

User's manual



NDR-BA6104

NDR-BA6208

NDR-BA6416

NOVUS[®]

IMPORTANT SAFEGUARDS AND WARNINGS

EMC (2004/108/EC) and LVD (2006/95/EC) Directives



CE Marking

Our products are manufactured to comply with requirements of following directives and national regulations implementing the directives:

- Electromagnetic compatibility EMC 2004/108/EC.
- Low voltage LVD 2006/95/EC with further amendment. The Directive applies to electrical equipment designed for use with a voltage rating of between 50VAC and 1000VAC as well as 75VDC and 1500VDC.

WEEE Directive 2002/96/EC



Information on Disposal for Users of Waste Electrical and Electronic Equipment

This appliance is marked according to the European Directive on Waste Electrical and Electronic Equipment (2002/96/EC) and further amendments. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The symbol on the product, or the documents accompanying the product, indicates that this appliance may not be treated as household waste. It shall be handed over to the applicable collection point for the waste electrical and electronic equipment for recycling purpose. For more information about recycling of this product, please contact your local authorities, your household waste disposal service or the shop where you purchased the product.



RoHS Directive 2002/95/EC

Concerning for human health protection and friendly environment, we assure that our products falling under RoHS Directive regulations, regarding the restriction of the use of hazardous substances in electrical and electronic equipment, were designed and manufactured in compliance with mentioned regulation. Simultaneously, we claim that our products were tested and do not contain hazardous substances exceeding limits which could have negative impact on human health or natural environment.

Information

The device, as a part of professional CCTV system used for surveillance and control, is not designed for self installation in households by individuals without technical knowledge.

The manufacturer is not responsible for defects and damages resulted from improper or inconsistent with user's manual installation of the device in the system.

IMPORTANT SAFEGUARDS AND WARNINGS

ATTENTION!

PRIOR TO UNDERTAKING ANY ACTION THAT IS NOT PROVISIONED FOR THE GIVEN PRODUCT IN ITS USER'S MANUAL AND OTHER DOCUMENTS DELIVERED WITH THE PRODUCT, OR THAT ARISES FROM THE NORMAL APPLICATION OF THE PRODUCT, ITS MANUFACTURER MUST BE CONTACTED OR THE RESPONSIBILITY OF THE MANUFACTURER FOR THE RESULTS OF SUCH AN ACTION SHALL BE EXCLUDED.

1. The installation of this device should be made by a qualified service person or a professional safety system installer.
2. Device mustn't be placed in places where ventilating holes are partially or fully covered.
3. User's interference inside the device is not allowed and is unnecessary as it does not have any systems which require adjusting or which are suitable for self-repair. You mustn't dismantle the recorder or remove any single fastening screws. If any repairs are necessary contact the service. The device must be take care of and protected against any mechanical damage.
4. The device has to be protected against humidity and dust. In case the recorder had a contact with water react immediately: switch off the power supply and contact the authorised Novus service. If the device gets dirty it might get damaged or electrocute someone.
5. The device can only be cleaned with a damp cloth after the power supply has been switched off. Avoid strong detergents (liquids and sprays). Mild detergents can be used if the recorder becomes very dirty.
6. Power supply unit cords and signal cords should be laid in a way that eliminates the risk of mechanical damage; special attention should be paid to the plug. Be careful not to overload sockets and extension cords so that there is no fire.
7. To avoid devices's damage vision and control signals should be equipped with systems protecting against disturbances, over voltage and atmospheric discharge that are in compliance with Polish regulations. It is also advised to use ground loop isolators.
8. The device mustn't be used in conditions which do not fulfil operating requirements as far as power supply, relative humidity or air temperature are concerned.
9. You cannot allow any metal objects get inside the recorder. It might cause serious damage. If a metal object gets inside the device contact the authorised Novus service immediately.
10. The manufacturer does not bear responsibility for damage or loss of data stored on HDDs or other media occurred during the usage of the product.

Attention!

Technical changes reserved without prior notice and printing errors possible.

FOREWORD INFORMATION

1. FOREWORD INFORMATION

1.1. Main characteristics

- Quadruplex: simultaneous recording, live monitoring, playback or backup and networking
- Linux-based operating system
- Real-time display
- 1080p HDMI socket
- Recording speed up to 25 FPS per channel
- H.264 compression
- Recording resolution: 2048x1536, 1920x 1080, 1280 x 720, 960x576, 720x576, 720 x 288, 360 x288
- NDR-BA6104 - 1 video and audio channel for NOVUS IP 3000 series camera with recording speed up to 12 fps for 1280x720 resolution. Supported resolution up to 1920x1080*
- NDR-BA6208, -4 video and audio channels for NOVUS IP 3000 series cameras with recording speed up to 25 fps for 1280x720 resolution. Supported resolution up to 1920x1080*
- NDR-BA6416, -8 video and audio channels for NOVUS IP 3000 series cameras with recording speed up to 25 fps for 1920x1080 resolution. Supported resolution up to 2048x1536*
- Advanced schedule recording & motion detection functions
- Pre-alarm & post-alarm functions
- Audio recording
- PTZ control directly from the device or via the network
- Control protocols: N-Control, Pelco-D, Pelco-P and other
- Supports remote control by NV-KBD70,NV-KBD50 and NV-KBD30 keyboards
- Supports up to 2 SATA HDDs (for NDR-BA6416 and NDR-BA6208) or 1 SATA HDD (for NDR-BA6104)
- S.M.A.R.T function
- Backup onto USB Flash Memory through USB port & via the network
- Backup as *.AVI files
- Advanced search of recorded images (by time or event)
- Networking (live monitoring, playback, archiving & alarm event e-mail notification, changing DVR's settings via the IE web browser)
- Dual stream; two independent network streams (SUBSTREAM and MASTERSTREAM) for each channel
- Software: CMS application for remote administration, live monitoring and recorded data search, NMS for live monitoring ,recorded data search and integration with NOVUS IP cameras.
- User friendly, multi-lingual graphical user interface
- Mobile platforms supported
- Mask function
- Event log
- Snapshot function exporting current frame to the .jpg file
- Supports settings import/export
- IP addresses filtering function
- PC mouse control (in-set included)
- 12 VDC (100 ~ 240 VAC/12 VDC PSU in-set included)

* Support for IP cameras is available in recorders with firmware 3.4.3

FOREWORD INFORMATION

1.2.NDR-BA6104, NDR-BA6208 and NDR-BA6416 recorders technical data.

Model	NDR-BA6104	NDR-BA6208	NDR-BA6416
Operation Mode	Quadrupleks		
Operating System	Linux		
Video Input	4 x BNC	8 x BNC	16 x BNC
Network cameras	Up to 1 channel 1920x1080 (video + audio)*	Up to 4 channel 1920x1080 (video + audio)*	Up to 8 channel 2048x1536 (video + audio)*
Video Output	Main (split screen, full screen, sequence): 1 x BNC, 1 x VGA, 1 x HDMI	Main (split screen, full screen, sequence): 1 x BNC, 1 x VGA, 1 x HDMI Spot (full screen, sequence): 1 x BNC	
Alarm Input	4	8	16
Alarm Output	1 (relay)		
Audio Input	4		
Audio output	1		
Analog Recording speed	Up to 100 fps (960 x 576)	Up to 200 fps (960 x 576)	Up to 400 fps (960 x 576)
IP Recording speed	Up to 6 fps (1920 x 1080)**, 12 fps (1280 x 720)**	Up to 48 fps (1920 x 1080)**, 100 fps (1280 x 720)**	Up to 144 (2048x1536)**, 200 fps (1920 x 1080)**, 200 fps (1280 x 720)**
IP Stream size	Up to 4 Mb/s for the system	Up to 24 Mb/s for the system	Up to 32 Mb/s for the system
Compression	H.264		
Recording Resolution	Up to 1920x1080		Up to 2048 x1536
Recording Mode	Time-lapse, Motion detection, Schedule	Time-lapse, Event Alarm, Motion detection, Schedule	
Display Speed	Up to 100 fps (real time)	Up to 200 fps (real time)	Up to 400 fps (real time)
Display Screen	1, 4, sequence, digital zoom of a selected screen area: 4x	1, 4, 6, 8, 9, 16, 1+5, 1+7, sequence, digital zoom of a selected screen area: 4x	1, 4, 6, 8, 16, 25, 1+5, 1+7,, 1+12, sequence, digital zoom of a selected screen area: 4x
Motion Detection	22 x 15 grid, with sensitivity defined individually for each channel		
Video Loss Detection	Yes		
Schedule Recording	individual settings for: each day, each camera, possibility of combining individual recording modes		
Recorded Data Search	By date/time, events (Alarm, Motion detection)		
Event History Log	Yes		
Time Synchronization	Automatic time synchronization with NTP server		
HDD	Supports 1 HDD SATA	Supports up to 2 HDD SATA	
Backup	HDD or USB Flash Memory through USB port, through the network	DVD (option), HDD or USB Flash Memory through USB port, through the network,	
External Ports	1 x Ethernet - RJ-45 interface, 10/100 Mbit/s, 2 x USB 2.0 - for Flash Memory and PC mouse, 1 x RS-485 - for PTZ cameras or PTZ keyboard		
PTZ Control	Directly from the device or via the network		
Protocol	N-Control, Pelco-D, Pelco-P and others		
Control	Front panel, NV-KBD70, NV-KBD50 and NV-KBD30 keyboards, IR remote control Network, USB PC mouse (included)	Front panel, NV-KBD70, NV-KBD50 and NV-KBD30 keyboards, IR remote control (included), Network, USB PC mouse (included)	
Menu	Multi-lingual On Screen Display (OSD)		
Software	CMS, Internet Explorer, Super Live Pro (iPhone, Android)		
User Authorization	Creation of user accounts with varying privileges, password protection		
Power Supply	12 VDC (100~240 VAC/12 VDC PSU in-set included)		
Power Consumption	max. 25 W with HDD	max. 40 W with 2 HDDs	
Operating Temperature	0°C ~ 50°C		
Relative Humidity	10% ~ 90% (non-condensing)		
Dimensions (mm)	300 (W) x 65 (H) x 270 (D)	430 (W) x 65 (H) x 300 (D)	430 (W) x 65 (H) x 390 (D)
Weight	2 kg (without HDD)	4 kg (without HDD)	

*DVR is compatible with NOVUS IP 3000 series cameras.

** During IP channel playback the number fps per IP channels fps is reduced by half

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FOREWORD INFORMATION

1.3. Package contents

Unpack the device carefully. After unpacking, please ensure that package contains the following items:



NDR-BAxxxx DVR



IR remote control
(NDR-BA6208,
NDR-BA6416)



Power supply
12VDC



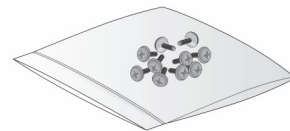
Power cord



Mouse



HDD SATA
cables



Screws



Short user's
manual

If any of the elements has been damaged during transport, pack all the elements back into the original packaging and contact your supplier.

WARNING!

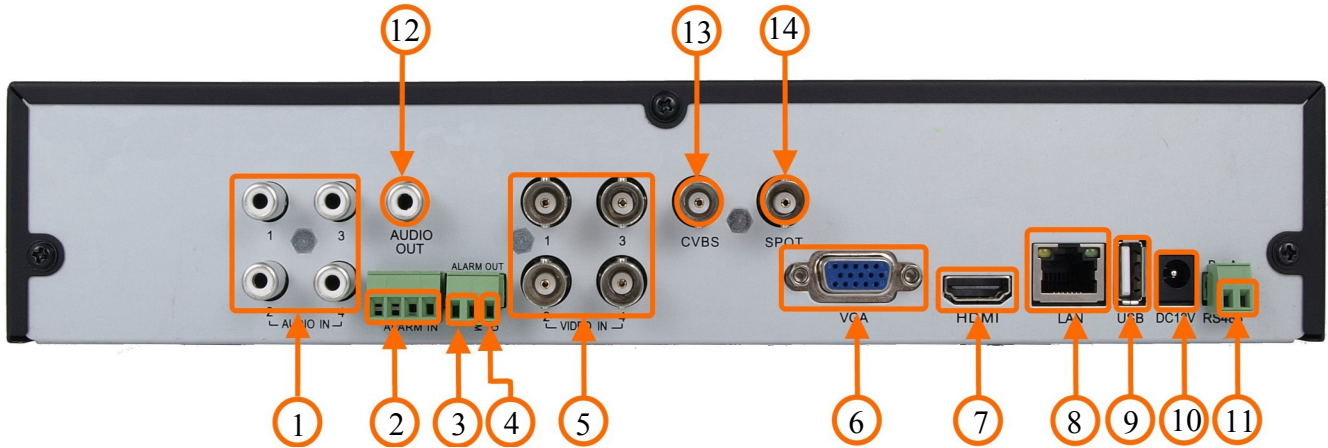
If the device was brought from a location with lower temperature, please wait until it reaches the temperature of location it is currently in. Turning on the device immediately after bringing it from a location with lower ambient temperature is forbidden, as the condensing water vapour may cause short-circuits and damage the device as a result.

Before starting the device familiarize yourself with the description and the role of particular inputs, outputs and adjusting elements that the device is equipped with.

STARTING THE DEVICE

2. STARTING THE DEVICE

2.1. Electrical connection and other rear panel elements of NDR-BA6104 DVR



- 1.AUDIO IN:** Audio (mono) inputs for connecting microphones with pre-amplifiers
- 2.ALARM IN:** Alarm inputs, which may be set either as normally open (N.O.) or normally closed (N.C.). In order to detect the alarm, signal should last for minimum 0.5sec .
- 3.ALARM OUT:** Alarm relay output (NO, COM), max. load capacity of the outputs is 0,5A/125VAC and 1A/30VDC.
- 4.GND:** Grounding
- 5.VIDEO IN:** Video inputs for connecting video signal sources to the DVR.
- 6.VGA:** Main monitor connector, VGA type. Please use signal cable provided with the monitor when using aforementioned connection type.
- 7.HDMI MONITOR:** Main monitor connectors, use the HDMI cable to connect to a 1080p 60Hz (1920x1080) monitor.
- 8.LAN:** RJ-45 connector port for connecting to the local network and internet.
- 9.USB:** USB 2.0 port for external Flash memory and mouse connection.
- 10. DC12V:** 12V DC power socket for connecting included power adaptor.
- 11. RS-485:** One RS-485 bus port for connecting external keyboard or PTZ cameras (RS485: A+, B-)

Note: Only one of the devices may be connected at a time.

12. AUDIO OUT: Audio out port for connecting local speaker with pre-amplifier.

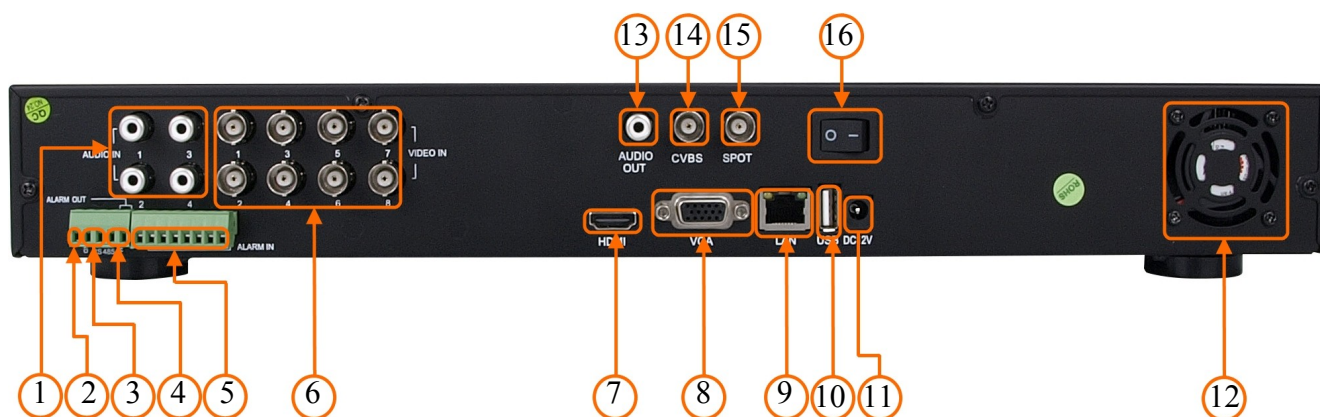
13. VIDEO OUT: Main monitor connector BNC.

14. SPOT OUT: SPOT monitor output, allowing to display any camera/sequence

Note: OSD menu will be displayed on the VGA monitor by default. To switch the OSD display from VGA to BNC, please press and hold the ESC button for 5sec.

STARTING THE DEVICE

2.2. Electrical connection and other rear panel elements of NDR-BA6208 DVR.



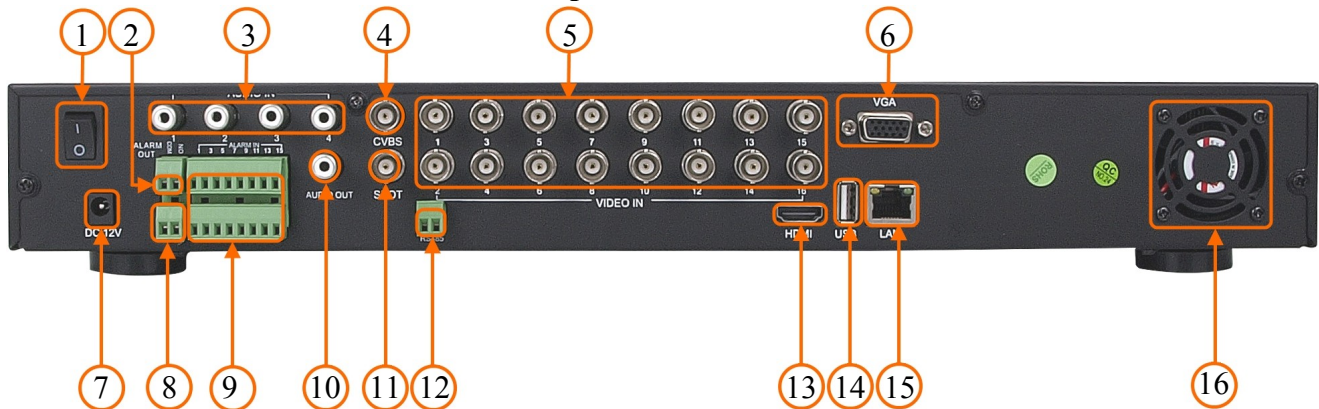
- 1. AUDIO IN:** Audio (mono) inputs for connecting microphones with pre-amplifiers
- 2. GND:** Grounding
- 3. RS-485:** RS-485 bus port for connecting external keyboard or PTZ cameras (K/D: A+, B-)
- 4. ALARM OUT:** Alarm relay output (NO, COM), max. load capacity of the outputs is 0,5A/125VAC and 1A/30VDC.
- 5. ALARM IN:** 16 alarm inputs, which may be set either as normally open (N.O.) or normally closed (N.C.). In order to detect the alarm, signal should last for minimum 0.5sec .
- 6. VIDEO IN:** 8 video inputs for connecting video signal sources to the DVR.
- 7. HDMI MONITOR:** Main monitor connectors, use the HDMI cable to connect to a 1080p 60Hz (1920x1080) monitor.
- 8. VGA:** Main monitor connector, VGA type. Please use signal cable provided with the monitor when using aforementioned connection type.
- 9. LAN:** RJ-45 connector port for connecting to the local network and internet.
- 10. USB:** USB 2.0 port for external Flash memory and mouse connection.
- 11.DC12V:** 12V DC power socket for connecting included power adaptor.
- 12.FAN:** Cooling fan, do not cover!
- 13.AUDIO OUT:** Audio out port for connecting local speaker with pre-amplifier.
- 14.VIDEO OUT:** Main monitor connectors,
- 15.SPOT OUT:** SPOT monitor output, allowing to display any camera/sequence of cameras full screen.
- 16.POWER SWITCH:** DVR power switch.

Note:

OSD menu will be displayed on the VGA monitor by default. To switch the OSD display from VGA to HDMI or BNC, please press and hold the ESC button for 5sec.

STARTING THE DEVICE

2.3. Electrical connection and other rear panel elements of NDR-BA6416 DVR.



- 1. POWER SWITCH:** DVR power switch.
- 2. ALARM OUT:** Alarm relay output (NO, COM), max. load capacity of the outputs is 0,5A/125VAC and 1A/30VDC.
- 3. AUDIO IN:** Audio (mono) inputs for connecting microphones with pre-amplifiers
- 4. VIDEO OUT:** Main monitor connector.
- 5. VIDEO IN:** 16 video inputs for connecting video signal sources to the DVR.
- 6. VGA:** Main monitor connector, VGA type. Please use signal cable provided with the monitor when using aforementioned connection type.
- 7. DC12V:** 12V DC power socket for connecting included power adaptor.
- 8. GND:** Grounding
- 9. ALARM IN:** 16 alarm inputs, which may be set either as normally open (N.O.) or normally closed (N.C.). In order to detect the alarm, signal should last for minimum 0.5sec .
- 10.AUDIO OUT:** Audio out port for connecting local speaker with pre-amplifier.
- 11.SPOT OUT:** SPOT monitor output, allowing to display any camera/sequence of cameras full screen.
- 12.RS-485:** RS-485 bus port for connecting external keyboard or PTZ cameras (K/D: A+, B-)
- 13.HDMI MONITOR:** Main monitor connectors, use the HDMI cable to connect to a 1080p 60Hz (1920x1080) monitor.
- 14.USB:** USB 2.0 port for external Flash memory and mouse connection.
- 15.LAN:** RJ-45 connector port for connecting to the local network and internet.
- 16.FAN:** Cooling fan, do not cover!

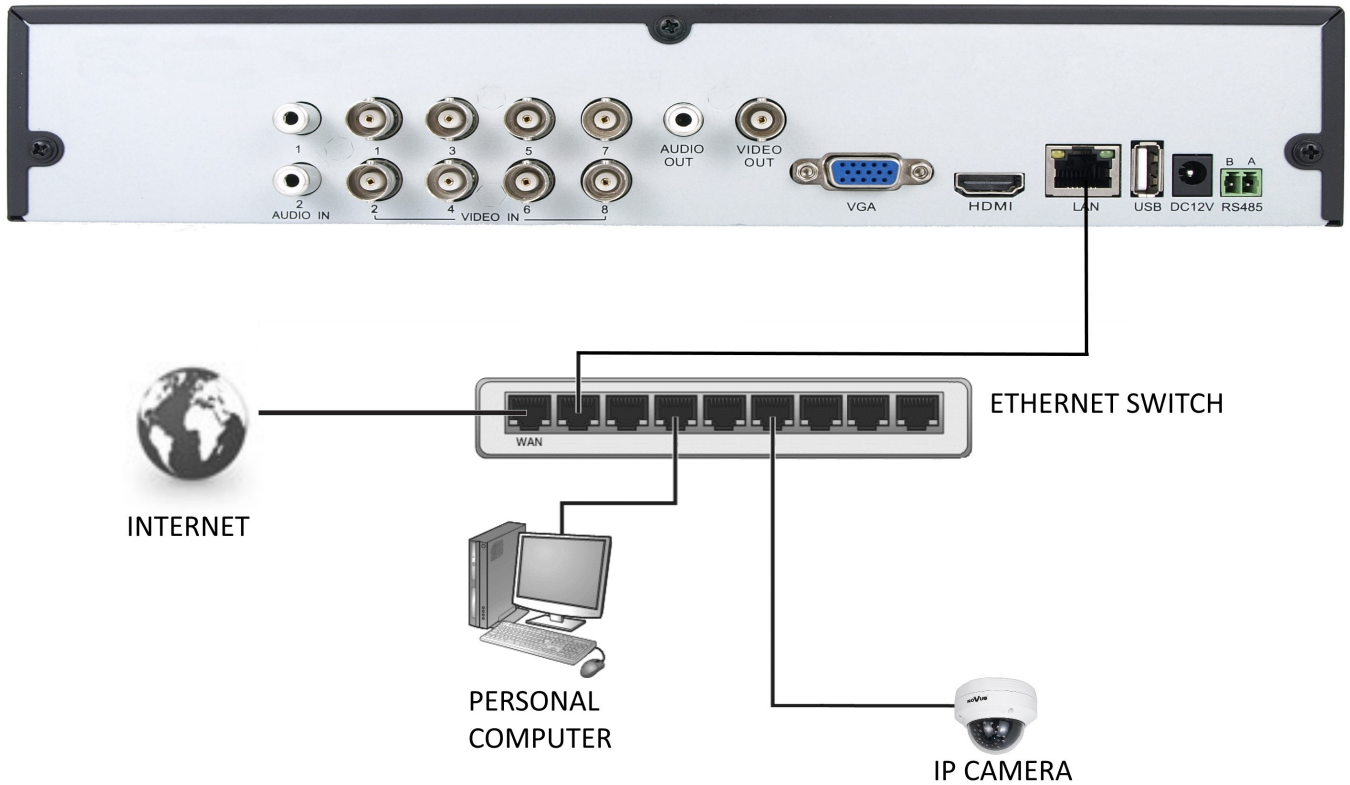
Note:

OSD menu will be displayed on the VGA monitor by default. To switch the OSD display from VGA to HDMI or BNC, please press and hold the ESC button for 5sec.

STARTING THE DEVICE

2.4. Network wiring

Although connection DVR to one IP camera with straight Ethernet cable is possible we strongly advise to use additional network switch. By using Ethernet cables connect the cameras and NVR to the switch, like on image below. Please notice that the Ethernet connection is effective within 100 meter distance.



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STARTING THE DEVICE

2.5. HDD mounting

NDR-BA6104 support up to 1 internal SATA HDD. NDR-BA6416 DVR and NDR-BA6208 supports up to 2 internal SATA HDDs.

WARNING!

In order to find information regarding the compatible models of HDDs and their maximum capacities, please contact Novus distributor or check the information presented at www.novuscctv.com. AAT HOLDING Company is not responsible for any problems resulting from using not recommended hard drives.

The list of compatible HDDs contains all the HDDs that can be used with a given DVR including HDDs designed for office use - so called desktop disks. However, due to the fact that reliability of the recording process and data safety are paramount factors of any CCTV system, we strongly advise to use HDDs designed for continuous (24/7) operation.

In order to mount HDD, please unscrew the screws as depicted below, then please remove the DVR's cover first by sliding into the rear-end and then lifting it.

NDR-BA6104:



NDR-BA6416,NDR-BA6208:



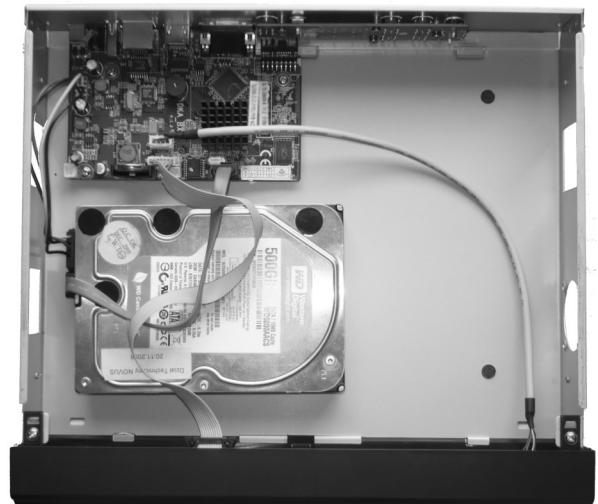
WARNING!

Prior to removing cover of the NVR please unplug the power cord first! If the NVR is powered up, please shutdown the NVR's system using LOGOUT & SHUTDOWN menu, prior to unplugging the power.

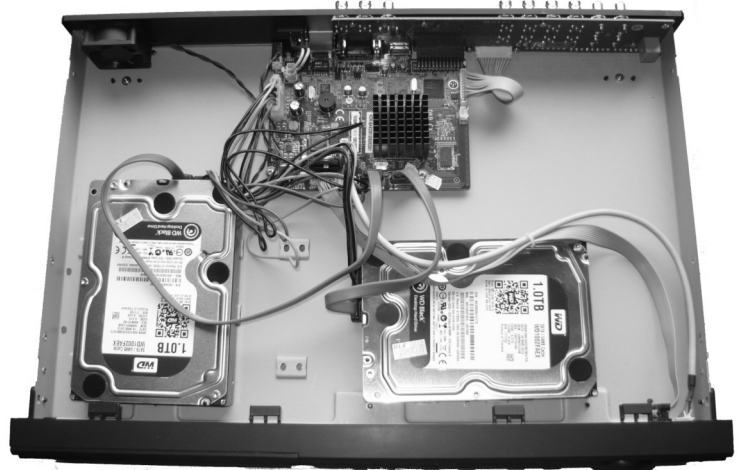
STARTING THE DEVICE

After removing top cover of the DVR, please mount the HDD to the DVR bottom using included screws (4 pieces for each HDD), and connect power and signal cables.

NDR-BA6104



NDR-BA6416 and NDR-BA6208 :



After connecting an HDD(s), please put the top cover onto the DVR and turn the device on in order to check the operation of particular components and to format the HDDs.

WARNING!

You need to format disks if they were used in a different device. All data saved on HDD prior to format will be lost. Mounted HDDs should be the same model.

STARTING THE DEVICE

Analog cameras recording capacity table

DVR	Resolution	Video Quality	Bit Rate (Mbps)	Used Space (MB/h)
NDR-BA6104 NDR-BA6208 NDR-BA6416	WD1 (960x576)	Highest	2.5	1125
		Higher	2	900
		Medium	1.75	788
		Low	1.5	675
		Lower	1	450
		Lowest	0.768	338

The size of the IP camera recording depends on the size of the bitrate set in the camera. The table below shows an example of bitrate for IP cameras

DVR	Resolution	Bit Rate (kbps)	Used Space (MB/h)
NDR-BA6104 NDR-BA6208 NDR-BA6416	720P (1280x720), 1080P (1920x1080),	6144	2700
		4096	1800
		2048	900
		1024	450

“Total Recording capacity” = “Used space per hour (MB/h)” × “recording time” × “channel numbers”

For instance: computing space for 4 x cameras that are to record in WD1 with Lowest video quality, and 1 x 720P IP camera with bitrate set to 1024 kbps and 30-day recording capacity requires the calculation below:

Total Recoding capacity = 338 (MB/h) X 24(hours/day) X30(days) X4(channels) + 450 (MB/h) X 24 (hours/day) X30(days) = 648000MB + 324000 MB = 972000 ~ 980 GB

2.6. Turning on the power

Connect power cord to the DVR to start the unit. Initialization lasts for approximately 60 seconds. During this time executing any device functions and pressing any buttons is prohibited. To shut the device down please use its menu.

Note:

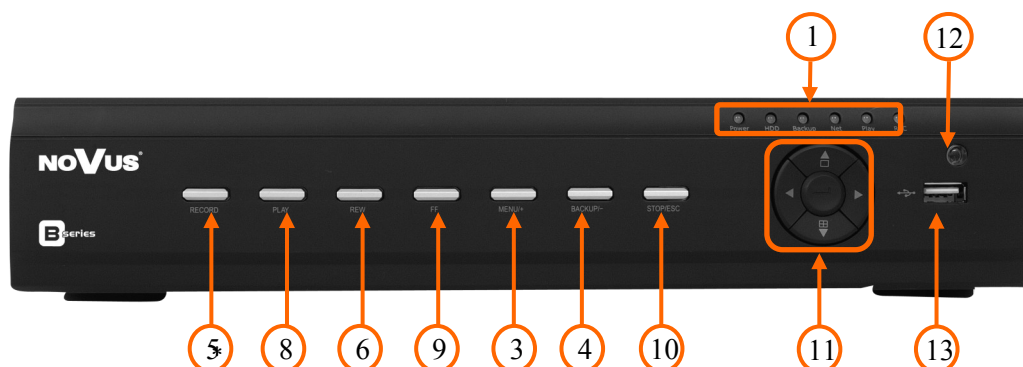
OSD menu will be displayed on the VGA monitor default. To switch the OSD display from BNC to VGA, please press and hold the ESC button.

RECORDER'S OPERATION

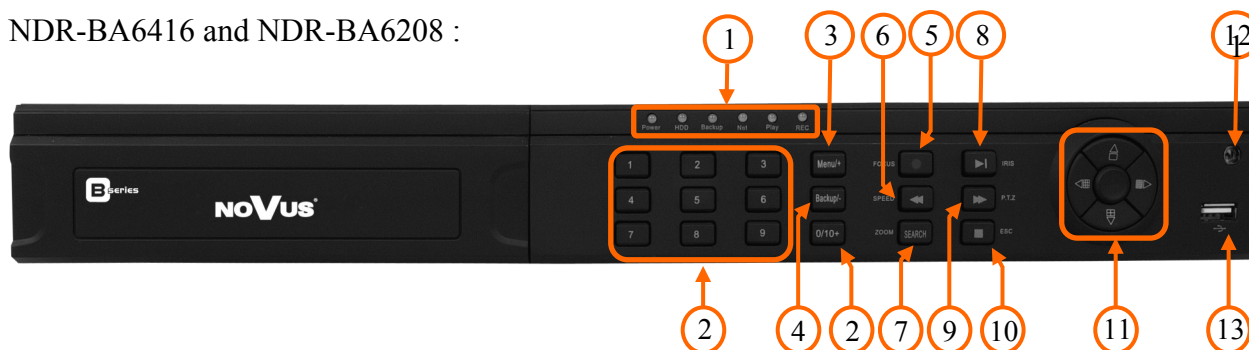
3. RECORDER'S OPERATION

3.1. Front panel description

NDR-BA6104 :



NDR-BA6416 and NDR-BA6208 :



1. LED:

LEDs indicating DVR's status:

- **Power** - power supply indicator
- **HDD** - HDD operation indicator
- **Backup** - archiving data
- **Net** - network operation
- **Play** - playback
- **REC** - recording

2. NUMERICAL BUTTONS: channel selection buttons. Pressing them displays a picture from a video channel currently associated with that button. In order to select channels 10 ~ 16 please press "10+" and 0~6 next.

3. MENU

pressing the MENU button enters recorder's settings menu (after correct login). Menu functions are detailed in the following chapters of this manual.

In PTZ control mode button is used to increase value of a particular field.

4. BACKUP

pressing the button allows you to enter the backup menu.

In PTZ control mode button is used to decrease value.

5. REC

pressing the REC button starts recoding of all camera channels. Enabling panic starts simultaneous recording on all camera channels.

In PTZ control mode button is used for FOCUS adjustment.

6. REW

Consecutive presses in playback mode switch playback speed between RWx8, RWx16, RWx32, FFx1.

7. SEARCH

pressing this button allows you to enter the search playback menu.

RECORDER'S OPERATION

-
-
- | | |
|--------------------------------|--|
| 8. PLAY / PAUSE | pressing the PLAY during “live” mode enters playback mode. Subsequent pressing pauses the playback.
In PTZ control mode button is used for IRIS adjustment. |
| 9. FF | Consecutive presses in playback mode switch playback speed between FFx1, FFx2, FFx4, FFx8, FFx16, FFx1/4, FFx1/2.
In PTZ control mode button is used for SPEED adjustment. |
| 10. ESC / STOP | Pressing the button either exits menu or moves to a higher-level menu. When pressed during playback, leaves playback mode. Holding the ESC switches OSD menu displaying between VGA and BNC outputs. |
| 11. NAVIGATION BUTTONS: | navigate through DVR menu and change values of particular parameters |
| 12. IR DETECTOR | IR remote controller receiver. Do not cover. |
| 13. USB | USB 2.0 port for backing up the recordings either to external HDDs or Flash drives. Length of connecting cable should not exceed 30 cm; |

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3.2. Controlling via USB mouse

DVR features the possibility of controlling the DVR using an USB mouse connected to the USB port. Functions described below are available in „live” mode.

Double-clicking on any camera in 2x2, 3x3 and similar display modes switches the display to full-screen mode. Subsequent double-click returns to previous display mode.

During configuration, selection of particular options is performed via the left mouse button.

Depending on DVR operating mode, pressing right mouse button hides current menu or returns to previous menu.

3.3. Controlling via IR remote controller

An IR remote controller is shipped together with the NDR-BA6416 and NDR-BA6208 DVRs. For NDR-6104 DVR NV-RCDVRB-II remote controller can be bought separately. Range is dependent on the battery level and varies from a few to a few tens of meters.

If an ID number of the remote controller equals 0 any DVR can be controlled. If two or more DVRs utilize same ID they will be controlled simultaneously.

To change ID of the DVR please enter the *MAIN MENU / SETUP / BASIC / SYSTEM* and enter *Device ID* ranging from 0 to 65535. Current ID number may be checked under the *MAIN MENU / INFORMATION / SYSTEM*.

To change current ID number of the remote (Note available in NV-RCDVRB-II, ID is fixed to 0):




- point the remote in general direction of the DVR,
- select and press the “8” channel selection button twice
- set the ID of DVR ranging from 0 (default) to 65535
- press ENTER on the remote to confirm changes.

RECORDER'S OPERATION

Note:

If remote controller is not used for a some time, its ID will be automatically changed to 0.

Description of IR remote controller function:

	Turns the DVR off
REC	Enable manual records
0-9, -/--	Selects camera or enters numbers
MULTI	Changes display mode.
NEXT	Switth to next split screen mode
SEQ	Starts sequence display
AUDIO	Audio menu
SWITCH	Switth Main Screen between BNC, VGA or HDMI
	Navigates around the DVR menu or controls PTZ camera movements
ENTER	Confirm the choise or setup
MENU	DVR menu
EXIT	Exit current interface
PTZ, FOCUS, IRIS, ZOOM	PTZ camera control
PRESET, CRUISE, TRACK	Run PTZ camera action
WIPER, LIGHT	Enable PTZ camera equipment
CLEAR	Back to previous interface
INFO	Displays information menu
	Playback navigation, changing direction or playback speed
SNAP	Snaphshoot
SEARCH	Starts search
CUT	Set up markers for Backup
BACKUP	Starts Backup
ZOOM	Digital zoom of image
PIP	Starts picture in picture mode



RECORDER'S OPERATION

NV-RCDVRB-II remote controller can be bought separately as accessory for NDR-BA6104 DVR

Remote controller ID is fixed to 0.

Description of IR remote controller function:

REC	Enable manual records
SEARCH	Starts search
MENU	DVR menu
EXIT	Exit current interface
ENTER	Confirm the choice or setup
◀▶▲▼	Navigates around the DVR menu or controls PTZ camera movements
ZOOM	Digital zoom of image
PIP	Starts picture in picture mode
▶ ■◀▶▶◀◀▶▶▶▶▶▶▶▶	Play/Pause/Stop/Previous Section/Next Section/Rewind/Fast Forward
MULTI	Changes display mode.
NEXT	Switch to next split screen mode
SEQ	Starts sequence display
INFO	Displays information menu



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RECORDER'S MENU

4. RECORDER'S MENU

DVR features multi-layered, on-screen displayed menu used for setting the device up.

Multi-lingual OSD is displayed using one of the following languages: English, Polish, Spanish, Slovak, Czech, Turkish, Dutch, Russian, Italian, French, Greek and other.

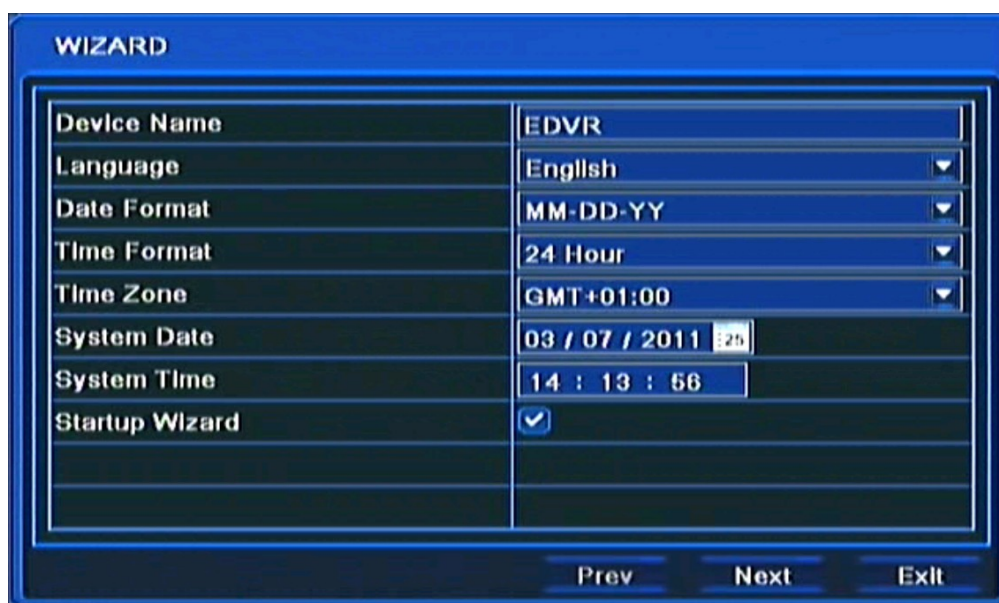
In order to access the DVR settings menu, please press the *MENU* button or select *MENU* from additional menu called by pressing the right mouse button..

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4.1. Startup wizard

Prior to using DVR for the first time, initial setup is strongly advised. That includes setting parameters such as time and date, language version, camera, audio, remote control, record mode, network and password.

A wizard is displayed after device start-up, in order to facilitate setup:



Navigate around the menu using arrow buttons or USB mouse.

To confirm your choice, to enter sub-menus and edit value fields use ENTER button or left mouse click.

To leave setup mode or to leave sub-menus/value editing use the *EXIT* button or right mouse click.

Click the Exit button or press the *ESC* button on the front panel to escape from a start up menu wizard. Go to *MAIN MENU / SETUP / BASIC / SYSTEM* menu and check off Startup Wizard if you don't want to show the wizard menu next time system is loaded.

Setting Device, Language, Date time format, Time Zone and Date and Time other settings. Click *Next* button to display the next setup window.

RECORDER'S MENU

The screenshot shows a 'WIZARD' window for network configuration. It contains several input fields and a checkbox. The fields are: HTTP Port (80), Server Port (6036), Obtain an IP address automatically (unchecked), IP Address (010.011.005.028), Subnet Mask (255.255.000.000), Gateway (010.011.021.253), Preferred DNS Server (194.204.159.001), and Alternate DNS Server (000.000.000.000). At the bottom, there are three buttons: Prev, Next, and Exit.

HTTP Port	80
Server Port	6036
Obtain an IP address automatically	<input type="checkbox"/>
IP Address	010.011.005.028
Subnet Mask	255.255.000.000
Gateway	010.011.021.253
Preferred DNS Server	194.204.159.001
Alternate DNS Server	000.000.000.000

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This window allows user to configure network settings such as; HTTP Port, Server Port, IP Address, Subnet Mask, Gateway, Preferred and Alternate DDNS Server. Alternatively, select the Obtain an IP address automatically to get address from DHCP Server.

Click the *Next* button to display next setup window, depicted below:

The screenshot shows a 'WIZARD' window for video recording configuration. It features a table with columns for CH, Resolution, fps, and Quality. Below the table, there is a summary line 'All Remaining : 8 (CIF), 2 (D1)' and a row for overall settings with a checkbox, Resolution (CIF), fps (25), and Quality (Higher). At the bottom, there are three buttons: Prev, Next, and Exit.

CH	Resolution	fps	Quality
1	D1	6	Higher
2	D1	6	Higher
3	D1	6	Higher
4	D1	6	Higher
5	D1	6	Higher
6	D1	6	Higher
7	D1	6	Higher

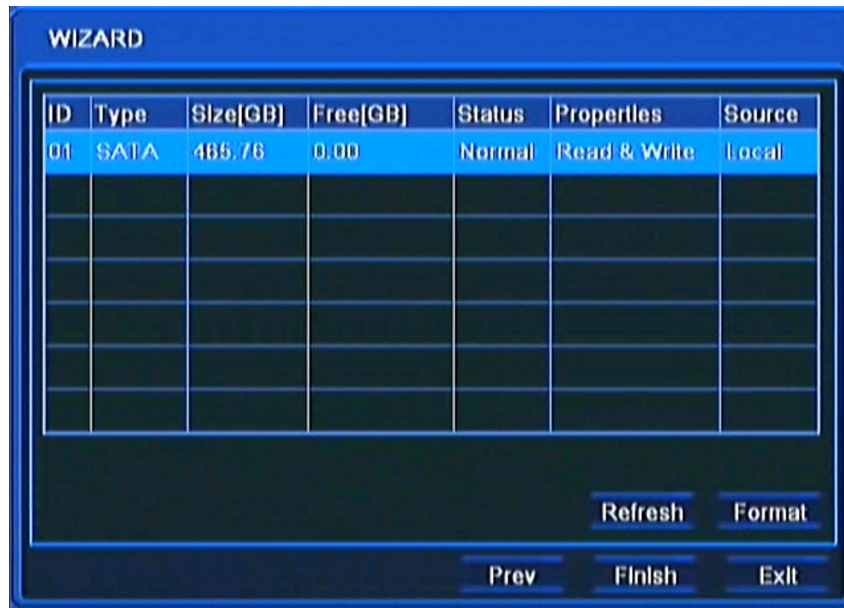
All Remaining : 8 (CIF), 2 (D1).

<input type="checkbox"/>	CIF	25	Higher
--------------------------	-----	----	--------

In this window you can setup recording *Resolution* for all channels (WD1 / D1 / HD1(2 CIF) / CIF resolutions available), recording speed (*FPS*) and *Quality* for each channel separately. *Remaining FPS* displayed below informs about available framerate.

After setup, click the *NEXT* button to go to next setup window.

RECORDER'S MENU



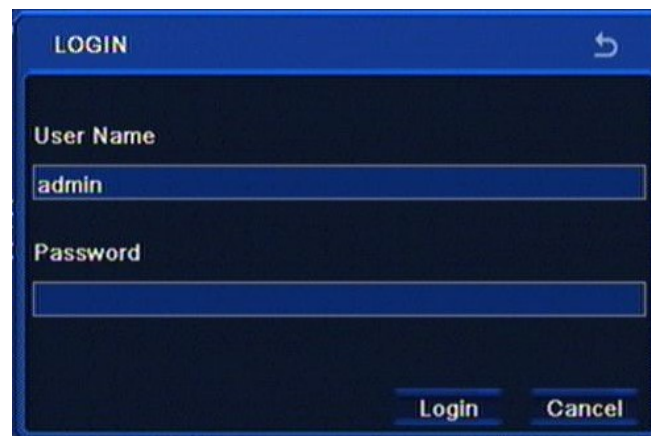
For proper recorder operation, please format the installed HDD using this window.

Additional information like HDD Size, Free space etc. are also available here.

When HDD formatting is complete, click the Finish button to end setup wizard and open the LOGIN window.

4.2. Menu operating

To navigate or access DVR menus, you should log in first. The Login screen, depicted below, appears:



Type in the username and password by pressing the appropriate combination of channel number buttons or using a mouse and the virtual keyboard, then confirm it with *LOGIN* button.

Default password of admin account is 123456. For safety reasons, it is recommended to change default user name and password.

Press the *Cancel* button to exit the LOGIN window. Cameras are then displayed on the screen but no access to the DVR setup menu is given.

RECORDER'S MENU

To disable LOGIN window display during next start-up, please go to the MAIN MENU / BASIC / SYSTEM and check off the Password Check.

To prevent unauthorized access, it is recommended to log out when you leave the screen. In the monitoring screen, click *MENU* in the bottom left corner and select *LOG OFF*.

To shutdown NVR you should click *MENU* in the bottom left corner of the screen and press SHUTDOWN, or press the POWER button on the remote control.

Detailed information about configuration of recorders available in full version of user's manual located on the attached CD-ROM and at the www.novuscctv.com website

Note:

If you turn off the system in an abnormal manner such as removing the power cord while the system is in operation, the disk may acquire or increase the numbers of bad sectors, causing data loss and shortened life cycle of the disk.

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RECORDER'S MENU

4.3 Configuring IP camera channel

It's strongly advisable to configure IP camera with PC computer and check DVR network configuration before connecting camera to DVR.

To configure IP address for DVR select MAIN MENU / SETUP / NETWORK / NETWORK

If you are using DHCP sever for IP address management select *OBTAIN IP ADDRESS AUTMATICALLY* check box. If you are not using dhcp server uncheck this box

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To configure IP settings manually you use the following fields.

- IP Address - to set DVR IP address (by default 192.168.1.100)
- Subnet mask - to set IP subnet mask (by default 255.255.255.0)
- Gateway - to set gateway (by default 192.168.1.1) - not needed if DVR and camera are in the same IP network

Press *APPLY* button to save the settings.

Note :

Before configuring IP camera channel make sure that DVR and IP cameras addresses and subnet mask of the DVR and the IP cameras are in the same network

subnet (e.g. for the NVR IP address 192.168.1.100, and mask 255.255.255.0 appropriate address for the camera ranges from 192.168.1.1 to 192.168.1.254, for example 192.168.1.201). It is not allowed to set the same addresses for multiple devices

To configure IP camera channel please go to MAIN MENU / IP CAMERA and click *SEARCH* button

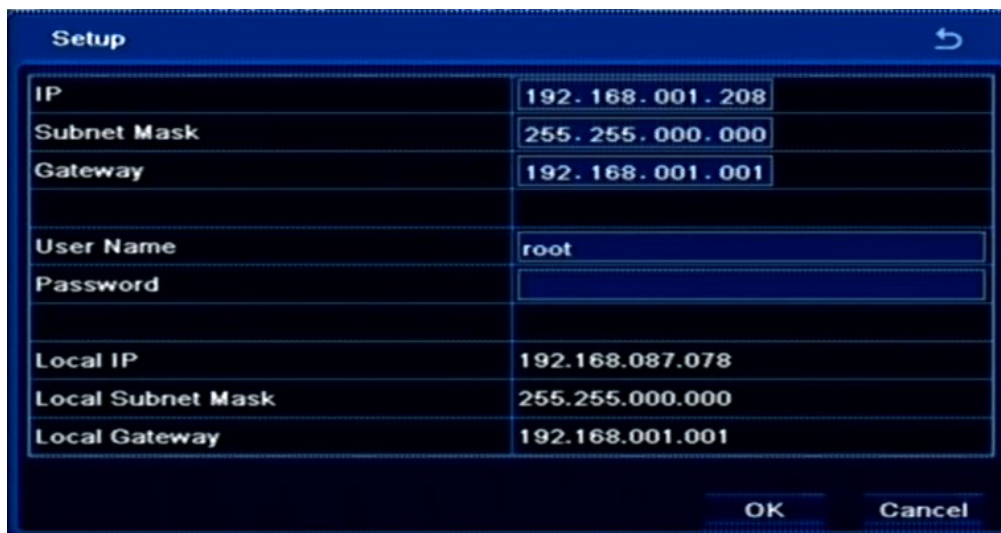


RECORDER'S MENU

DVR will display list of found cameras. To add camera select checkbox next to desired camera and press OK button. Then you should provide valid username and password to for camera. Highlight camera by clicking left muse button on camera on the list and press SETUP button.



Fill in *User Name* and *Password* fields with valid values (default user name / password for NOVUS IP cameras is root / pass) and press *OK* button.



After providing username and password press *APPLY* button to save settings for IP cannels.

To delete unwanted channel configuration highlight camera on list using left muse button and press *DELATE* button.

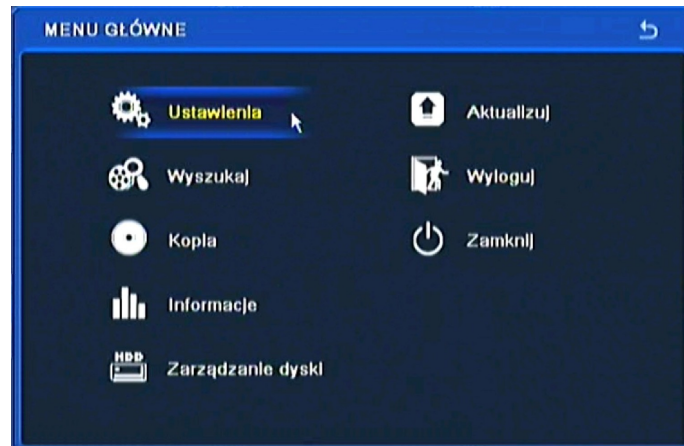
You can leave *DEVICE MANGMENT* menu with *EXIT* button . DVR will ask to save configuration changes. Press *OK* if you want to save configuration.

RECORDER'S MENU

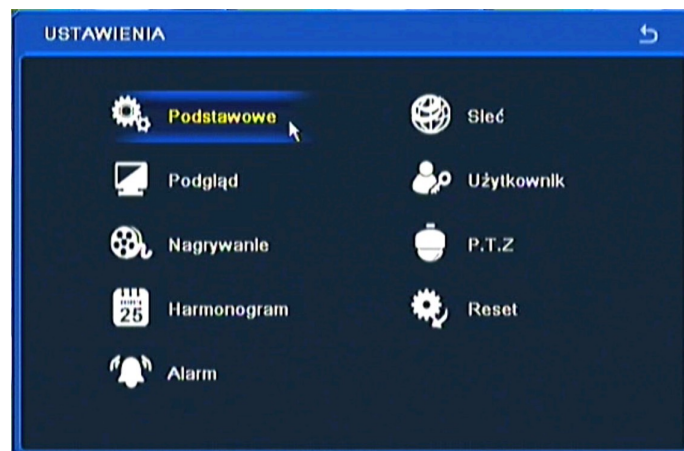
4.4. Setting English language.

The procedure presented below shows how to go back to the English language in the NOVUS DVRs menu in case of selecting any other language by mistake.

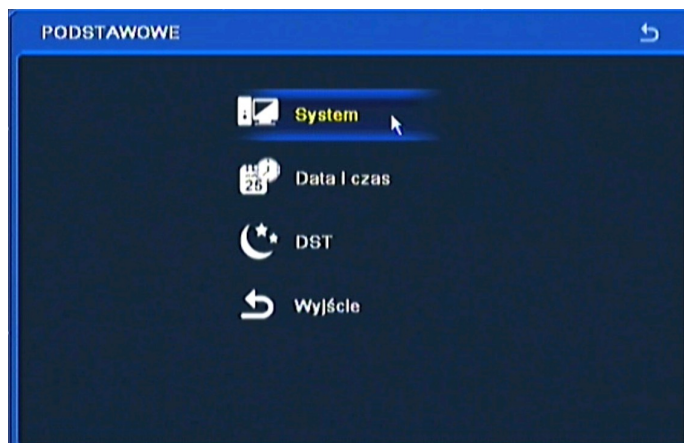
1. To open main menu press the MENU button on the DVR's front panel, and select the first position.



2. Next, select the first position.



3. Next, select the first position again.

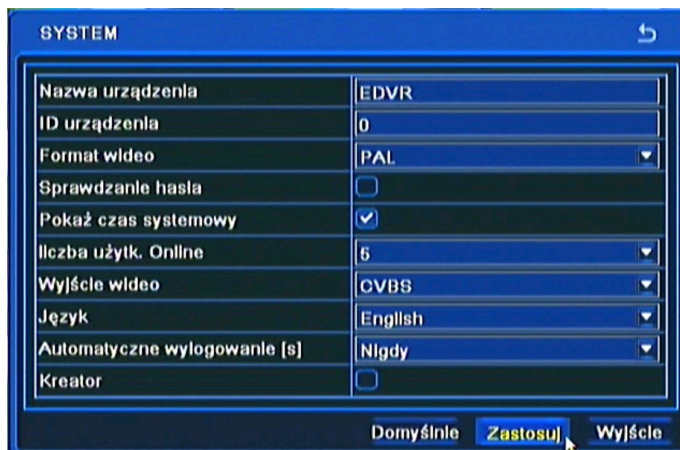


RECORDER'S MENU

4. Choose the *English* language in the 8th menu position (third from the bottom) .



5. Next, click the button in the middle, which loads a new interface language.



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