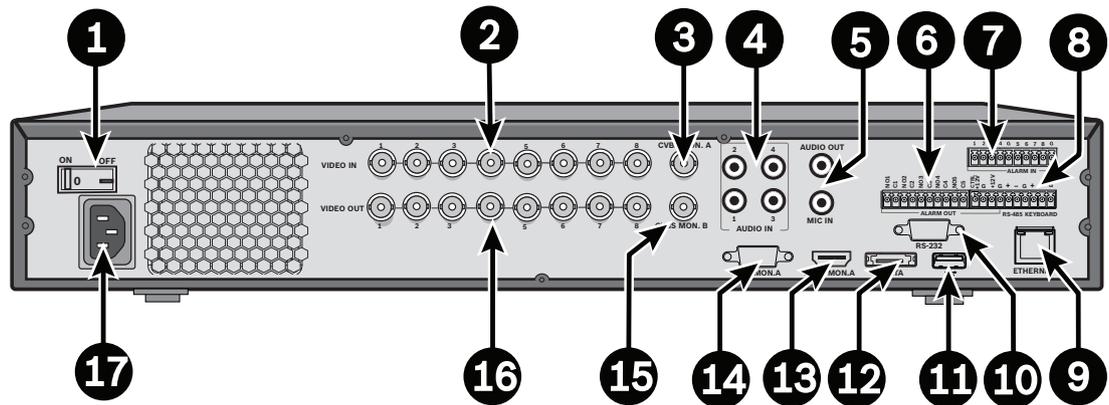
The 4- and 8-channel DIVAR 3000 models have a slightly different back panel. VIDEO IN connectors 5 to 16 for 4-channel (and VIDEO IN connectors 9 to 16 for 8-channel) are disabled.

Connections on back of DIVAR AN 5000 (16-channel)



1	Power ON/OFF switch	10	RS232 connector for Dome control
2	Camera VIDEO IN BNC connectors	11	USB connector
3	CVBS output - Monitor A	12	e-SATA connector
4	Audio inputs	13	HDMI output - Monitor A
5	Audio output and MIC IN connector	14	VGA output - Monitor A
6	Alarm outputs	15	CVBS output - Monitor B
7	Alarm inputs	16	VIDEO OUT connectors (loop through)
8	RS485 and keyboard connectors	17	Power connector
9	RJ45 ethernet connector		

Connections on back of DIVAR AN 5000 (4/8-channel)



1	Power ON/OFF switch	10	RS232 connector for Dome control
2	Camera VIDEO IN BNC connectors	11	USB connector
3	CVBS output - Monitor A	12	e-SATA connector
4	Audio inputs	13	HDMI output - Monitor A
5	Audio output and MIC IN connector	14	VGA output - Monitor A
6	Alarm outputs	15	CVBS output - Monitor B
7	Alarm inputs	16	VIDEO OUT (loop through)
8	RS485 and keyboard connectors	17	Power connector
9	RJ45 ethernet connector		



Notice!

The 4-channel DIVAR AN 5000 models have a slightly different back panel (VIDEO IN/OUT connectors 5 to 8 are disabled).

3.1.1

Primary connections

1. Connect the cameras to the **VIDEO IN** BNC connectors.
2. Connect monitor A to the **VGA MON A** output, or the **HDMI MON A** output, or the **CVBS MON A** output.
3. Connect the USB mouse to a **USB** port (front or back panel).

For first time use, the NTSC or PAL selection is determined by the camera type connected to VIDEO IN 1 in step 1. If no camera is connected to VIDEO IN 1 during first time use, the video standard is default and can be set in the Startup Wizard.

3.1.2

Optional connections

1. Connect monitor B to the **CVBS MON B** connector.
2. Connect up to 4 audio signals to the **AUDIO IN** RCA (CINCH) inputs.
3. Connect 1 microphone to the **MIC IN** RCA (CINCH) output.
4. Connect 1 **AUDIO OUT** RCA (CINCH) output to the monitor or an audio amplifier.
5. Connect up to 16 **ALARM IN** inputs (via the supplied terminal blocks).

6. Connect up to 6 **ALARM OUT** outputs (via the supplied terminal blocks).
7. Connect a pan/tilt/zoom control unit to the **RS-485** or **RS-232** port.
8. Connect to your network via the **ETHERNET** connector.
9. Connect extra video out cables to the **VIDEO OUT** ports if loop through is required to other devices (only for DIVAR 5000).
10. If required, connect a Bosch Intuikey keyboard cable to the **KEYBOARD** connector using the supplied adaptor (only for DIVAR 5000).

3.2 Powering up

For the DIVAR AN 3000

1. Switch on all connected equipment.
2. Connect the supplied external power adaptor to the AC power outlet.
3. Connect the DC power cord to the **12 VDC** connector on the unit.
4. Turn on the unit power ON/OFF switch on the rear of the unit.

For the DIVAR AN 5000

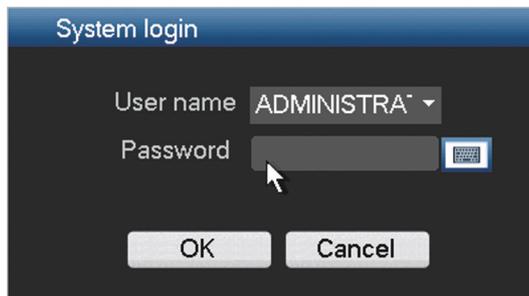
1. Switch on all connected equipment.
2. Connect the power cable to the AC power outlet.
3. Turn on the unit power ON/OFF switch on the rear of the unit.

Normal power up

For normal day-to-day operation, leave the rear power switch on, and use the convenient **Power On/Off** button on the front of the unit to switch on the system.

3.3 Login

The system login interface is shown in the following figure:



When you startup the system for the first time, the Startup Wizard appears where you can setup the system software. Here the default User ID is **administrator** and the default password is **000000** (six zeros).

Use the supplied USB mouse, front panel, remote control or keyboard to input data and commands. See *Mouse controls, page 25* for how to use the mouse.



Notice!

Unauthorized system use

For security reason, please alter your password after you first login.

When required, you can logout from the user interface using the Shutdown menu – see *Shutdown/Logout, page 20*.

See also

- *Mouse controls, page 25*
- *Shutdown/Logout, page 20*

3.4 Startup Wizard

The Startup Wizard opens automatically after you log in for the first time. See following screen:



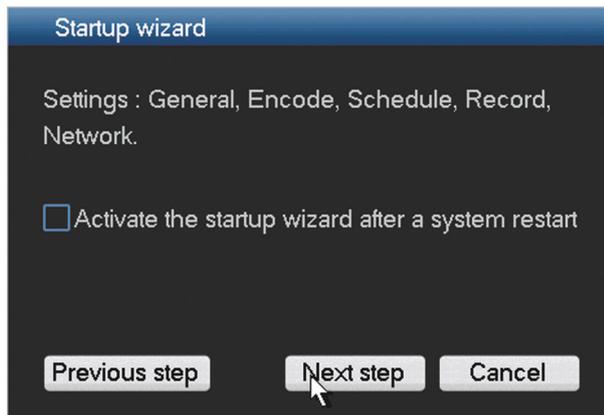
Select a language and video standard from the drop-down menus and click **<Next step>**. The wizard will guide you through the following steps:

1. Choose to reset the startup wizard to run after the next system restart – see *Reset startup wizard*, page 16.
2. Assign General settings – see *General*, page 16.
3. Assign Encoder settings – see *Encode*, page 17.
4. Assign Schedule settings – see *Schedule*, page 18.
5. Assign Record settings – see *Record*, page 18.
6. Assign Network settings – see *Network*, page 19.
7. Finish the startup by clicking **<Finished>**.
8. Confirm the setup by clicking **<OK>**.

Use the following buttons to navigate through the wizard screens and assign your correct user settings:

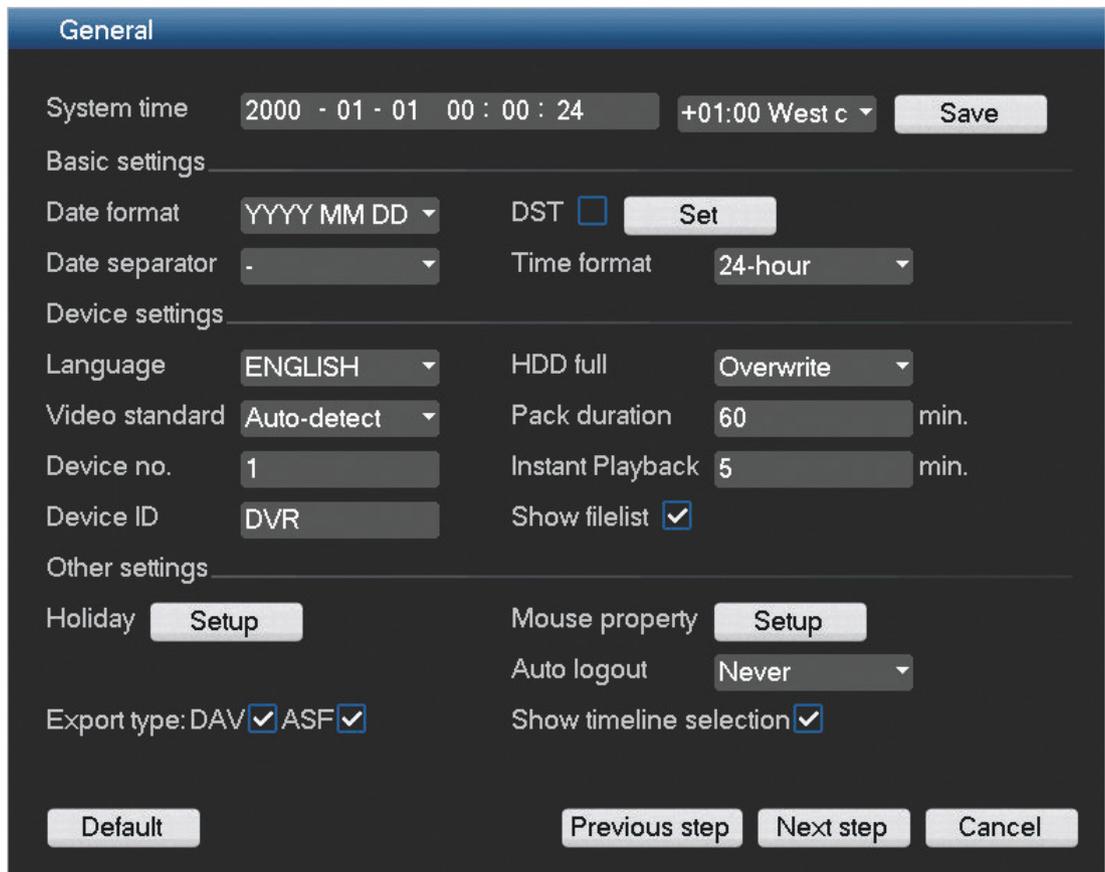
- **<Cancel>** exit the Startup wizard and immediately access the DIVAR user interface (this action will automatically install all factory defaults for the remaining Startup wizard screens)
- **<Next Step>** go to the next wizard screen.
- **<Previous step>** return to the previous Startup wizard screen
- **<Default>** assign the factory defaults for the current setup screen
- **<Copy>** copy the current screen settings for a channel to other channels

3.4.1 Reset startup wizard



If required, select the check box here to activate the Startup wizard after the next system restart (this is only useful if you need to reconfigure the system during the next startup). Later, during operation, you can also reset this mode in the **General** screen. Click **<Next step>** for the next Startup wizard screen (**General** settings).

3.4.2 General



Check the general settings on this screen:

- If they are correct, click **<Next step>** to go to the next Startup wizard screen (**Encoder** settings).
- If changes are required, use the drop-down menus and entry fields to assign the correct settings (if you change the system time and/or date, click **<Save>** before continuing).

- When ready, click **<Next step>** to move to the **Encoder** Startup wizard screen.

3.4.3

Encode

The screenshot shows a configuration window titled "Encode" with two columns of settings for two different streams. The first column is for Channel 1 and the second for Channel 2. At the bottom, there are buttons for "Default", "Copy", "Previous step", "Next step", and "Cancel".

Setting	Stream 1 (Channel 1)	Stream 2 (2nd stream)
Channel	1	
Type	Regular	2nd stream
Compression	H.264	H.264
Resolution	960H	CIF
Frame rate(FPS)	30	7
Bit rate type	CBR	CBR
Bit rate (Kb/S)	1280	160
Reference bit rate	1280-2048Kb/S	48-320Kb/S
Audio/Video	Audio <input type="checkbox"/>	Audio <input type="checkbox"/> Video <input checked="" type="checkbox"/>
Audio format	G711a	

Buttons: Overlay, Snapshot, Default, Copy, Previous step, Next step, Cancel

Assign here the encoder settings and click **<Next step>** for the next Startup wizard screen (**Schedule** settings). To save time when setting up channels, use **<Copy>** to copy settings from one channel to other(s).

3.4.4 Schedule

Schedule

Channel **1** Pre record **4** sec. Snapshot

Period	Start	End	Regular	MD	Alarm	MD & alarm
Period 1	00 :00	-24 :00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period 2	00 :00	-24 :00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period 3	00 :00	-24 :00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period 4	00 :00	-24 :00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period 5	00 :00	-24 :00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period 6	00 :00	-24 :00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Regular
 MD
 Alarm
 MD & alarm

3 6 9 12 15 18 21 24

Assign here all the schedule settings and click **<Next step>** for the next Startup wizard screen (**Record** settings). Use **<Copy>** to copy settings from one channel to other(s).

3.4.5 Record

Record

Record mode All 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Schedule

Manual

Stop

Assign here all the record settings and click **<Next step>** for the next Startup wizard screen (**Network** settings):

- Schedule: The selected channels will record according to the schedule setup (see previous setup screen)
- Manual: selected channels will automatically begin recording
- Stop: No recording on the selected channels

3.4.6 Network

Network

IP version: IPv4

IP address: 192 . 168 . 1 . 106 DHCP

Subnet mask: 255 . 255 . 255 . 0

Default gateway: 192 . 168 . 1 . 1

TCP port: 3777 HTTP port: 80

UDP port: 3778 RTSP port: 554

Max connection: 4 MTU: 1500

Bandwidth limit: **Configure**

Internal port: 7892

Preferred DNS: 8 . 8 . 8 . 8

Alternate DNS: 8 . 8 . 4 . 4

LAN download

Network setting

Default **Previous step** **Finished**

Assign here all the network settings and click **<Finished>** to complete the Startup wizard (you will need to confirm the setup by clicking **<OK>**).

The system will automatically display the active view mode (with a maximum 16 camera views). From here you can operate your system using the mouse, remote control or front panel. See the following sections.

When you eventually need to log off from your system (or shut down completely), use the Shutdown menu – see *Shutdown/Logout*, page 20.

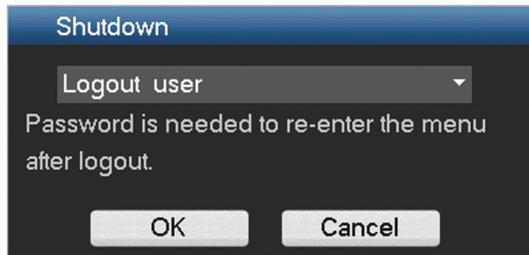
3.5 Shutdown/Logout

Quick Logout

Right-click the mouse to access the **Quick menu**; and choose the option **Logout User**.

Shutdown/Logout via Main Menu

1. Right-click the mouse to access the **Quick menu**; from here choose the option **Main menu**.
2. Select the **Shutdown** option on the **Main menu** for the following dialog box.



3. Use the drop-down menu to choose from the following options:
 - Logout user**
 - Shutdown**
 - Restart system**
 - Switch user**
4. Click **<OK>** to confirm the selection.

Shut down with power button

Another way to shut down the system is to press the power button on the front panel for at least 3 seconds (the system will automatically backup video recordings and settings). Start up the system again (and access login screen) by briefly pressing the power button.

Power Failure

The system will automatically backup video recordings and settings after a power failure.

4 First time operation

Once the Startup Wizard steps have been completed, your monitor will show the live viewing mode with real time camera displays - see *Live viewing, page 21*.

From here, you can control your system via menus (**Quick menu** and **Main menu**) using the mouse, front panel buttons, or the remote control.



Notice!

The mouse is normally the preferred input device when setting up the system and entering field values. Clicking the right mouse button is the quickest way to select and leave menus.

See the following descriptions:

- *Quick menu, page 24*
- *Main menu, page 26*
- *Mouse controls, page 25*

For a detailed description of configuring and operating the system (plus all technical specifications), refer to the Operator Manual on the supplied DVD.

4.1 Live viewing

After you log in, the system is in live viewing mode with 1 to 16 live images on the display (from a maximum 16 connected cameras). See following example view.



Figure 4.1: Live view (4 camera views displayed)

The system date and time is displayed in the top right corner of the screen, and the channel ID is shown in the bottom left of each channel display.

- To change system date and time, see general settings (**Main Menu > Setting > General**).
- To modify the channel ID, see display settings (**Main Menu > Setting > Display**).

- To change the camera view configuration, access the Quick menu (right mouse click) and select View 1, 4, 8, 9 or 16 before choosing the required camera configuration.

Each channel view has one or more of the following icons displayed:

	Recording – this icon is displayed when a channel is recording		Camera masking – the camera has been blocked
	Motion detection – a movement has been detected in the camera view		No camera is attached to this channel or communication has been lost from this camera
	PTZ active If your camera is equipped with a PTZ function, you can pan, tilt and zoom the live viewing image as described in the PTZ function.		

If multiple channels are displayed, you can double-click on a particular channel to show this channel in full-screen (double-click on it again to return to multiple-channel view). The currently selected channel is shown with a yellow border. From live mode, you can switch to playback mode or access the main menu as described below.

Other functions in Live mode are:

- Playback, snapshot and zoom
- Sequence

Access to some functions requires the correct user level. Check with your administrator if you do not have access.

Playback, Snapshot and Zoom

Move the mouse to the top centre of the video of the current channel; the system pops up the following control bar.



If your mouse stays inactive in this area for more than 6 seconds, the control bar automatically disappears. See the following table for detailed information on the buttons on this control bar.

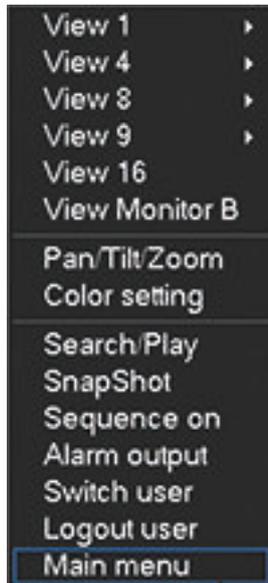
	Icon name	Function
	<p>Instant playback</p>	<p>Press to playback the previous 5-60 minutes recorded on the current channel (default is 5 minutes). The playback screen supports drag and play function - use your mouse to drag the play bar to any playback start time (use the pause and exit functions as required). During the instant playback:</p> <ul style="list-style-type: none"> - you can not see the channel title and record status of current channel (they only reappear once you exit preview playback) - you can not switch the displayed channel or change current window-display mode <p>Set the time for Instant playback in Main Menu > Setting > General.</p> <p>Note: The system may pop up a dialog box if there is no recorded data for the current channel, or you need to accept a disclaimer before playing.</p>
	<p>Snapshot</p>	<p>Press this icon to make a snapshot of the current channel display. The system will ask to export the snapshot to an email address, a USB memory device, and/or a DVD:</p> <ul style="list-style-type: none"> - A disclaimer screen may initially appear when you first select Snapshot (click <Accept> to continue). - See heading 'Export snapshot' for more information.
	<p>Digital zoom</p>	<p>Zoom in on a specified zone of current channel (zoom-in function is supported in multiple-channel view). When you click on the zoom icon it will change to a new icon ; you can now select an area by holding down the left mouse button and dragging an area on the screen. Release the mouse and the selected area will be zoomed. Right-click the mouse to exit the zoomed area. Exit the digital zoom function at any time by clicking on the icon  again - it will change back to .</p>

See also

- *Export snapshot, page 35*

4.2 Quick menu

When in live viewing mode, right-click the mouse for the following quick menu:



View 1, 4, 9, 16 – choose here the number of view windows shown on Monitor A (one-window, four-windows, nine-windows or sixteen-windows). For the one-window view, select also which channel (camera) to display

View Monitor B – a popup appears where you can assign the view windows and channels for images to be shown on Monitor B

Pan/Tilt/Zoom – only possible if you have a PTZ camera attached and configured

Color setting – change the color settings of the viewed camera images over different time periods (useful for day/night viewing)

Search/Play – search for records, and play/export them – see *Search/Playback, page 27*

Snapshot – make a snapshot of the current live camera images (choose to export the snapshot to an email address, a USB memory device, and/or a DVD):

- A disclaimer screen may initially appear when you select **Snapshot** (click <Accept> to continue).
- See heading '**Export snapshot**' for more information.

Sequence on – activate a camera tour sequence on Monitor A (to disable the sequence, access Quick Menu again and select 'Sequence off')

Alarm output – access the alarm output screen to configure the alarm output relays

Switch user – activate the Login screen where you can login as a different user

Logout user – logout the current user (a popup appears to confirm logout)

Main menu – for settings and user modes – see *Main menu, page 26*



Notice!

The Pan/Tilt/Zoom and Color setting applies for the currently selected channel. If you are in multiple-window mode, the system automatically switches to the corresponding channel.

4.3 Mouse controls

Mouse	Function
Left button	In Live mode, click once to select channel and choose other functions
	In the Quick menu , use the left mouse button to enter a menu item (left-click again to make selections in menu)
	When inputting data, one of the following input keypads appears (depending on whether you need to enter alphanumeric or only numeric characters):  <p>The image shows two input keypads. The top one is a full alphanumeric keypad with keys for punctuation, letters, numbers, and symbols. The bottom one is a numeric keypad with keys for digits 0-9, a decimal point, and a left arrow.</p>
	Left click the corresponding button on the keypad to input the required characters (use Shift on alphanumeric keypad to switch between small/capitalized)
Double-click left button	Implement a special control operation, e.g. double-click an item in the file list to play the video
	In multiple window mode, double-click one channel to view in full-screen mode; double-click current video again to go back to previous multiple window mode
Drag mouse with left button pressed	Select motion detection zone in the Detect menu
	Select a privacy mask zone (in Encode > Overlay menu).
Middle scroll wheel	In numeral input box, increase or decrease numeric value
	Switch items in a check box
	Page up or page down in a list
Right button	In Live mode, the Quick menu appears:
	If you are currently in a menu, right-click to exit the current menu without saving any modifications.

4.4 Main menu

Access the Main menu as follows:

- Use the Enter key and the direction buttons on the front panel or the remote control
- Right-click the mouse for the Quick menu and select '**Main menu**'

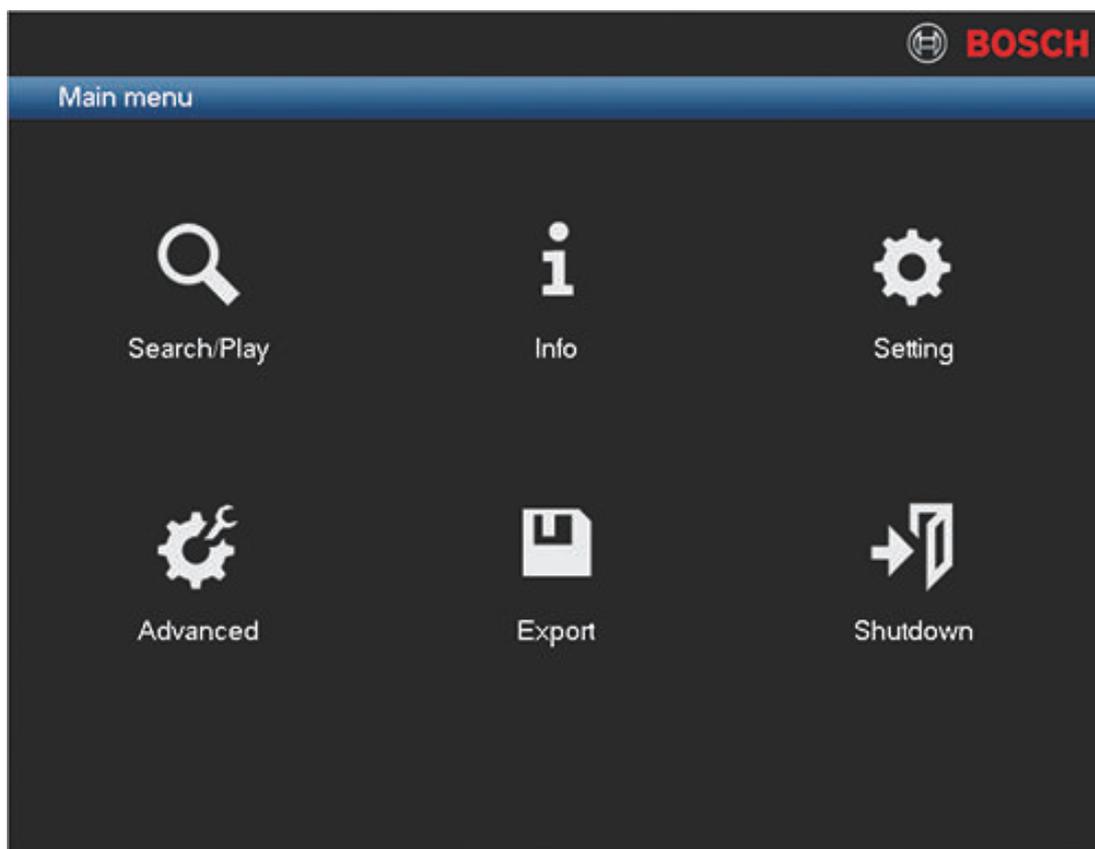


Figure 4.2: Main menu

Here you can select the following sub-menus:

- **Setting** and **Advanced** for system configuration
- **Search/Play** to search for and play recordings
- **Info** for relevant system status information
- **Export** to export your recorded files to a memory device
- **Shutdown** logout or switch user, and shutdown/restart your system

4.5 Search/Playback

Click **Search/Play** in the Main Menu (or from the Quick menu) for the following screen.
 Note: A disclaimer screen may initially appear (click **<Accept>** to continue).

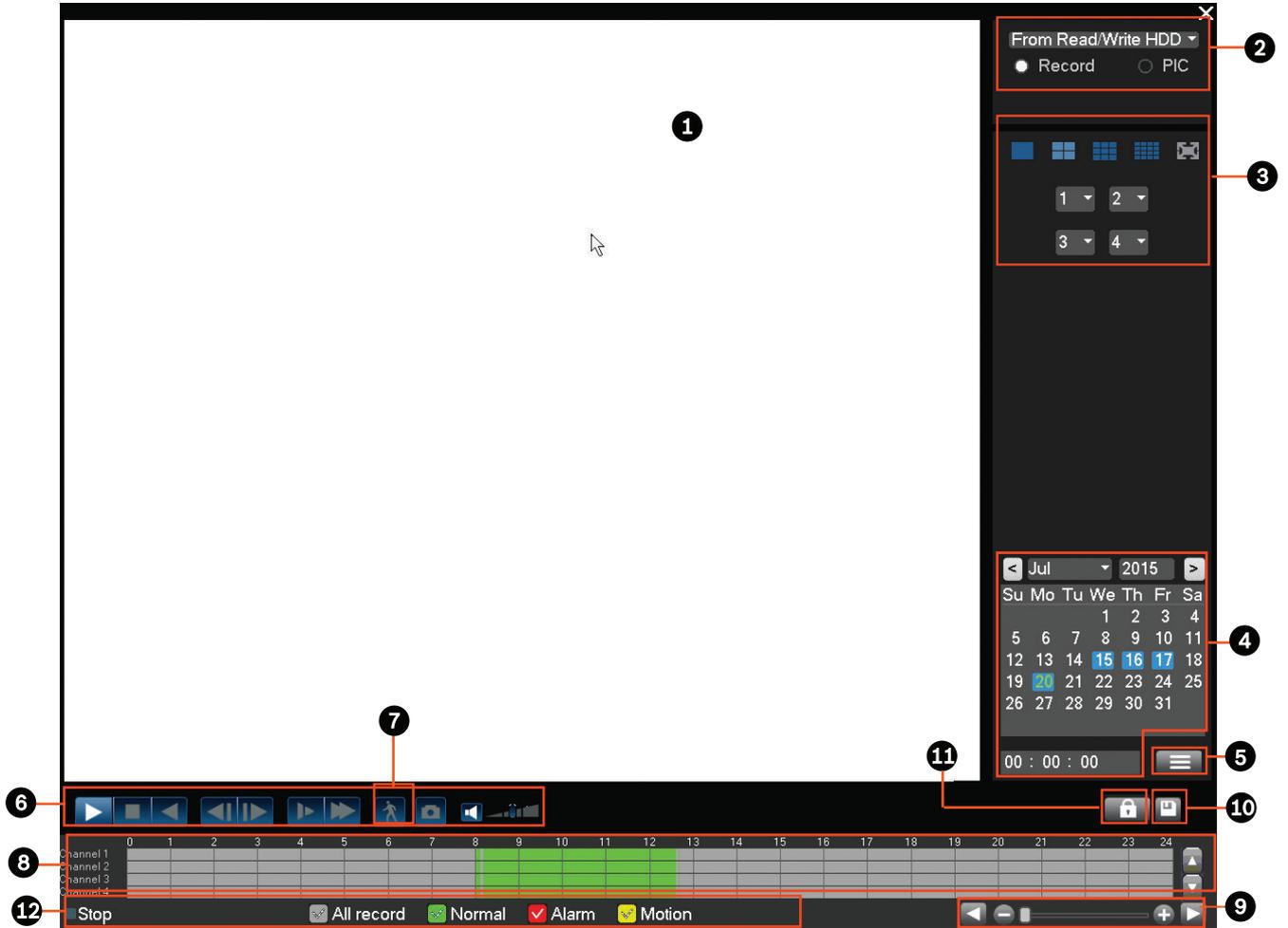


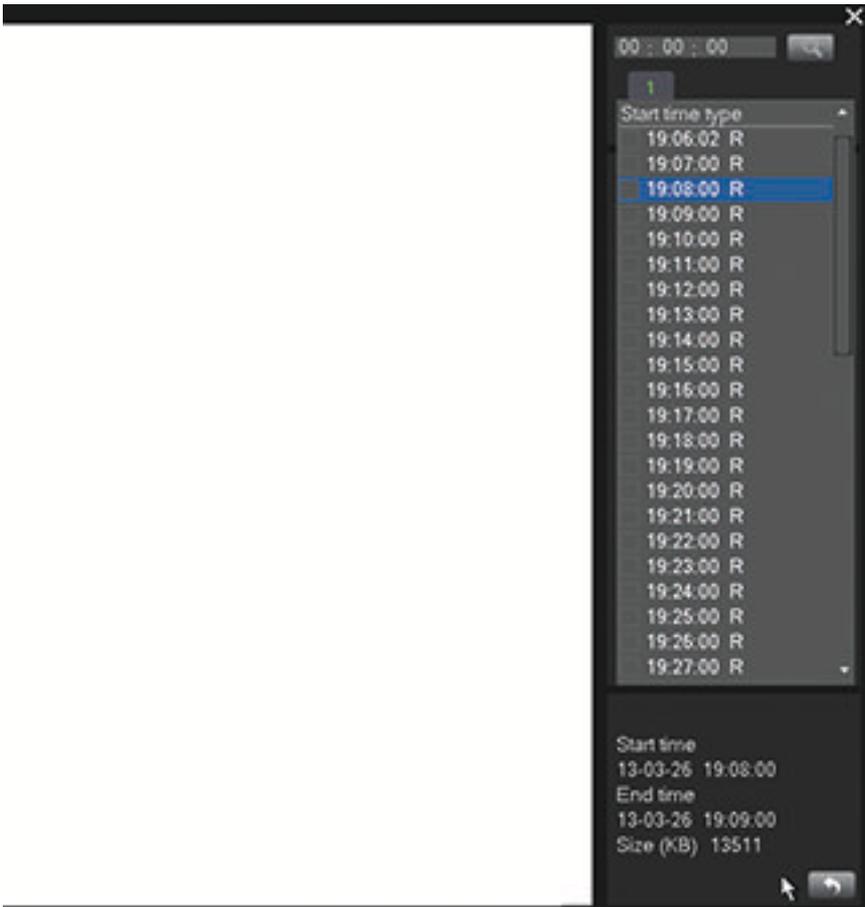
Figure 4.3: Search/Play screen

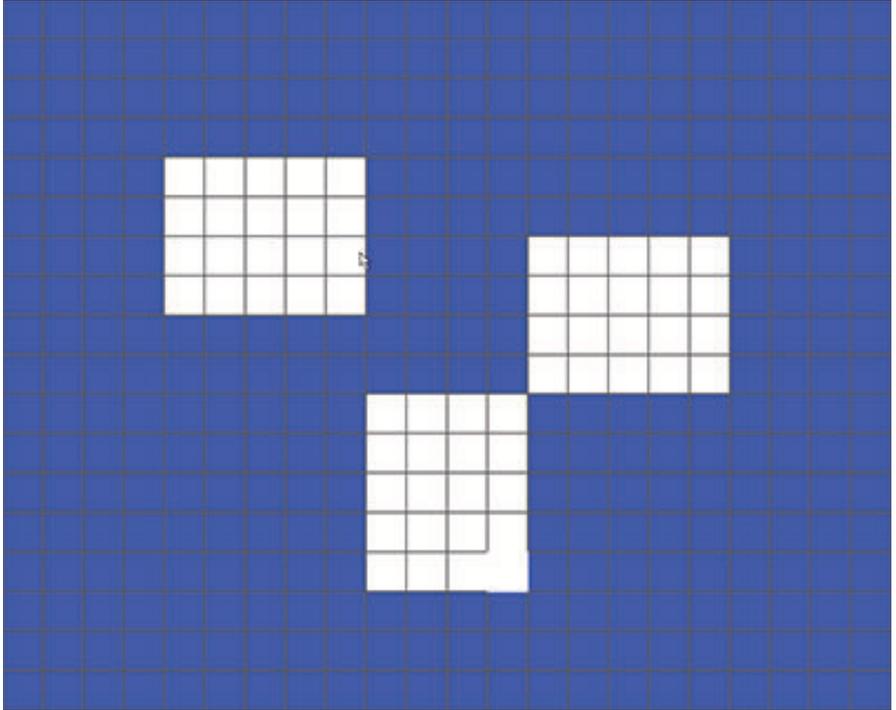
See the following table for an overview of the features on this screen.

ID	Name	Function
1	Display window	Display of the currently chosen picture or file (supports 1/4/9/16-window playback.)
2	Search type	Here you can select to search for a picture (PIC) or a recorded file (REC). Select to play from the internal HDD or an optional connected external memory device.

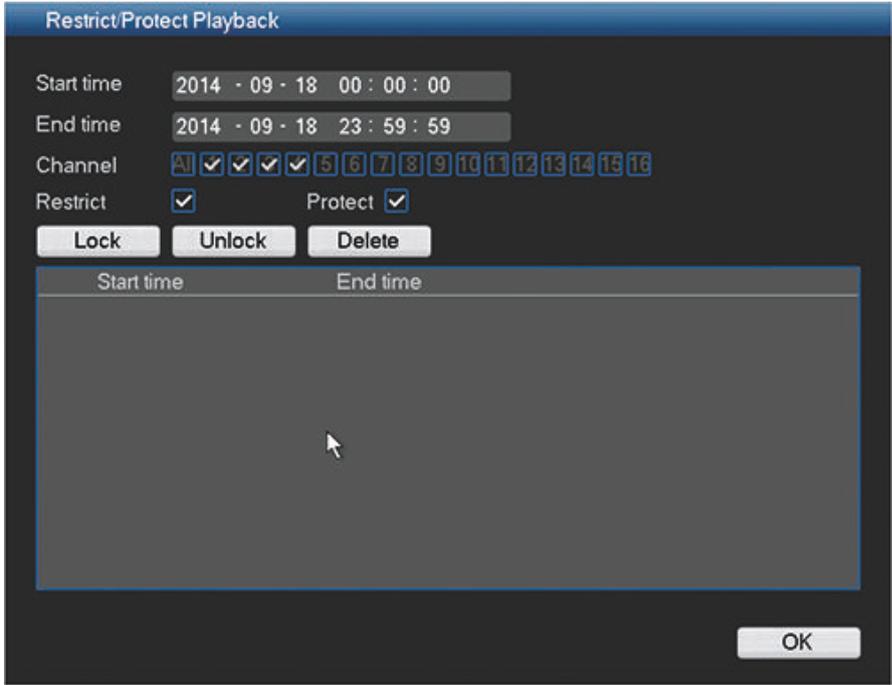
3	Playback mode and channel selection pane	<p>Choose between 1/4/9/16 window or full screen (toggle the buttons during playback to switch between views):</p> <ul style="list-style-type: none"> - 1-window – select which channel to display from the drop-down menu (select ‘.’ for no channel) - 4-window (select which 4 channels to display) - 9-window (select channels 1 to 9) - 16-window (switch between 1-16 and 17-32 channels – only available for DIVAR AN 5000) - Full-screen (click right mouse button to exit full screen)
4	Calendar and time	<p>Select a date to overview the recordings available for that day (dates highlighted in blue have recordings available for that day). The time bar on the bottom of the screen will show a 24-hour trace of the recordings available for the chosen date.</p> <p>If required, play a recording for a particular date as follows:</p> <ul style="list-style-type: none"> - Assign a start time (hour, minute, second) in the time field (below the calendar) - Press the play button  - Click on a colored zone on the time bar (at the bottom of the screen) to start playing at that selected time
5	        	<p>Play or Pause (the ‘pause’ button is displayed if the DVR is already playing and you wish to pause the play)</p> <p>Stop playback</p> <p>Backward play In normal play mode, left click this button to play the file backwards. Click it again to pause current play. In backward play mode, click  to restore normal play.</p> <p>In playback mode, click to play the next or the previous section (click continuously to watch consecutive files from the same channel). In normal play mode, press pause then click  and  to begin frame-by-frame playback. In frame-by-frame playback mode, click  to restore normal playback.</p> <p>Slow play In playback mode, click for various slow play modes such as slow play 1, slow play 2, etc.</p> <p>Fast forward In playback mode, click to realize various fast play modes such as fast play 1, fast play 2, etc.</p> <p>Smart search – see description below</p> <p>Turn the audio on/off and adjust the volume during video playback</p>

	<p>Click to export snapshot(s) to a USB memory device, a DVD, and/or an email address:</p> <ul style="list-style-type: none"> - In full-screen mode, move the mouse to the bottom of the screen to select the snapshot button. - A disclaimer screen may initially appear when you first select Snapshot (click <Accept> to continue). <p>See heading 'Export snapshot' for more information.</p>
<p>Digital zoom</p>	<p>When the system is in playback mode:</p> <ol style="list-style-type: none"> 1. Left-click the mouse in the screen and hold down the mouse button. 2. Drag to select a section then release the mouse button. 3. Left-click in the selection for digital zoom of the selection. 4. Right-click to exit zoom.

6	File list	<p>Double click to view a list of recorded files for the selected day.</p>  <p>The list displays the first channel of the recorded file (click the numbers above to select another channel). A maximum 128 files are shown at one time. The character shown beside each file has the following meaning:</p> <ul style="list-style-type: none"> R – regular recording A – external Alarm recording M – motion detect recording <p>The time span of ‘R’ recorded files in a file list is determined by the defined ‘Pack duration’ set in the General menu screen. For example, if the file list is set with a pack duration of 1 hour, the file list will show a list of files that are all 1 hour long (i.e. from 8:00 to 9:00, 9:00 to 10:00, etc.). ‘M’ and ‘A’ files span the time that the motion/alarm occurred.</p> <p>Click once on a file to view the file details under the list, or double click a file to playback the file on the screen. You can also select the checkbox beside file(s), then select the ‘Export’ button to export files (See heading ‘Export’ for more information).</p> <p>For a precise search for a time period, stop the current file being played and enter a period in the time panel (shown above the list):</p> 
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		<p>When ready, return to the original calendar and channel setup interface by clicking </p>
7	Smart search	<p>This function is only active when the system is playing a recording in 1-window mode.</p> <p>Click  to activate smart search. See following figure.</p>  <p>Use your mouse to drag and select zone(s) in the window to detect motion.</p> <p>Click  again to begin smart search. The system searches for motion in the chosen area(s).</p> <p>When ready, click  again to stop smart search playback.</p> <p>Extra notes on smart search:</p> <ul style="list-style-type: none">- As default, the system will view the whole play zone as a motion detect region.- If you choose to play another file in the file list, the system will switch to motion detect play of the other file.- During motion detect play, you cannot implement operations such as changing the time bar, play backward, or play frame-by-frame.- System supports 396 (22x18 PAL) and 330 (22x15 NTSC) zones.

8	Time bar	<p>Displays a maximum 16 channel time bars for the current search date (use the scroll bars on the right to scroll up and down through the available channels). The color of each channel bar changes depending on if a recording is present for the chosen date:</p> <ul style="list-style-type: none"> – Green for a regular record file – Red for an external alarm record file – Yellow for a motion detect record file <p>Click on a point in a colored zone in the time bar to begin playback at that point.</p> <p>Alternatively, hold down the left mouse button and select a region of the time bar (the region will be highlighted); right-click on the selected region to display a menu for the following functions (Export region; Restrict/Protect region; Clear region) – see separate descriptions here for Export and Restrict/Protect.</p> <p>During playback, click on the top of the time bar and hold down the left mouse button to scroll the time bar left or right (not applicable for 24-hour).</p> <p>Alternatively, use the time bar unit to zoom in, or scroll (see the following description).</p>
9	Time bar unit	<p>Use the buttons here to zoom in on the time bar or scroll left or right (this helps to precisely locate a time in the time bar when playing a recording). Alternatively, use the mouse middle scroll wheel to zoom in or out.</p>
10	Export 	<p>Use to export recordings onto a memory device (recordable DVD or USB storage device). See heading 'Export' for more information.</p>

<p>11</p>	<p>Restrict/Protect</p>	<p>Use this function to restrict playback of a recording and/or to protect that recording from being deleted. The restrict/protect permission can be individually set for each user account.</p>  <p>Restrict/Protect recording(s) as follows:</p> <ul style="list-style-type: none"> - Assign a start and end time - Choose channel(s) - Choose checkbox for Restrict and/or Protect - Select <Lock> to lock the segment (the recording appears in a list with start and end time). Repeat these steps for new recordings as needed. - If required, unlock a recording by selecting its checkbox and select <Unlock>. Delete a recording permanently with <Delete> - Select <OK> to save the settings (depending on user access, all restricted/protected recordings will show a blank screen with a lock logo when playing) <p>Important: When entering a start and end time for Restrict/Protect playback, be aware that the selected time may include a portion of a recorded file. In this case the complete file will be Restricted/Protected. For example, if you set a start time of 9:30 and an end time of 10:30 then both the recorded files 9:00 to 10:00 and 10:00 to 11:00 will be selected for restrict/protect because they both include portions of the selected time span. The same principle applies if you Delete a time period from 9:30 to 10:30 then both the files 9:00 to 10:00 and 10:00 to 11:00 will be deleted.</p>
<p>12</p>	<p>Record type</p>	<p>This status line shows the current play mode (or Stop) and a checked box shows the recording type (Motion, Alarm, Normal, All).</p>

4.5.1

Export

The Export menu is accessed from the main menu or Search/Play screen (or by pressing the Export key on the Front Panel or on the remote control). Use this menu to write segments of recorded video to a USB storage device or recordable DVD.

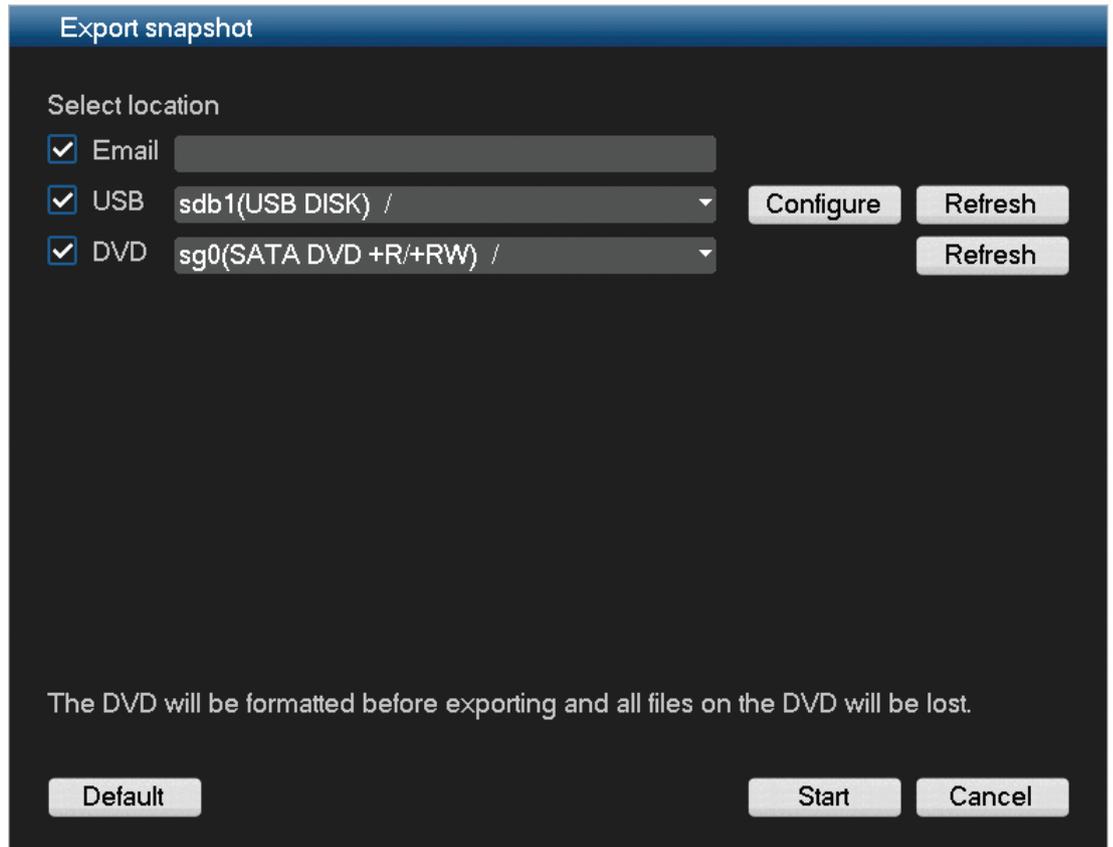
The screenshot shows the 'Export' screen with the following fields and controls:

- Selected device:** sdb1(USB DISK) with **Refresh** and **Format** buttons.
- Path:** / with a **Browse** button.
- Type:** All (dropdown) and **File format:** DAV (dropdown).
- Start time:** 2014 - 09 - 18 00 : 00 : 00
- End time:** 2014 - 09 - 18 15 : 04 : 15
- Channel:** A list of channels from 1 to 16, with 'All' selected.
- Expected Size:** 0.00 KB
- Buttons:** **Add** and **Remove**.
- Table:** A table with columns for '0', 'Start time', 'End time', and 'Size'. It is currently empty.
- Summary:** Total Size : 5.11 MB, Remaining Size : 4.13 GB/7.45 GB.
- Progress:** A progress bar.
- Bottom Buttons:** **Start** and **Back**.

Figure 4.4: Export screen

1. Choose from the **Selected Device** pull-down list to export recording(s) to either a USB memory stick or CD/DVD. If required, <**Refresh**> the device selection, or <**Format**> the selected memory device.
2. Choose the save location on the memory device (<**Browse**> if necessary).
3. Select the **Type** of file to export (All, Alarm, MD, Alarm/MD, Card, Normal, PIC).
4. Select the File format (DAV or ASF).
5. Enter a **Start time** and **End time** for the video segments (files) to archive.
6. Select the **Channel** to archive (**All** for all channels).
7. Click <**Add**> to add the file to the export list. The expected size of the recorded file is shown below the channel selection.
8. If required, repeat steps 3 to 7 for more recordings. (Remove a selected recording by selecting its check box and pressing <**Remove**>.)
The total size of the selected recordings (and available space on the memory device) are shown.
9. Click <**Start**> to export the selected recording(s).
If the total size of the selected recordings is more than the free space on the memory device, then only the first recordings that fit are exported.

4.5.2 Export snapshot



Select the checkboxes to export snapshots to an email address, USB memory stick and/or DVD.
If required, enter an email address or choose a specific DVD or USB stick (use <Configure> to define a location on the USB).
Use <Refresh> to refresh the selection if you insert a new USB stick or DVD.



Notice!
Exporting snapshots to a DVD will first format the DVD (deleting all files currently on the DVD).

5 Maintenance

Maintenance of this unit is limited to:

- External cleaning and inspection
- *Replace internal battery, page 40*
- *Install HDD in DIVAR AN 3000, page 41*
- *Install HDD in DIVAR AN 5000, page 44*
- *Install DVD in DIVAR AN 3000, page 48*
- *Install DVD in DIVAR AN 5000, page 50*

The following figures show the DIVAR AN 3000 and the DIVAR AN 5000 (with top covers removed) and the installed positions of the battery (1), DVD (2) and HDD (3):

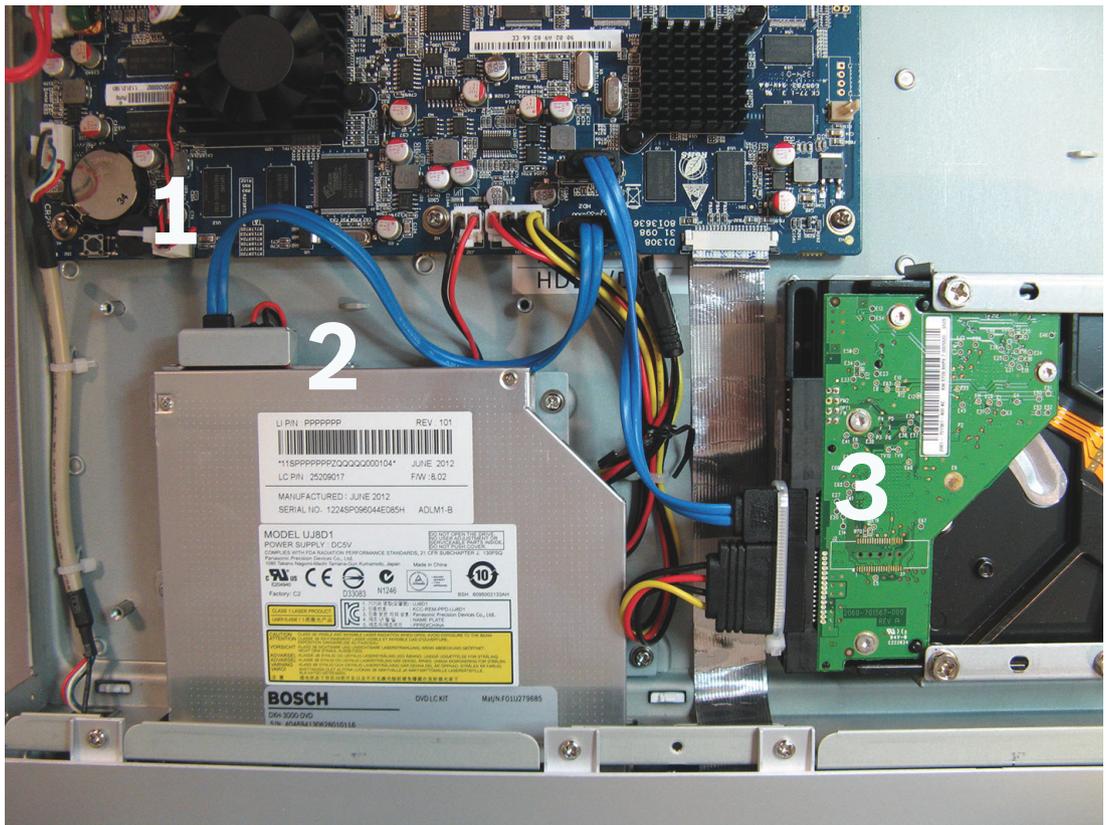


Figure 5.1: DIVAR AN 3000

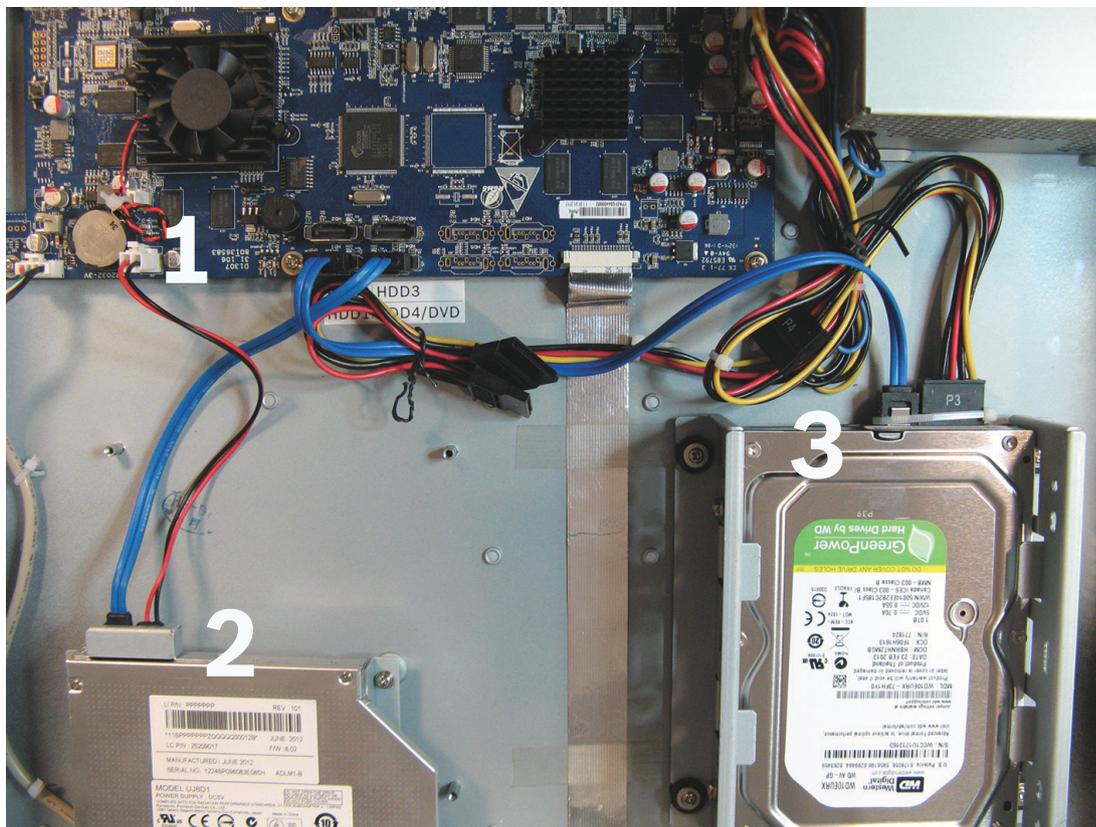


Figure 5.2: DIVAR AN 5000

Refer to the Appendix in the Operator Manual for recommended DVD and HDD types.

5.1 Maintenance precautions

5.1.1 Attach ESD strap Precaution – ESD

**Caution!**

Possible processor damage.

When the DIVAR cover is removed for installing, replacing or repairing internal components (battery, HDD or DVD), always make sure you wear an approved ESD wrist strap – see below.



Figure 5.3: ESD strap

The ESD strap is vital to prevent damage to ESD-sensitive parts when maintaining components in an opened DVR cabinet.

Always attach the ESD strap around your wrist as follows:

1. Slide the expandable strap over your wrist.
2. Connect the clip on the flexible grounding cord to an unpainted ground point (or to an approved ground point).
3. Keep the strap on and connected while you touch, insert, or remove any ESD-sensitive part.

5.1.2 High Voltage

**Danger!**

High voltage. Risk of electric shock.

When opening the top cover to service the unit, always make sure that the power has been switched off and the power cable is disconnected.

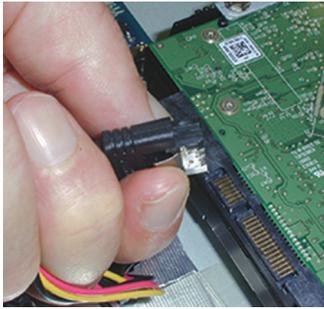
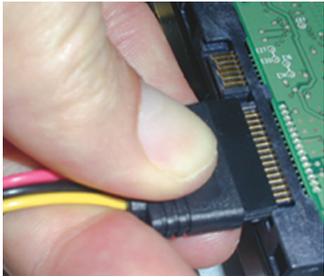
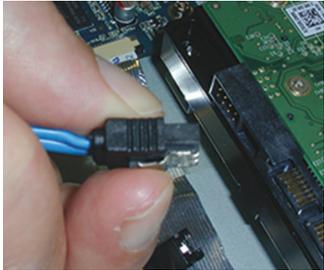
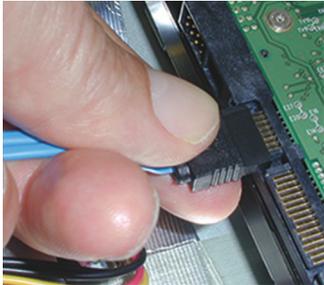
5.1.3 Connector/processor damage



Caution!

Possible connector damage.

Notice also that some cables for both the DIVAR AN 3000 and DIVAR AN 5000 have a lock which must be pressed and held when inserting/removing the cable. See following figures.

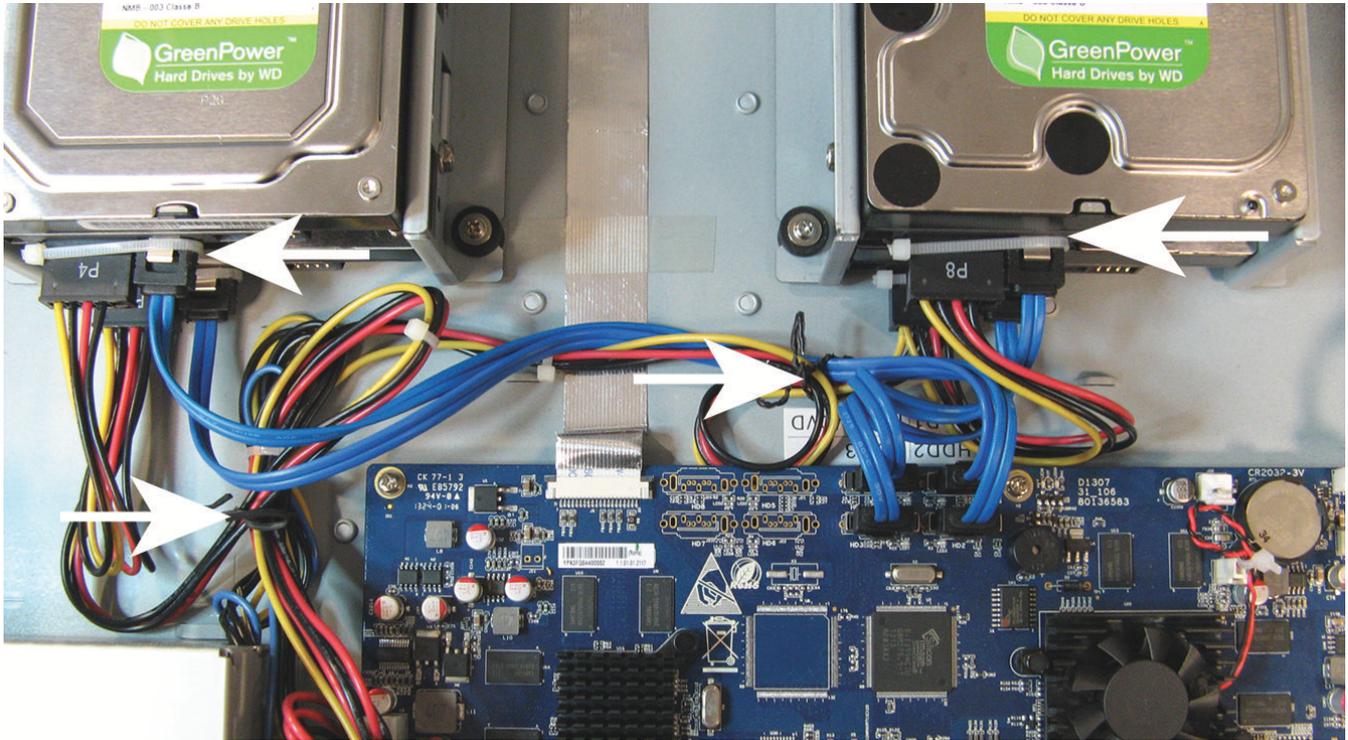
	
Press pin	Hold pin and connect cable
	
Press pin	Hold pin and connect cable



Caution!

Loose connectors and cables.

After installing HDD(s), always make sure that the connectors and cabling are firmly attached in place with tie wraps and tie cables to prevent connector movement and cable strain (see arrowed locations in following example). Avoid sharp bends in the SATA cables.

**See also**

- *Attach ESD strap, page 38*

5.2**Replace internal battery**

This product uses a 3.0 V Lithium CR2032 battery (article number F01U099057) as the backup power supply for internal system status (e.g. real time clock).

Under normal circumstances this battery will last for a minimum of 5 years. Low battery power affects the DVR operation causing it to reset at every power-up. A log message appears when the battery needs replacing (it should not be replaced unless required).

If the battery needs replacing, contact Bosch for assistance. Take note of the following precautions:

- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same battery type (or equivalent).
- Dispose of used batteries according to the manufacturer's instructions.

5.3 Install HDD in DIVAR AN 3000

See the following components for installing HDD (brackets, rubbers, screws, tie wrap and cables included in package; HDD not included):

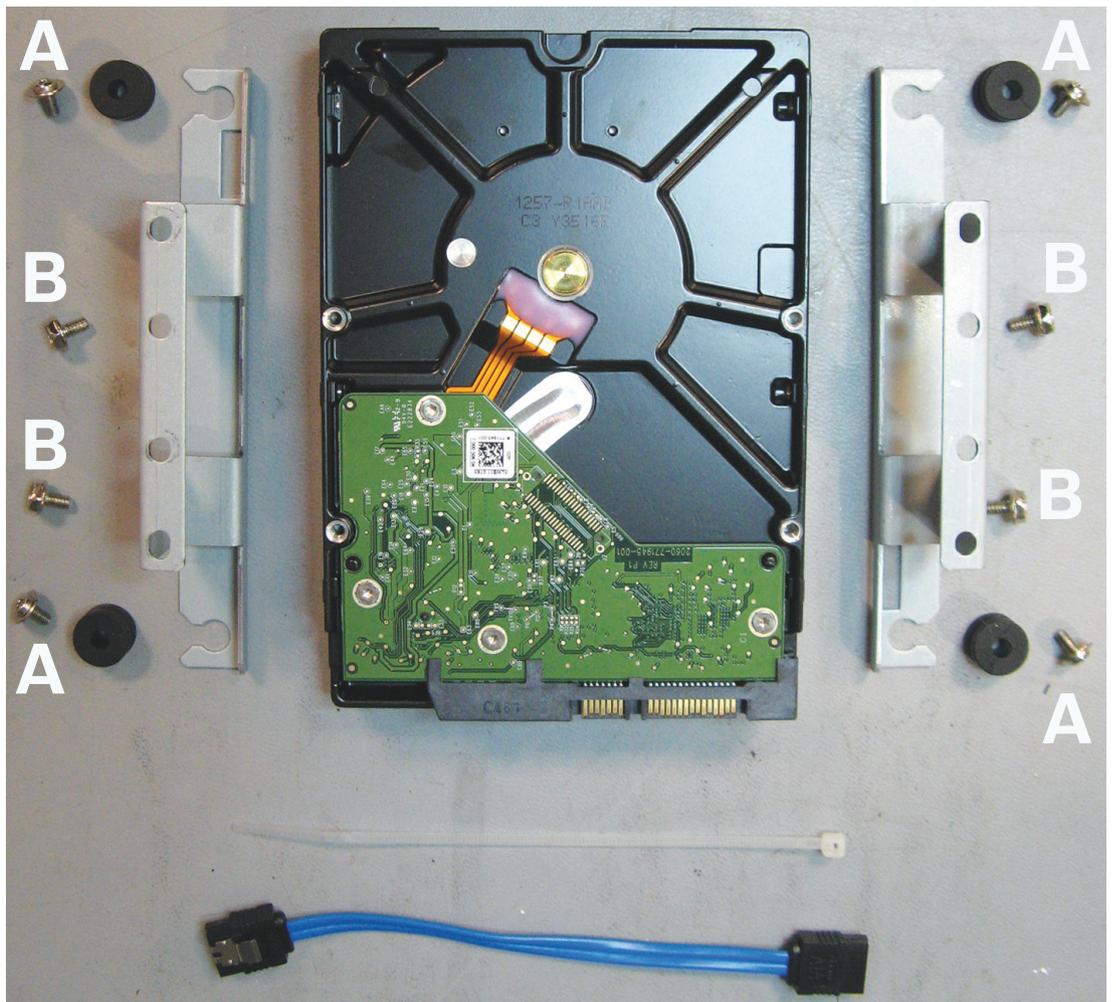
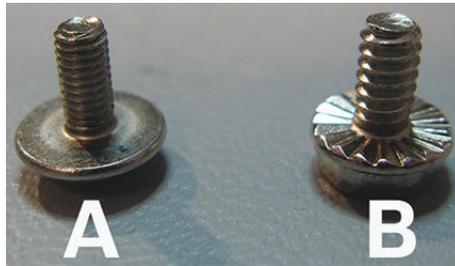


Figure 5.4: HDD install components for DIVAR AN 3000

Note: A maximum 2 HDDs can be installed in the DIVAR AN 3000

5.3.1 Install HDD 1



(1)



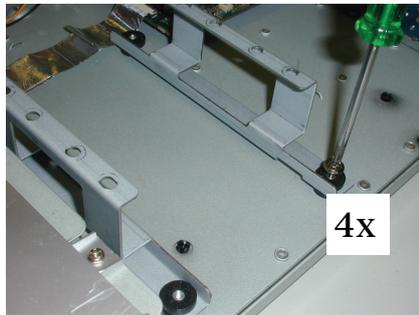
(2)



(3)



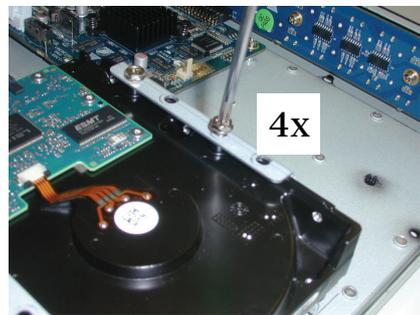
(4)



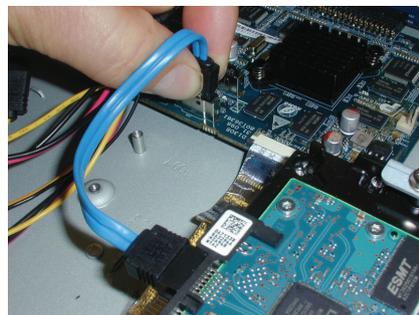
(5)



(6)



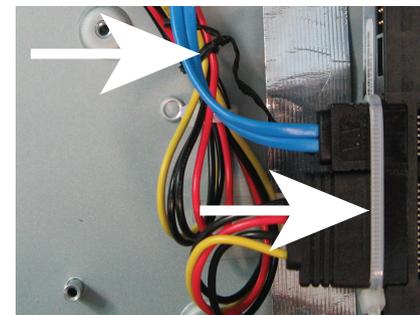
(7)



(8)



(9)



(10)



(11)



(12)

5.3.2

Install HDD 2

Install HDD 2 in the position of the optional DVD – see following figure:

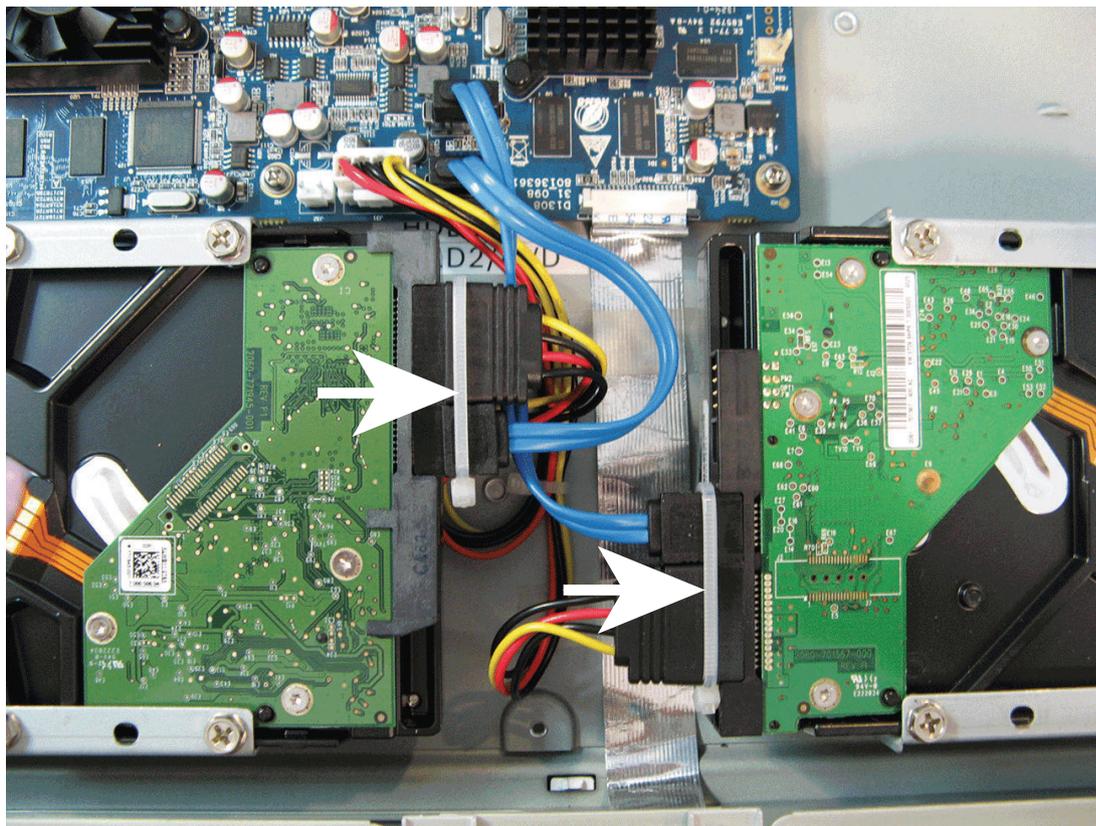


Figure 5.5: Install HDD 2

Use the same install steps described for installing HDD 1.

5.4 Install HDD in DIVAR AN 5000

See the following components for installing HDD (brackets, rubbers, screws, tie wrap and cables included in package; HDD not included):

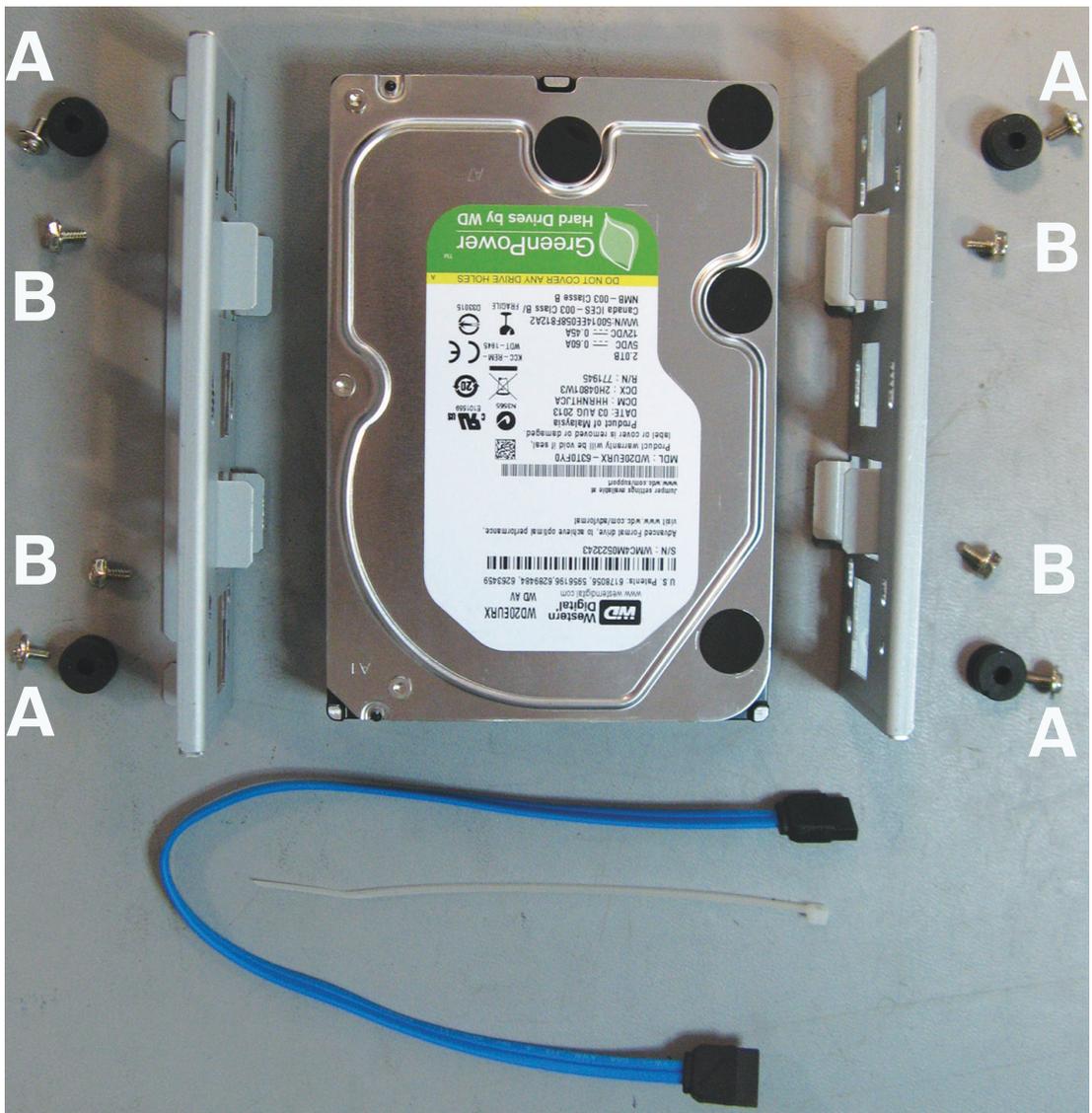
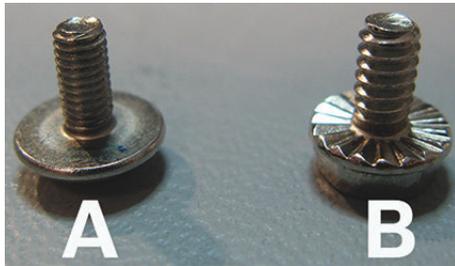
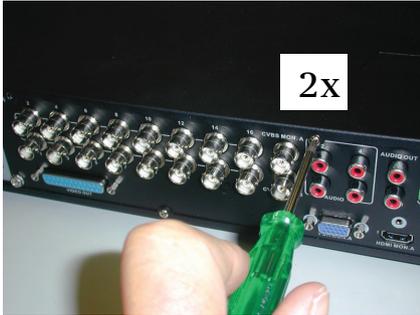


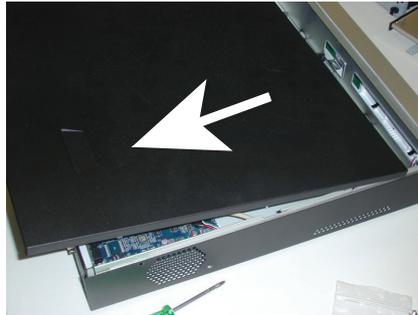
Figure 5.6: HDD install components for DIVAR AN 5000

Note: A maximum 4 HDDs can be installed in the DIVAR AN 5000

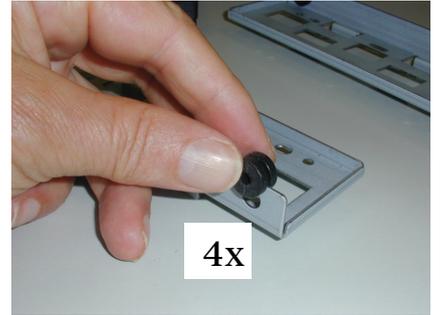
5.4.1 Install HDD 1



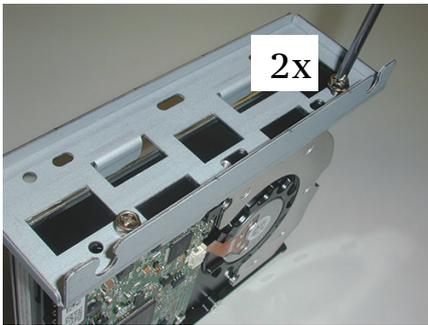
(1)



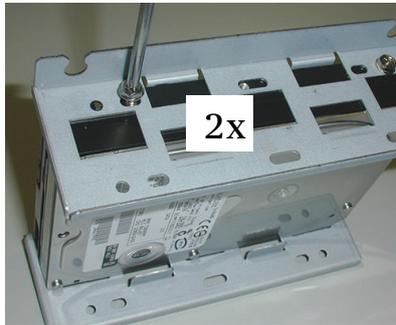
(2)



(3)



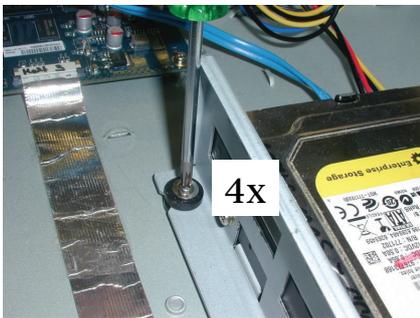
(4)



(5)



(6)



(7)



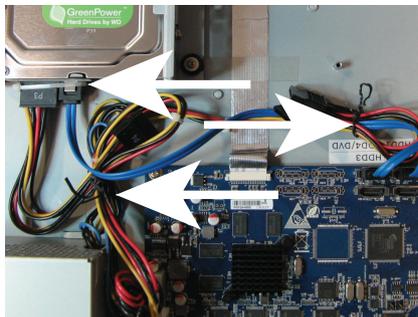
(8)



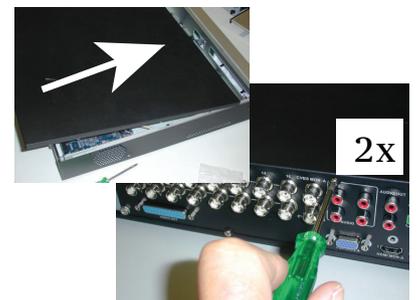
(9)



(10)



(11)



(12)

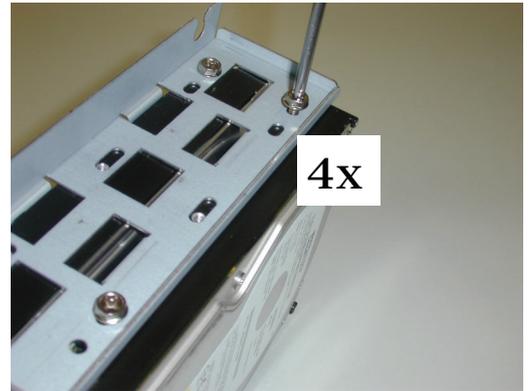
5.4.2

Install HDD 2

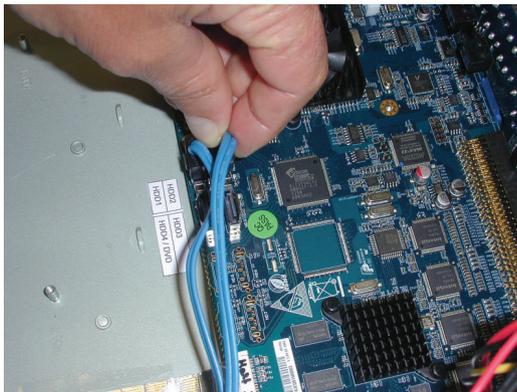
Use the same procedure as for installing HDD 1, but include the following extra steps:



(5a)



(5b)



(8a)



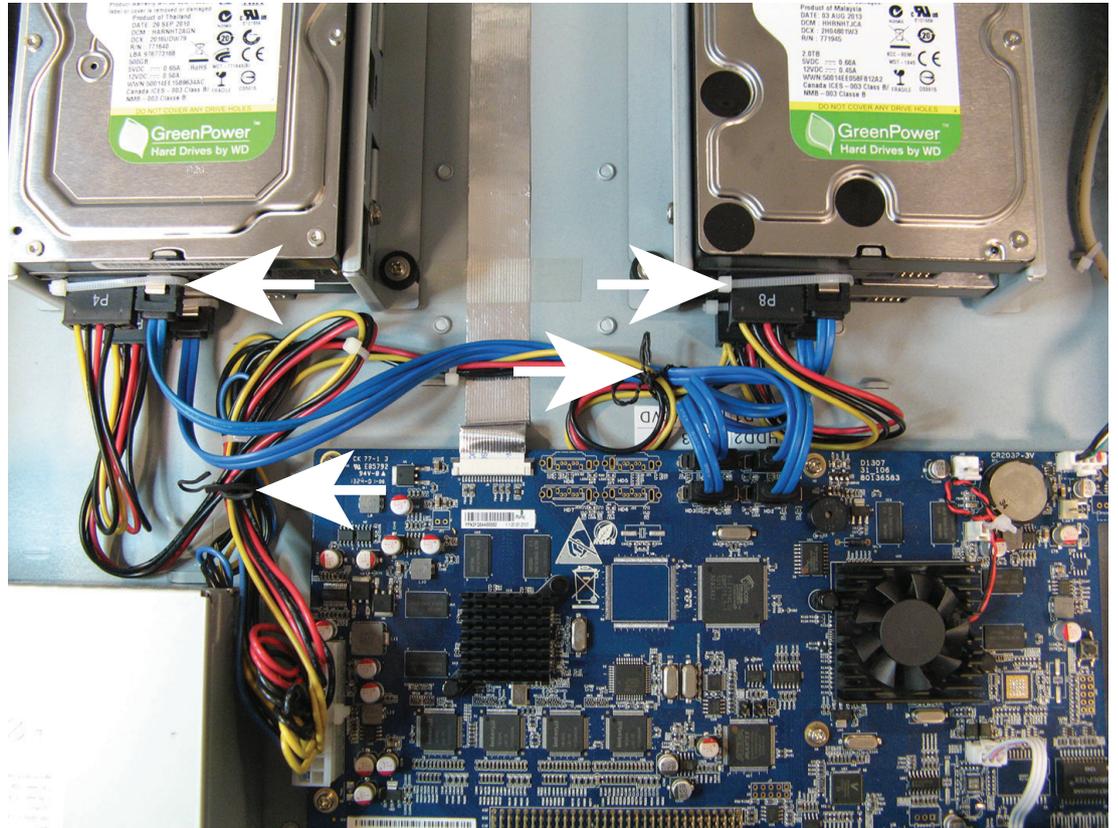
(8b)



(10a)

5.4.3 Install HDD 3 and 4

Use the same install steps as for HDD 1 and 2, but install HDD 3 and 4 at the optional DVD location. See following figure.

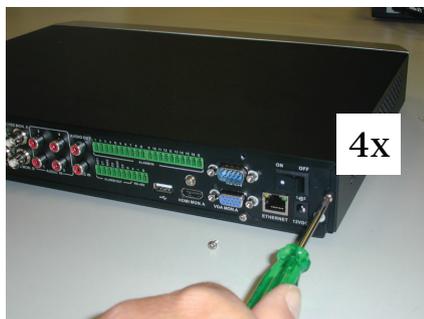


5.5 Install DVD in DIVAR AN 3000

See the following components and steps required for this installation (screws included in package):



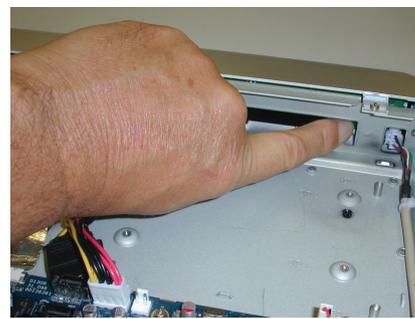
Figure 5.7: DVD install components for DIVAR AN 3000



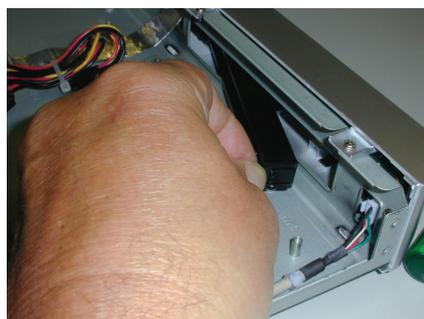
(1)



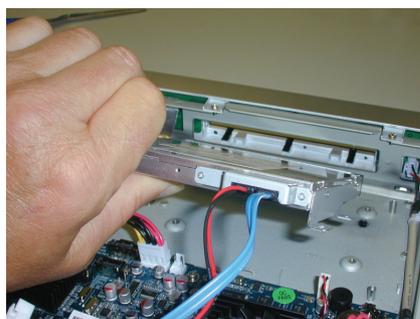
(2)



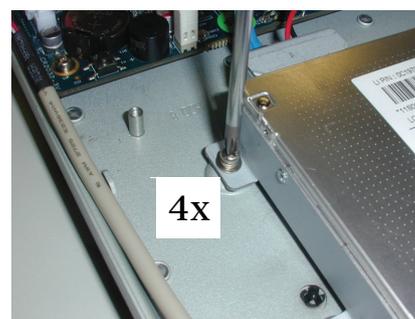
(3)



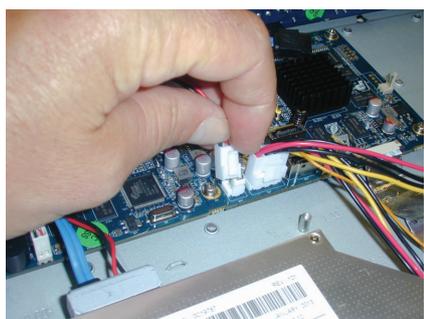
(4)



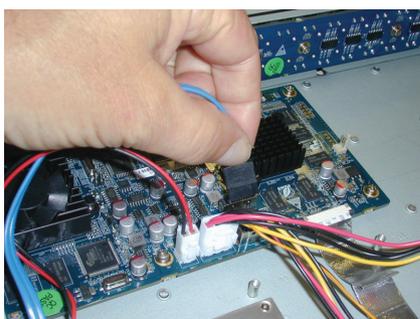
(5)



(6)



(7)



(8)



(9)

Figure 5.8: Install DVD in DIVAR AN 3000

5.6 Install DVD in DIVAR AN 5000

See the following components and steps required for this installation (spacers and screws included in package):



Figure 5.9: DVD install components for DIVAR AN 5000

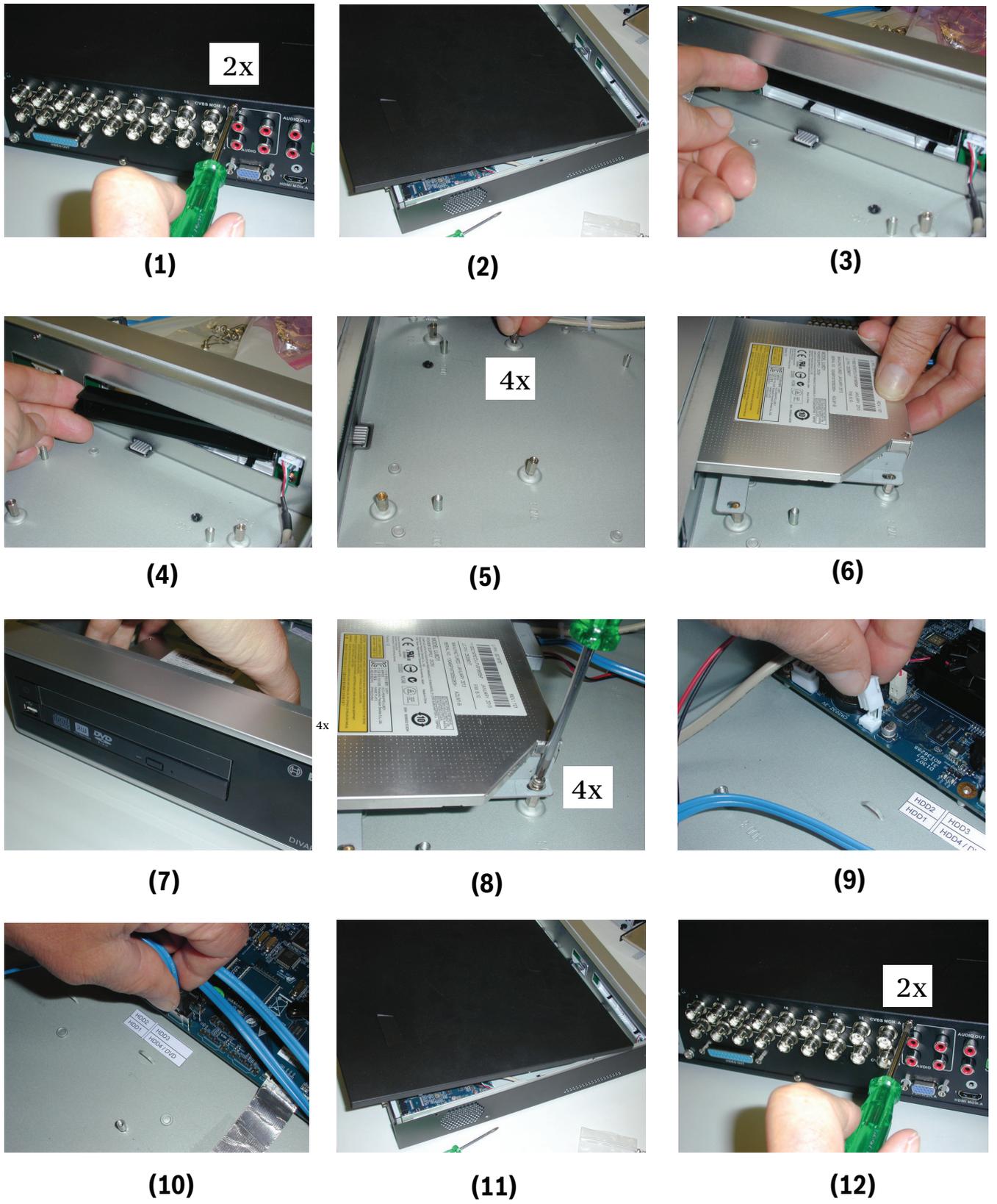


Figure 5.10: Install DVD in DIVAR AN 5000

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