

user's manual
instrukcja obsługi



eng

pl

NV-DVR1004(S) LITE

NOVUS[®]

user's manual



eng


NV-DVR1004(S) LITE

NOVUS[®]

COMMENTS AND WARNINGS

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

CE Marking

 Our products are manufactured to comply with requirements of the 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.

eng

WEEE 2002/96/EC Directive

Information for users who want to get rid of electrical and electronic appliances



This product 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.

2002/95/EC RoHS Directive

Information concerning limitation of the use of dangerous substances in the electrical and electronic appliances.



Out of concern 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, have been designed and manufactured in compliance with the above mentioned regulation. Simultaneously, we claim that our products have been tested and do not contain hazardous substances whose exceeding limits 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 does not bear responsibility for damage or loss of data stored on HDDs or other media that occur during operation of the product.

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, the manufacturer must be contacted or the responsibility of the manufacturer for the results of such an action shall be excluded.

IMPORTANT SAFEGUARDS AND WARNINGS

ATTENTION!

THE KNOWLEDGE OF THIS USER'S MANUAL IS AN INDESPENSIBLE CONDITION OF A PROPER VIDEO SERVER OPERATING. YOU ARE KINDLY REQUESTED TO FAMILIARIZE YOURSELF WITH THIS MANUAL BEFORE STARTING THE DEVICE. THE MANUAL SHOULD BE KEPT FOR FUTURE USE.

CAUTION!

ALL REPAIRS CAN BE EXECUTED ONLY BY QUALIFIED STAFF OF THE AUTHORISED NOVUS SERVICE.

eng

1. Read, keep, and follow these instructions. All the safety and operating instructions should be read before the product is operated;
2. Heed all warnings. All warnings on the product and in the instruction manual should be adhered to;
3. Follow all the safety instructions in this manual. Improper installation and video server operation may have impact on operator's safety as well as camera operational reliability and working life;
4. All the video server installations and operations should be done according to this user's manual;
5. Unplug the unit before maintenance activities;
6. Use only the attachments / accessories specified by the manufacturer;
7. To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture as this unit is designed for indoor use only. Do not install the video server near any heat source or near water (any wet area);
8. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
9. Installation and servicing should be done only by qualified service personnel and should conform to all local codes;
10. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your location, consult your product dealer. Do not overload power supply and extension cords as this can result in a risk of fire and/or electronic shock;

TABLE OF CONTENTS

1. FOREWORD INFORMATION	7
1.1 Main characteristics	7
1.2 NV-DVR1004(S) LITE technical specification	8
2. DEVICE POWER UP	9
2.1 Preparing the equipment for operation.....	9
2.2 Electric connectors on a back panel of the NV-DVR1004(S) LITE recorder.	10
2.3 Connecting of peripheral devices	11
2.4 HDD Installation	12
2.5 Switching On/Off.....	13
3. FRONT PANEL DESCRIPTION	14
4. DVR MENU	16
4.1 System setup.....	18
4.2 Camera.....	19
4.3 Recording	20
4.4 Alarm setup	22
4.5 Schedule	23
4.6 Event List	24
4.7 HDD Management.....	25
4.8 Default setup.....	26
5. RECORDING	27
6. PLAYBACK	28
6.1 Time Search.....	28
6.2 Searching Recorded Data From The Event List	29
7. BACKUP	30
7.1. HDD backup on PC.....	31
8. REMOTE CONTROL FUNCTION	31
9. ATTACHMENT - INTERNAL HDD INSTALLING PROCEDURE	32

eng

FOREWORD INFORMATION

1. Main characteristics.

- ✍ User friendly interface;
- ✍ Immediate access to any recorded data;
- ✍ Menu access protected by password;
- ✍ M-JPEG compression algorithm with various image quality settings;
- ✍ Schedule recording with selection of mode and recording speed;
- ✍ 1 channel Audio Recording ,
- ✍ Support 1 HDD 3.5'' SATA up to 500GB capacity;
- ✍ Simultaneous real time display of all channels;
- ✍ Adjustable recording speed, up to 25 fields per second (PAL);
- ✍ Motion detection recording function;
- ✍ Files backup feature ; USB PC LINK connection;

FOREWORD INFORMATION

1.2. NV-DVR1004(S) LITE technical specification

Model	NV-DVR1004(S) LITE
Operation mode	simplex
Operating system	Linux
Video input	4 x BNC, 1Vp-p/75 Ω
Video output	1 main monitor output (BNC)
Audio Input/Output	1 x RCA / 1 x RCA
Recording resolution	640 x 272
Recording speed	max 25 fps
Compression algorithm	M-JPEG
Recording modes	scheduled, motion recording
Display speed	up to 100 images /s (live display)
Display format	1, 4
Motion detection	1 zone, adjustable sensitivity
Schedule recording	record mode selection (continuous, motion recording or no recording) for each hour of a day
Recording searching	time / date search or event search
Event log	up 64 events per HDD
Video loss detection	yes
HDD	1 HDD with SATA interface (up to 500GB)
Backup	USB PC-LINK backup by means of PC Viewer
Menu	multilingual OSD
Control	Front panel
Software	N-Tool, PC-Viewer
Password authorization	one admin password (4 digits)
Auto recovery system	hardware watchdog
Power supply	12 VDC, power supply included
Power consumption	approx. 5 W w/o HDD, approx. 30W with HDD
Operating temperature	0°C ~ +40°C;
Operating relative humidity	0%~80 (without condensation)
Dimensions (mm)	218 (W) x 44 (H) x 206 (D)
Weight	1.3 kg

eng

DEVICE POWER UP

2. DEVICE POWER UP

2.1 Preparing the equipment for operation.

Please take extra caution when unpacking the device.

Please make sure that following items are included in the package:



NV-DVR1004(S) LITE Digital
Video Recorder



Remote controller



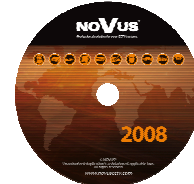
Power supply



User's Manual



USB PC-LINK cable



CD containing manual
and software

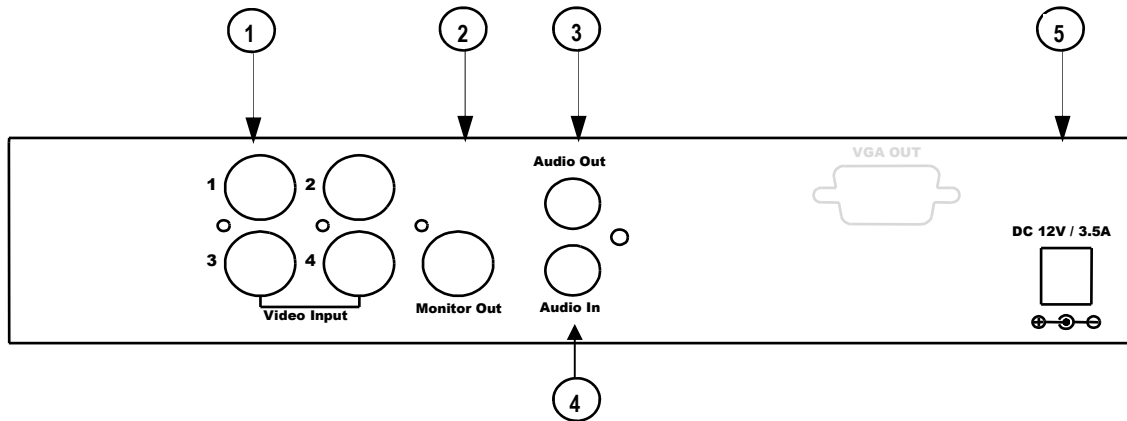
If the equipment has been damaged during transport, pack all the elements back into the original packaging and contact the supplier for future assistance.

ATTENTION!

If the device has been taken from a room with lower temperature you have to wait until it warms up to the temperature in the room where it will work. You mustn't switch the device on after it has been taken from a colder room. Condensation of steam, present in the air, might cause short circuit and, consequently, damage the device.

DEVICE POWER UP

2.2 Electric connectors on a back panel of the NV-DVR1004(S) LITE recorder.



- | | | |
|----|--------------------|---|
| 1. | CAMERA IN | video inputs for camera connection; |
| 2. | MONITOR OUT | main monitor connection, BNC connector; |
| 3. | AUDIO OUT | line audio input |
| 4. | AUDIO IN | line audio output |
| 5. | DC 12V | power supply socket; |

DEVICE POWER UP

2.3 Connecting of peripheral devices

System connecting should be done by qualified staff. Before connecting system elements you need to familiarise yourself with the diagram presented below. Depending on requirements, specific system will consist of a different number peripheral devices. Monitors, cameras and other devices have to be bought separately, depending on your needs. The description concerning connecting external devices can be found in the following chapters of this manual.



eng

2.4 HDD Installation

NV-DVR1004(S) LITE recorder allow users to install one HDD.

**NOTICE: Producer advices utilizing HDD's manufactured by Seagate or Hitachi.
Max. allowed capacity of single HDD is 500GB.**

**WARNING: Producer does not recommend utilizing Samsung HDD's. Novus Security Sp. z o.o.
does not take responsibility for problems caused by using improper HDD.**

**WARNING: Take into consideration that in case of using HDD from other device
(other recorder or PC) while first recorder booting all data is erased.**

NOTICE:

HDD installing procedure is described in the attachment on page 32.

eng

DEVICE POWER UP

2.5 Switching On/Off.

Before switching the device on, please make sure that the power supply (voltage and frequency) conforms to device requirements. Also make sure that all peripheral devices are properly connected.

WARNING: It is not advised to connect any peripheral devices (cameras and monitors included) while the DVR is switched on.

You start the device by plugging it into a socket.

The system loading procedure takes about 30 seconds.

During this procedure information about system loading and HDDs checking appear on the screen.

Do not move or click mouse buttons while system loading procedure.

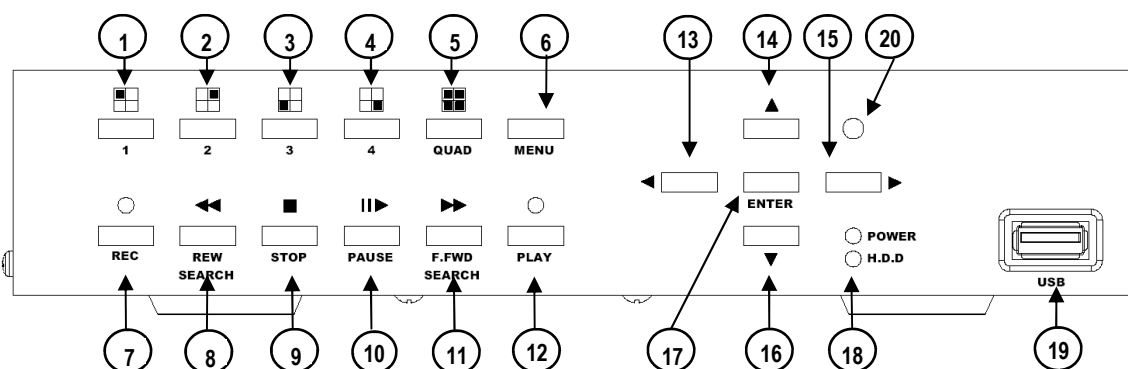
The loading procedure is completed when camera images appear on the main monitor together with their description and the system time.

In order to switch the device off stop recording and unplug the power cord.

eng

FRONT PANEL DESCRIPTION

3. FONT PANEL DESCRIPTION



1. Icon	2. Function
 1	1. Channel 1 selection. 2. Password input, digit 1.
 2	1. Channel 2 selection. 2. Password input, digit 2.
 3	1. Channel 3 selection. 2. Password input, digit 3.
 4	1. Channel 4 selection. 2. Password input, digit 4.
 QUAD	Quad display selection (2x2).
	On Screen Display menu activating.
	Recording ON button.
 REW SEARCH	Press that button to run rewind playback.
 STOP	Playback stop.
 PAUSE	Pause. Press that button in playback mode to play field by field.
 F.FWD SEARCH	Fast Forward playback. Pressing that button will give following fast forward speeds: x2, x8, x16.
	Entering playback menu.

FRONT PANEL DESCRIPTION

Icon	Function
13 ◀	"Left" cursor button.
14 ▲	"Up" cursor button.
15 ▶	"Right" cursor button
16 ▼	1. "Down" cursor button; 2. In live/record mode that button is used to get HDD's capacity/occupancy information.
17 ENTER	In programming mode that button is used to enter sub-menu and edition field.
18 HDD POWER	LED informing that HDD's is in use; LED informing that power is on.
19 USB	USB PC-LINK connector.
20	IR reseiver.

eng

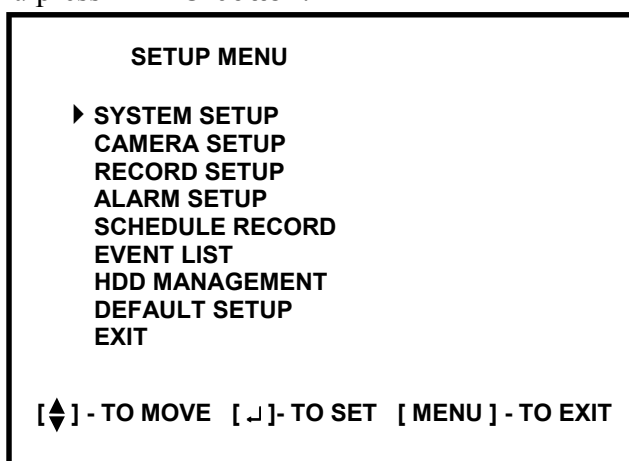
4. DVR MENU

NV-DVR1004(S) LITE digital recorder is equipped with multi level OSD (on screen display) menu. This menu are used to program settings and execute functions such as playback or copying. Menu is displayed in English and Polish.

Notice: Device OSD menu is available only while recording is inactive (see chapter 5).

In order to enter device menu press *MENU* button.

eng



Main menu consists of 8 sub-menus. The contents of sub-menus are described on the next pages of this manual.

This buttons ▲▼ are used to select menu items.

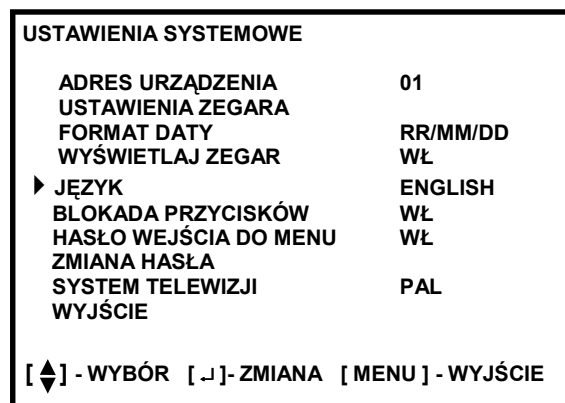
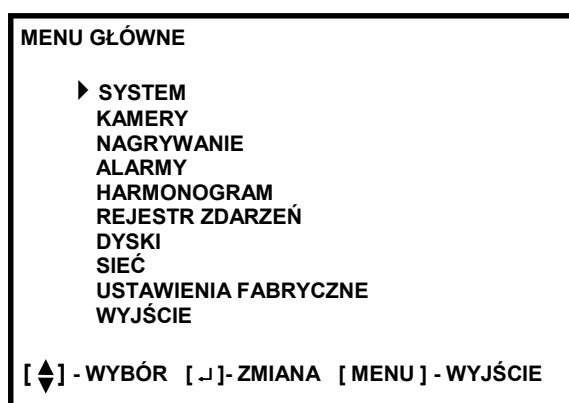
Selected item is pointed by these icon ▶.

Press ▶ or ◀ button in order to confirm the selection, enter the sub-menu or to modify selected value.

Exiting the menu accepts and saves inputted modifications.

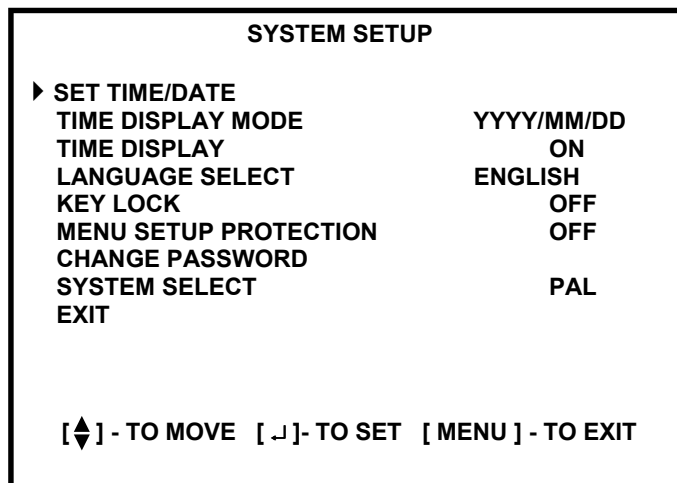
In order to leave selected menu or to return to the higher level menu from individual sub-menus and modification fields *EXIT* option should be selected and *ENTER* button must be pressed. Pressing *MENU* button acts similar to the procedures described above.

NOTICE: In case factory default OSD language is different than desired press MENU button, select first menu item, press ENTER, select 5th menu item and choose desired language, exit from menu. An example below shows changing language from Polish to English.



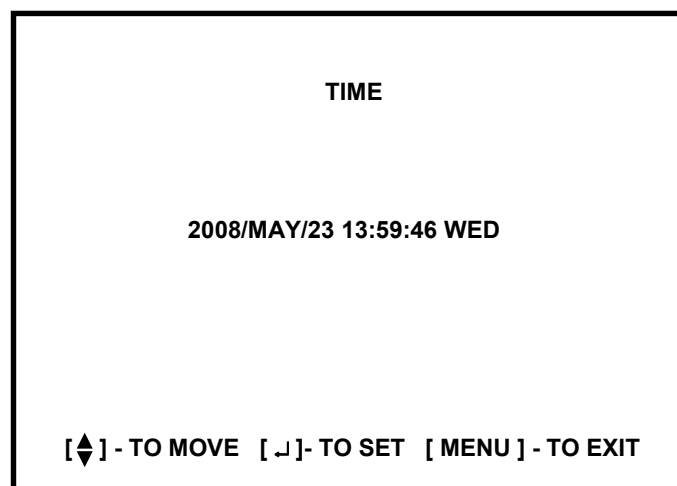
DVR MENU

4.1 System setup



Utilizing **SYSTEM SETUP** menu following system settings may be applied:

SET TIME DATE: after selecting this item and pressing **ENTER** button the time/date menu appears.



TIME DISPLAY MODE: This option allows to define time/date format: *YYYY/MM/DD*; *MM/DD/YYYY*; *DD/MM/YYYY*.

TIME DISPLAY: If this option is set to *ON*, time is displayed on the upper part of the screen.

LANGUAGE SELECT: OSD language selection; Polish and English are available

KEY LOCK : Select *ON* to lock (deactivate) front panel buttons.

MENU SETUP PROTECTION: After selection *ON* menu button operation is protected by 4 digits password. Together with Key Lock feature it gives complete unit protection.

CHANGE PASSWORD: This option is used to set a 4 digit password.

eng

CURRENT PASSWORD : ----

NEW PASSWORD : ----

PASSWORD CONFIRM : ----

NOTICE: Factory default password: 1111.

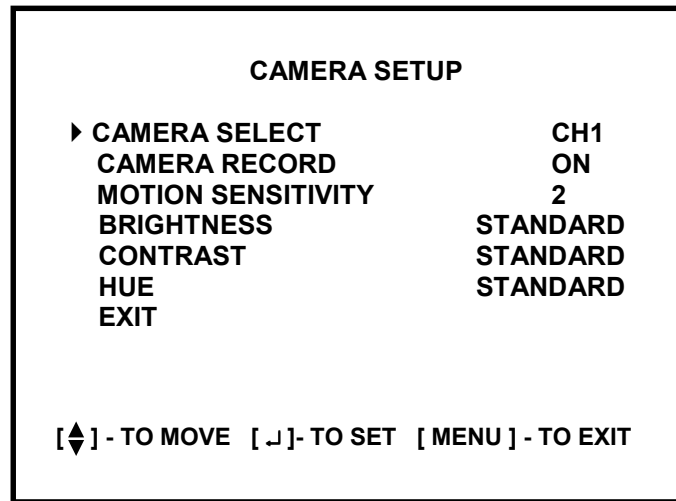
In order to change the password you should input correctly present password (using 1, 2, 3, 4 buttons), and then input two times a new one.

WARNING: Please don't forget new password. In order to recover forgotten password service help is indispensable.

SYSTEM SELECT: This option is used to select TV system standard. You can select *PAL* or *NTSC*

DVR MENU

4.2 Camera



In **CAMERA SETUP** menu following settings can be set for each video channel:

CAMERA SELECT : This option is used to select specific channel number for the camera, of which settings should be displayed or modified

CAMERA RECORD: If this option is set to **OFF** the image from selected camera is not being recorded however it still displayed on the screen. In order to record image from selected camera set this option to **ON**;

MOTION SENSITIVITY: This option allows to define the sensitivity of motion detection. Using this option allows to evade unnecessary false alarms caused for example by moving leaves etc.. This option can be adjusted in the range from 1 to 6. The higher value of motion detection makes it more sensitive.

BRIGHTNESS, CONTRAST, HUE: This menu options allow to adjust the parameters of displayed image to user individual needs and requirements. The default value is **STANDARD**;

Notice: Adjusting the parameters of image also take effect on recordings.

4.3 Recording

RECORD SETUP	
▶ RECORD MODE	MUX
NORMAL RECORD FPS	12P
ALARM RECORD FPS	25P
ALARM RECORD DWELL	5 SEC
RECORD QUALITY	HIGH
MOTION MIGRATION	OFF
EXIT	
[◀] - TO MOVE [▶] - TO SET [MENU] - TO EXIT	

In **RECORD SETUP** menu following settings can be adjusted:

RECORD MODE: This option allows to define recording mode. Multiplexer mode (**MUX**) means that images from each channel are stored one after another. Later on full screen as well as quad playback are available. Quad mode (**QUAD**) means that there are all channels recorded in the same time in quad division. Later on there is only quad playback mode available.

NORMAL RECORD FPS: This option is used to set recording speed for normal and schedule recording. Speed values are expressed in fields per second rate. Following values are available: **25, 12, 8, 6, 4, 3, 2, 1**. Recording speed applies to entire Multiplexer. Depending on number of recording cameras the Multiplexer resources are equally divided between each camera.

ALARM RECORD FPS: This option is used to set recording speed during alarm mode (motion detection). Speed values are expressed in fields per second rate. Following values are available: **25, 12, 8, 6, 4, 3, 2, 1**. Recording speed applies to entire Multiplexer. Depending on number of recording cameras the Multiplexer resources are equally divided between each camera.

ALARM RECORD DWELL: Time defined in seconds describing the alarm duration. This setting allows to record in alarm mode for longer periods of time than the duration of alarm event;

RECORD QUALITY: This option defines the recording image compression level along with the recording quality level. 4 quality levels are available: **LOW, MEDIUM, HIGH, BEST**. The total duration of recording time for specific HDD depends on recording quality settings. Information concerning recording time might be obtained from *DVRcalc* our freeware software available as well on CD and Novus web site.

DVR MENU

MOTION EVENT MIGRATION: This option allows adding motion detection events to the Event List. This setting has no influence on motion detection itself. It is only Event list operating rule.

NOTICE: Event List can store only latest 64 events. You should set **MOTION MIGRATION** as **OFF** to store more important logs (e.g. power off) for longer time. In other case last 64 motion detection logs will replace more important events.

AUDIO RECORD: when this option is set to **ON** audio recording is available.

CAUTION: Audio recording is not recommended while at recording speed set to **1P**

eng

4.4 Alarm setup

ALARM SETUP	
▶ BUZZER DWELL	1SEC
VIDEO LOSS ALARM	ON
MOTION ALARM	ON
ALARM DISPLAY MODE	OFF
EXIT	

eng

In **ALARM SETUP** menu following settings can be adjusted:

BUZZER DWELL: This option is used to select buzzer dwell time after alarm detection

VIDEO LOSS ALARM: If this option is set to *ON*, buzzer will be turned on in case of video loss

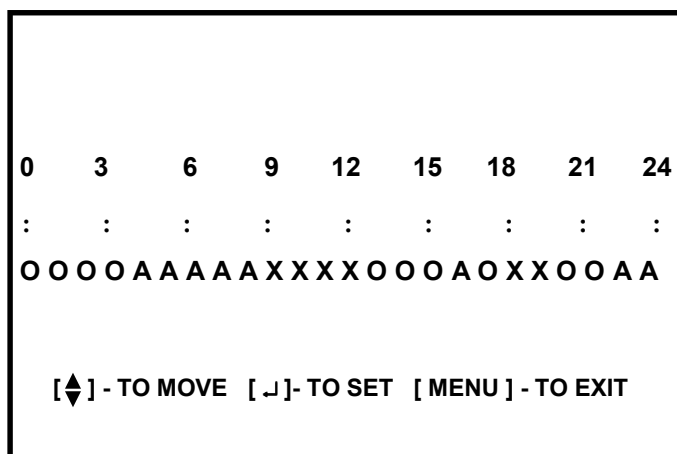
MOTION ALARM: If this option is set to *ON*, buzzer will be turned on in case of motion detection

ALARM DISPLAY MODE: If this option is set to *ON*, fullscreen video will be displayed from channel where alarm was detected.

DVR MENU

4.5 Schedule record

SCHEDULE RECORD menu represents various recording modes in different time during the day. Schedule recording can be set accurate to one hour. It is possible to set only one schedule recording that will be valid every day.



Letters represent recording modes valid for given hour.

- O - this option is used for continuous recording speed accordingly to values set in *RECORD* menu in option *NORMAL RECORD FPS*, and in alarm recording mode (motion) with speed set in *ALARM RECORD FPS* menu.
- A - this means that recording process will occur only in the event of alarm (motion detection) with speed set in *RECORD* in *ALARM RECORD FPS* menu
- X - this means that during specified hour the recording process will not occur.

Time line indicators are placed above the letters line. In the example continuous recording will be run during following hours 0-1; 3-4; 6-18 i 20-22. During this hours 1-2; 4-6 i 22-0 only alarm recording will take effect (motion detection)

To change whole schedule configuration press *PLAY*. Pressing *PLAY* will result in changing all letters into "O", "A" or "X".

4.6 Event List

EVENT LIST	
START TIME:	2008/MAY/24 15:20:16
END TIME:	2008/MAY/24 15:27:33
▶ 01 RECORD	2008/MAY/24 15:20:16
02 RECORD	2008/MAY/24 15:30:05
03 MOT CH1	2008/MAY/24 16:49:51
04 RECORD	2008/MAY/23 15:20:16
05 POWER	2008/MAY/23 15:30:05
06 MOT CH4	2008/MAY/23 16:49:51
[↕] - TO MOVE [↵] - TO SET [MENU] - TO EXIT	

When **EVENT LIST** is entered system history is available. The system registry stores events recorded from the time of the last HDD formatting. The events are divided according to the time of occurrence. The newest events are displayed as first. In the case when there are more events then can be displayed on one page additional events are displayed on following system registry pages.

Informations are divided in columns;

The first column contains event number, the second - event type, the third - event time, the fourth - the event time.

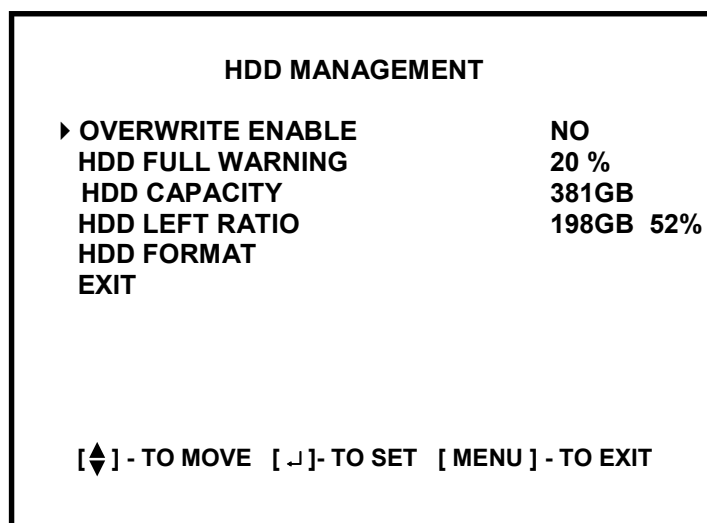
In the second column specific shortcut describing event type is placed:

- *MOT CH1* motion detection activation on channel 1
- *RECORD* recording initiation
- *POWER* system reboot due to power failure

NOTICE: Event List can store only latest 64 events. You should set **MOTION MIGRATION** as **OFF** to store more important logs (e.g. power off) for longer time. In other case last 64 motion detection logs will replace more important events.

DVR MENU

4.7 HDD Management



eng

The **HDD MANAGEMENT** menu is used to define following HDD settings:

OVERWRITE MODE: This option is used to select recording mode on HDD. If this option is set to **YES** the recording process will be „repeated”. That means that if all HDD capacity reserved for recording has been already used the system will start overwriting data previously stored on HDD (starting from the point of the oldest recording). Previously stored data will be lost; If this option is set to **NO** the system will stop the recording process when all available HDD capacity is used. “Disk Full” system notification will appear on the screen in the event of low HDD capacity left for recording;

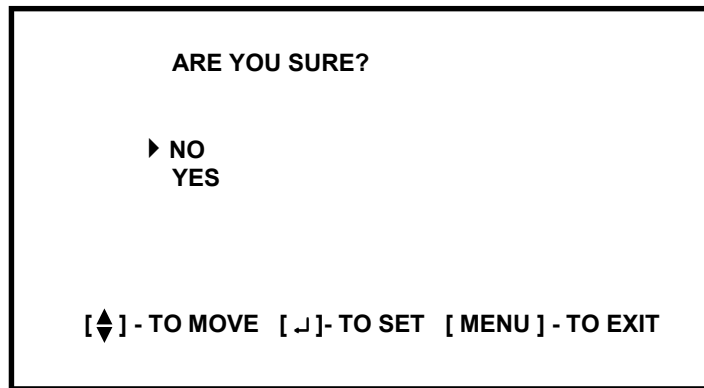
HDD FULL WARNING: This option defines when the “Disk Full” system sound notification should appear. This setting is expressed in percentage. In the example shown above the buzzer will be turned on when disk free space will drop to 20%. It will be turned on again when only 5% of free space will be left. If overwriting option is active this menu line does not appear in the menu list;

HDD CAPACITY: HDD capacity information is expressed in GB;

HDD LEFT RATIO: available free space on HDD, information expressed in GB and %;

HDD FORMAT: When this option is selected and **ENTER** button is pressed all data from HDD will be erased. When option **FORMAT** is selected the system will ask for HDD formatting password. Password is 4 digits long (see chapter 4.1)

4.8 Default setup.



eng

The **DEFAULT SETUP** menu is used to reset all recorder settings to factory default setup.

RECORDING

5. RECORDING

NV-DVR1004(S) LITE recorder can automatically restore recording mode after rebooting and after exiting menu.

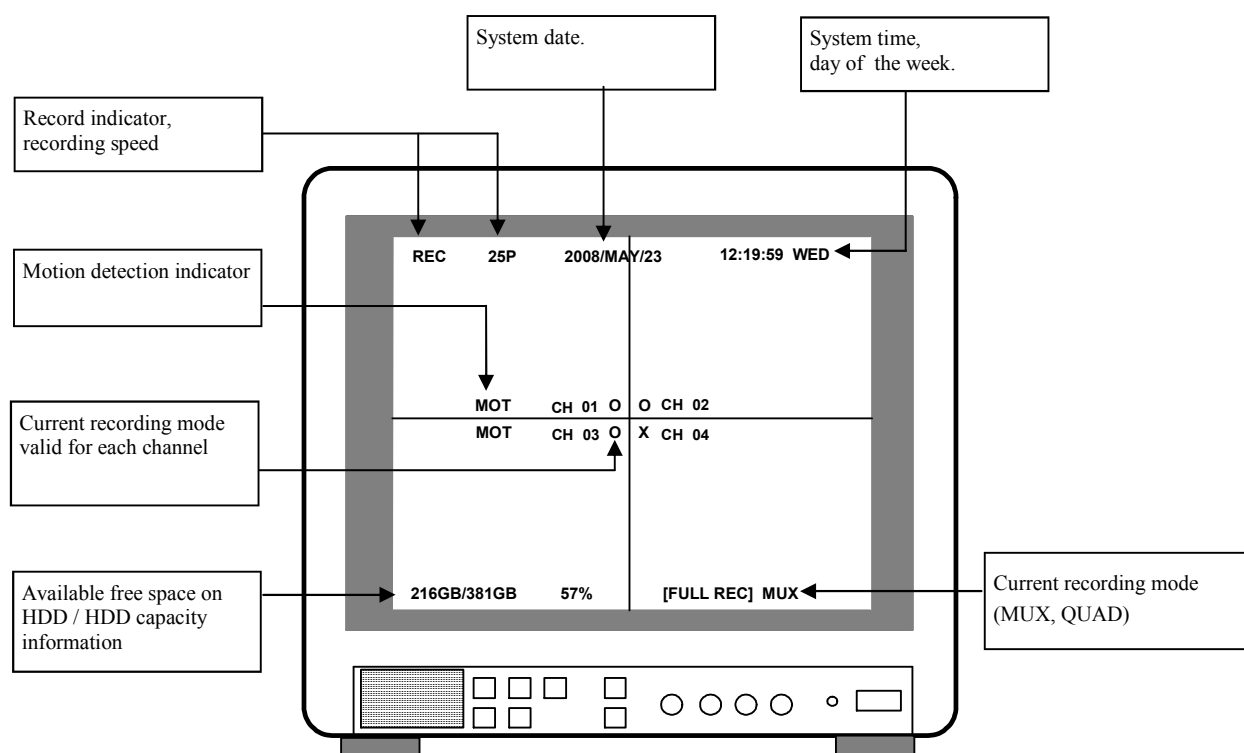
To stop recording press **STOP** ■. To activate recording **REC** ● button should be pressed.

Inscription **REC** is displayed when recording is active. In left upper corner there is recording speed information displayed.

Please notice that only active channels are recorded.

Current recording mode valid for each channel is displayed in the centre of the screen.

Notice: Available recording mode for each channel and for each hour are set in *SCHEDULE RECORD* menu.

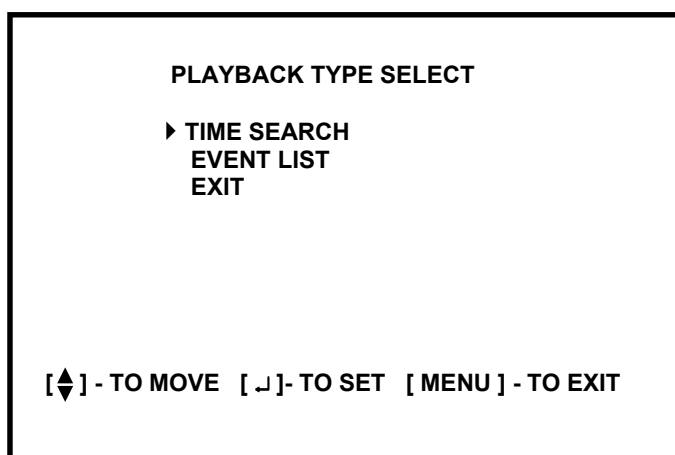


6. PLAYBACK

Digital Video Recorder NV-DVR1004(S) LITE allows to finding desired recordings in two ways. First search option can be done by inputting specified time and date. Second search option is possible by viewing the event registry and playback of recordings related to the selected event. Because devices operate as a simplex, to start playback recording must be turned off before.

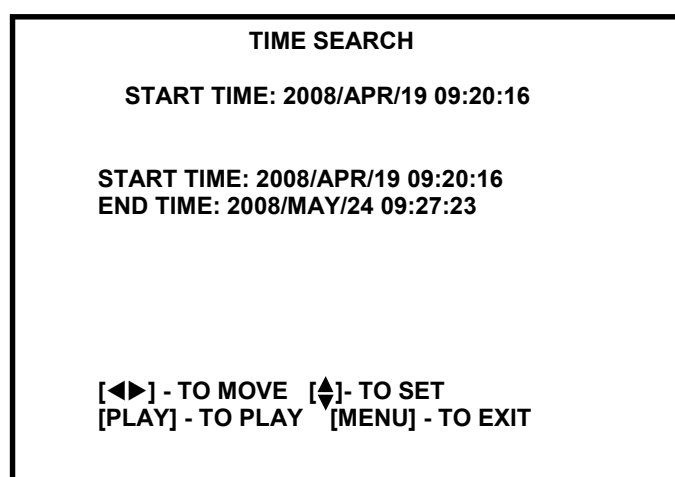
In order to display playback menu **PLAY ▶** button should be pressed.

eng



6.1 Time Search

When this option is selected date and time menu appears on the screen allowing to playback specified data. Additionally available recording range information appears.



PLAYBACK

To start playback recordings from specific time desired date and time should be set using cursor buttons. Playback starts after pressing *PLAY* button.


Default playback display is quad mode.

If played data was recorded in MUX mode there is channel selection and full screen display mode available.

During playback all playback control buttons are available (see description in chapter 3)

eng

6.2 Searching Recorded Data From The Event List.

EVENT LIST			
START TIME:	2008/APR/19	14:50:16	
END TIME:	2008/MAY/15	14:43:23	
01 RECORD	2008/MAY/15	14:30:16	
02 POWER	2008/MAY/15	14:30:05	
03 MOT CH1	2008/MAY/15	14:20:53	
04 MOT CH2	2008/MAY/15	14:20:52	
[] - TO MOVE [PLAY] - TO PLAY			
[MENU] - TO EXIT			

When this option is selected Event list appears on the screen allowing to playback specified data related to system events.

Desired event should be selected using cursor buttons ▲ ▼. Playback starts after pressing right cursor or *PLAY* button.

Event logs description are listed in chapter 4.6

Default playback display is quad mode.

If played data was recorded in MUX mode there is channel selection and full screen display possible.

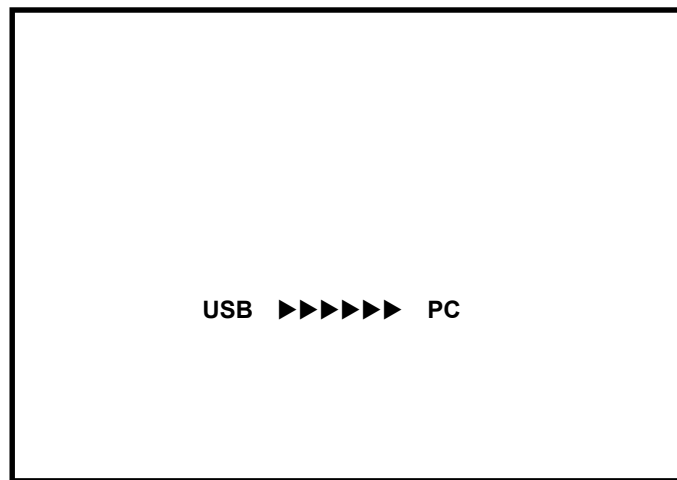
During playback all playback control buttons are available (see description in chapter 3)

7. BACKUP

7.1. HDD backup on PC.

PC Viewer software allows to review and backup recordings from HDD on PC using USB PC-LINK connection.

eng



Detailed information is included in the manual of PC Viewer. PC Viewer software and manuals are included on CD.

WARNING: If the USB PC-LINK connection is established recording is stopped and the recorder automatically turns into USC-PC connection mode. If the USB cable is unplugged from the device, recorder will reboot and turn on in normal mode.

REMOTE CONTROL

8. REMOTE CONTROL FUNCTION

NV-DVR1004 LITE recorder is equipped with IR remote control.

Remote control allows to control only one device. If more than one device are situated within remote control range all of them will be controlled.

Remote control range is approximately 7 m and depends on battery level. Operating angle regarding device front panel is approximately 30°.

The view of IR remote control:



Remote control buttons are described in the same way as multiplexer's front panel buttons. Their function stay also the same. The only difference is that the *COPY* button is unused.

ATTACHMENT – INTERNAL HDD INSTALLING PROCEDURE

WARNING! Disconnect power supply cord from the device before HDD installation.

1. Unscrew 8 screws (marked with arrows on the image below) and take off the top cover.



2. View of the device without the top cover.



ATTACHMENT – INTERNAL HDD INSTALLING PROCEDURE

3. ... place HDD (previously properly connected to the power and data cables)



eng

4.match the HDD mounting holes directly with mounting holes of the device then screw on 4 mounting screws.



5. Put the cover back and screw it with 8 screws.

NOTES

eng

NOVUS[®]

NOVUS Security Sp. z o.o.

ul. Puławska 431, 02-801 Warszawa
tel.: (22) 546 0 700, fax: (22) 546 0 719
www.novuscctv.com