

User's manual



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SYSTEM KEYBOARD NV-KBD30 v. 1.3

noVus[®]

IMPORTANT SAFETY INSTRUCTIONS

WARNING!

PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS IN THIS INSTALLATION AND OPERATING GUIDE. RETAIN THIS GUIDE FOR FUTURE REFERENCE.



WARNING !

THIS SET HAS BEEN DESIGNED AND MANUFACTURED TO ASSURE PERSONAL SAFETY. INPROPER USE CAN RESULT IN ELECTRIC SHOCK OR FIRE HAZARD. THIS UNIT DOES NOT CONTAIN ANY PARTS THAT CAN BE REPAIRED BY THE USER.

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WARNING!

DO NOT REMOVE THE COVER, OR YOU MAY BE EXPOSED TO DANGEROUS VOLTAGE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

WARNING!

DO NOT EXPOSE THE DEVICE TO RAIN, EXTREMELY HUMID OR DUSTY ENVIRONMENTS.

CE This product is manufactured to comply with requirements of following directives and national regulations implementing the directives:

- Electromagnetic compatibility EMC 89/336/EEC with amendments

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).

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.

IMPORTANT

The documentation contained in this manual has been collected with great care: the manufacturer however, cannot take any liability for its use. The manufacturer reserves the right to modify its content without any prior notice.

IMPORTANT SAFETY INSTRUCTIONS



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.

1. Read, keep, and follow these instructions. All the safety and operating instructions should be read before the product is operated.
2. Pay attention to all warnings. All warnings concerning the product that are in the instruction manual should be adhered to.
3. There are no user-serviceable parts inside this unit. Only authorized service personnel may open the unit.
4. Installation and servicing should only be done by qualified service personnel and conform to all local codes.
5. **WARNING:** To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture if this unit is designed for indoor use only.
6. Unplug the unit from the outlet and refer servicing to qualified service personnel, particularly in the following situations:
 - a. When the power supply cord or plug is damaged.
 - b. If liquid has been spilled or objects have fallen into the unit.
 - c. If the unit has been exposed to rain or water.
 - d. If the unit does not operate normally by following the operating instructions.
 - e. If the unit has been dropped or the cabinet has been damaged.
 - f. When the unit exhibits a distinct change in performance—this indicates a need for servicing.
7. Unplug the unit from the outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
8. This unit is designed for indoor use only and it must not be exposed to rain or moisture.
9. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
10. Do not install the product near any source of heat or near water (any wet area).
11. Only use attachments/accessories specified by the manufacturer.
12. Use Certified/Listed Class 2 power supply transformer only.
13. 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 electric shock.

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1. PRODUCT OVERVIEW

The NV-KBD30 NOVUS keyboard is a product for professional use in security systems applications. The keyboard is used to remotely control the following digital multiplexers: NV-DVR1104, NV-DVR1108, NV-DVR1116, NV-DVR900/NV-DVR1600, NV-DVR3009/NV-DVR3016, NV-DVR5009, NV-DVR5016.

It's ergonomic construction guarantees comfortable operation for security personnel.

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1.1 Main Features

- ✍ LED display, four characters
- ✍ Easy configuration
- ✍ Remote control of digital video recorders by RS-485 port

TECHNICAL SPECIFICATION

1.2. Technical specification

STANDARD SPECIFICATION

Equipment that can be connected:	Digital Video Recorder: Novus NV-DVR900, Novus NV-DVR1600, Novus NV-DVR5016, Novus NV-DVR5009
Buttons:	27, multifunctional
Display:	LED 7 segment display, 4 characters
Physical properties:	Dimensions [mm]: 220 x 180 x 56 Weight: 0,7 kg Operating Temperature: 5°C - 40°C Humidity: 30% - 90% (w/o condensation)

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ELECTRICAL SPECIFICATION

Power source:	9 VDC
Power consumption:	2,5 W (without sending data)
Recommended adapter:	9VDC/1A
Connectors:	1 x RJ-11 (RS-485) (for digital recorders), Power supply connector

PACKAGE CONTENT

2. PACKAGE CONTENT

Unpack with caution and make sure that the following items are in the package :



1 x keyboard NV-KBD30



1x user's manual



2x signal cable RJ-11



2x junction box

If any item has been damaged in transport, pack all the items back and contact your dealer.

Warning !

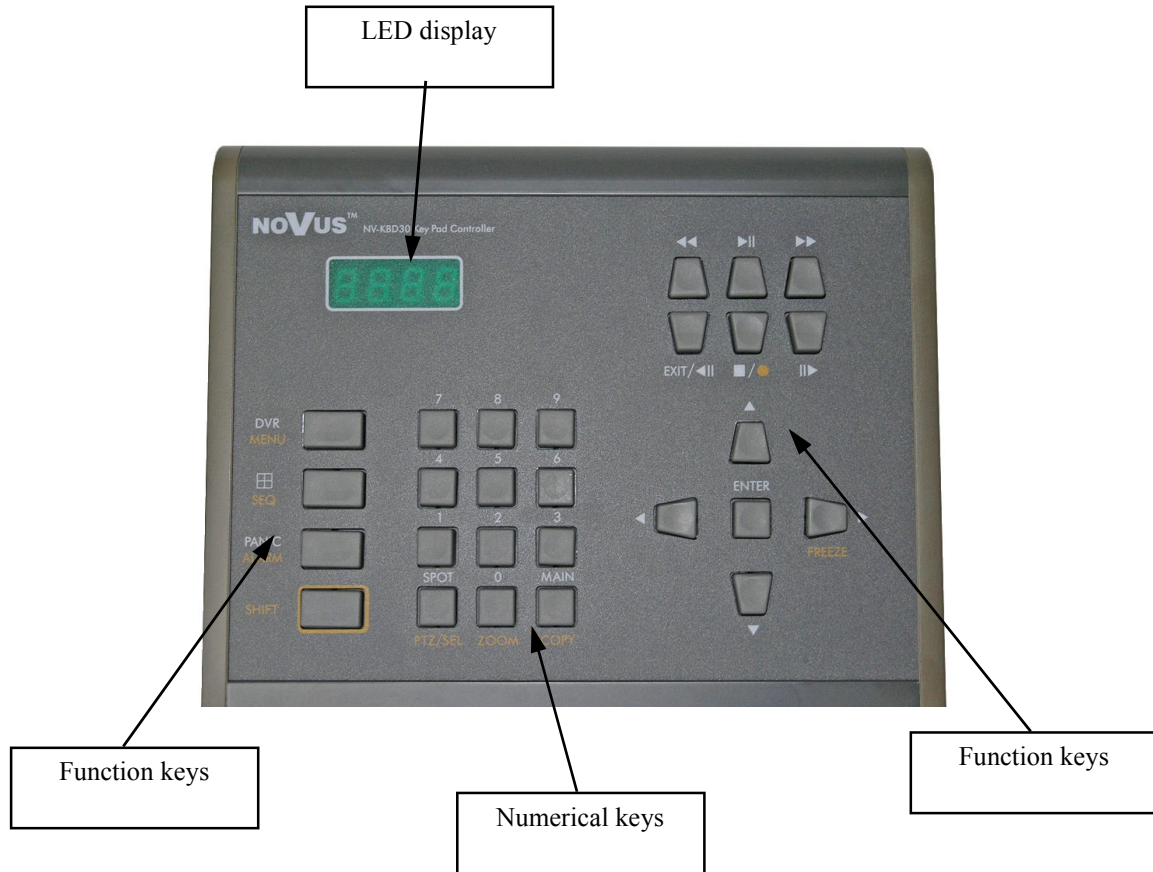
Due to risk of water condensation, if the device was brought from a colder environment, wait until it reaches room temperature.

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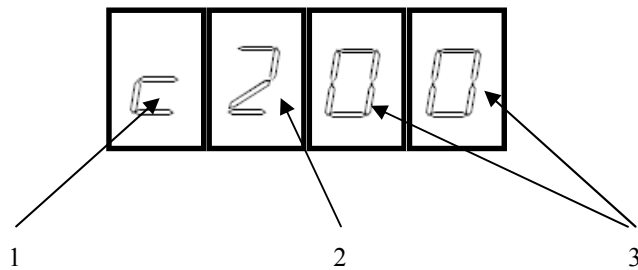
KEYBOARD OVERVIEW

3. KEYBOARD OVERVIEW

3.1. Front panel



3.2. LED display

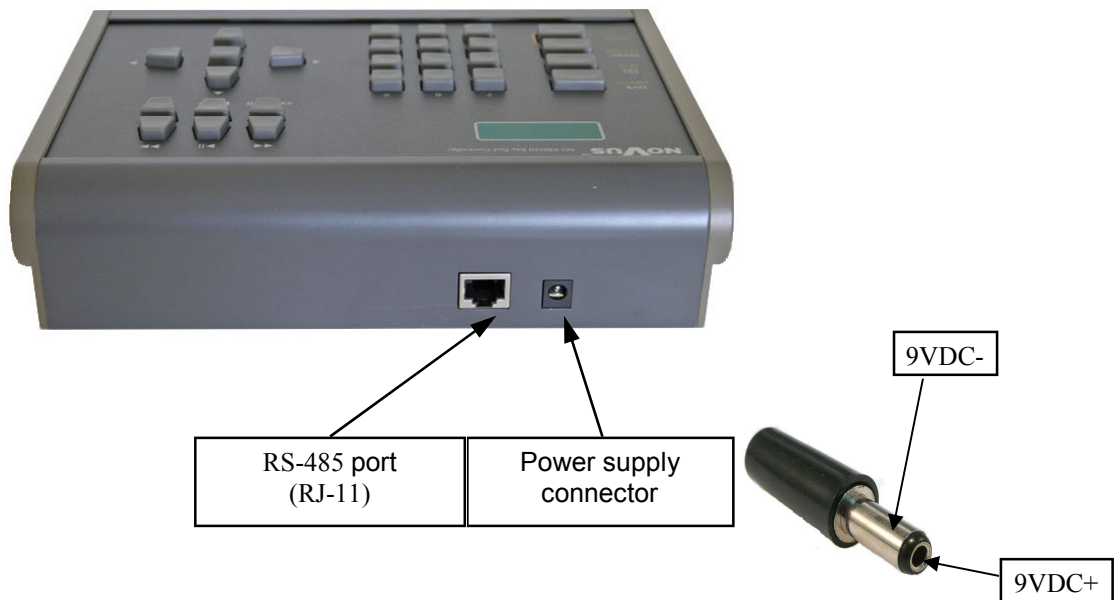


1. Mode type: 'd' - DVR operating mode ; 'c' - configuration mode
2. DVR ID; 1 to 9
3. Numerical keys pressed by user

KEYBOARD OVERVIEW

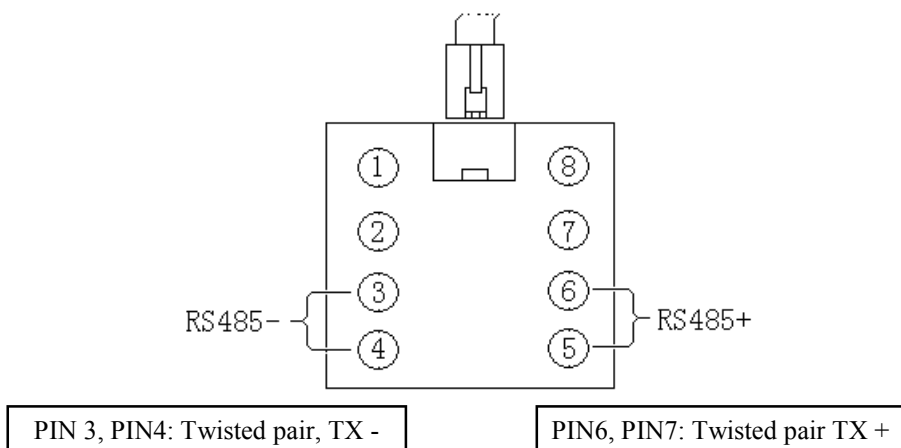
3.3. Back panel connectors

Rear panel view.



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3.4. Junction box connected to keyboard



Important:

In case of using non-original junction boxes, cable colours shall be determined using multimeter and comparing new junction box to the original one.

CONNECTING SPEED DOME CAMERAS AND KEYBOARD

4. CONNECTING DIGITAL MULTIPLEXERS AND KEYBOARD

The NV-KBD30 keyboard uses RS-485 serial interface to communicate with digital multiplexers. You can connect 9 digital multiplexers to one line. Each digital multiplexer can use another protocol.

Connection should be made by using 5cat twisted pair, enclosed cables, connecting junctions. We recommend activating and testing successive segments. Such approach can make locating and removing communication problems easy.

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4.1 Connection setups

One of the described below setups can be used.

Description : R - receiver

K - keyboard

RP - protocol distributor

RX - input

TX - output

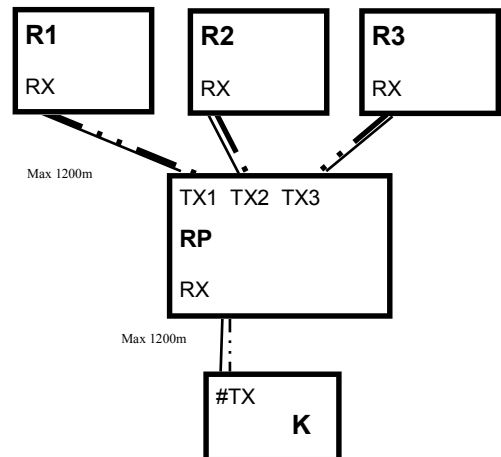
- termination ON

- Star type setup

This connection type requires the use of an active protocol distributor for example: EDA 997.

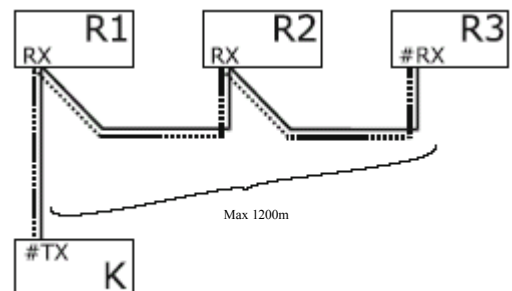
Each line length should not exceed 1200m.

All devices should be terminated, since each device is connected to an end of the line. .



- Devices in a chain

Devices can be connected to any point of line. Line length must not exceed 1200m. 9 devices can be connected. Two ends of the line should be terminated.



CONNECTING DIGITAL MULTIPLEXER AND KEYBOARD

4.2. Connections

If you want the system to work properly, you should make proper connections by connecting junction boxes, signal cables and shielded twisted pair cable.

Important: You should use 5th cat twisted pair cable . Daisy chain connection must be used, maximum line length should not exceed 1200m. Connections between line and devices should not exceed 1,5m.

In case of using non-original junction boxes, cable colours shall be determined using ohmmeter (or multimeter) and comparing new junction box to the original one.

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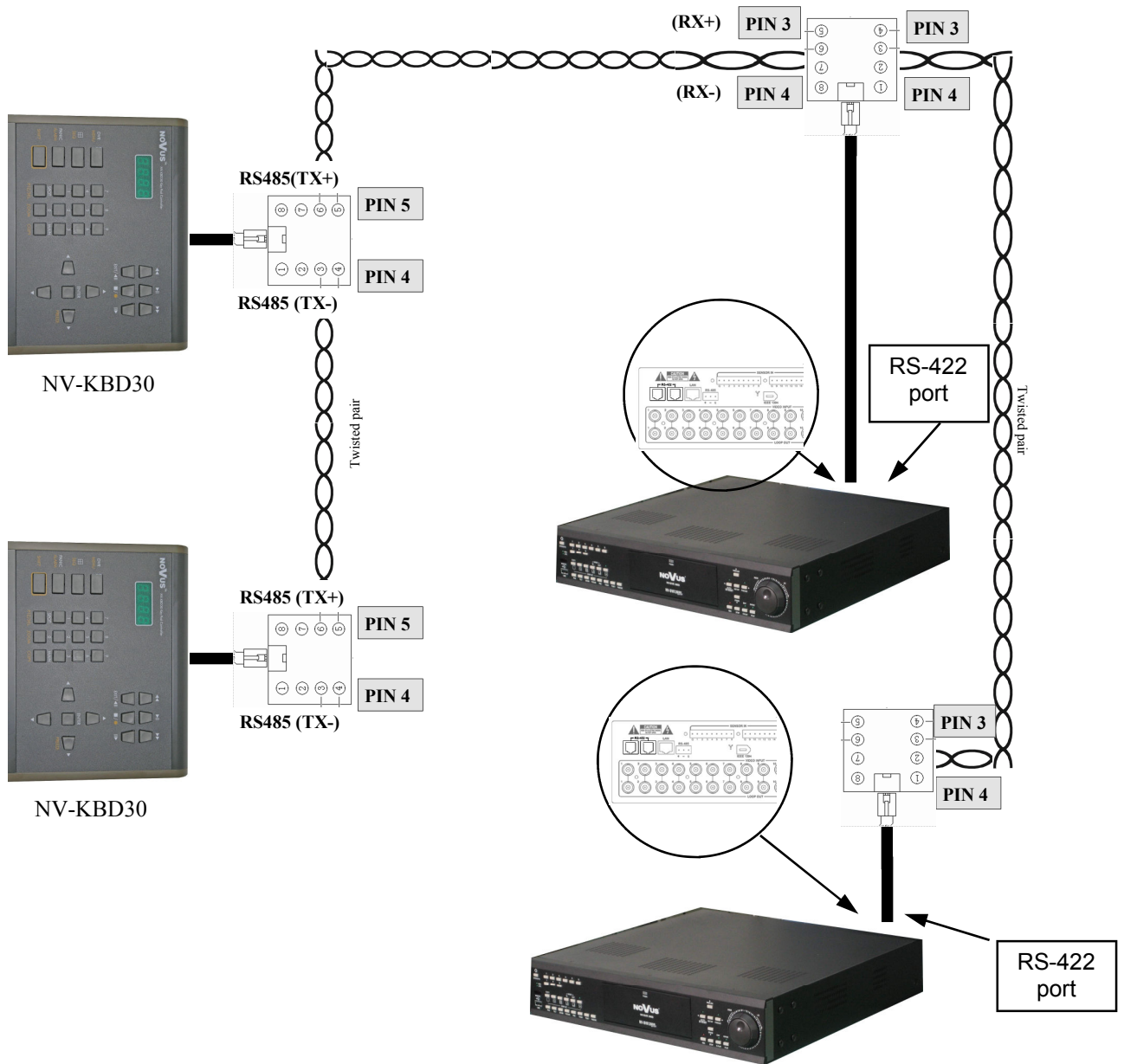
4.3. Making connections.

To create a properly functioning system, user should make connections described on pages 12-15 of this manual.

CONNECTING DIGITAL MULTIPLEXER AND KEYBOARD

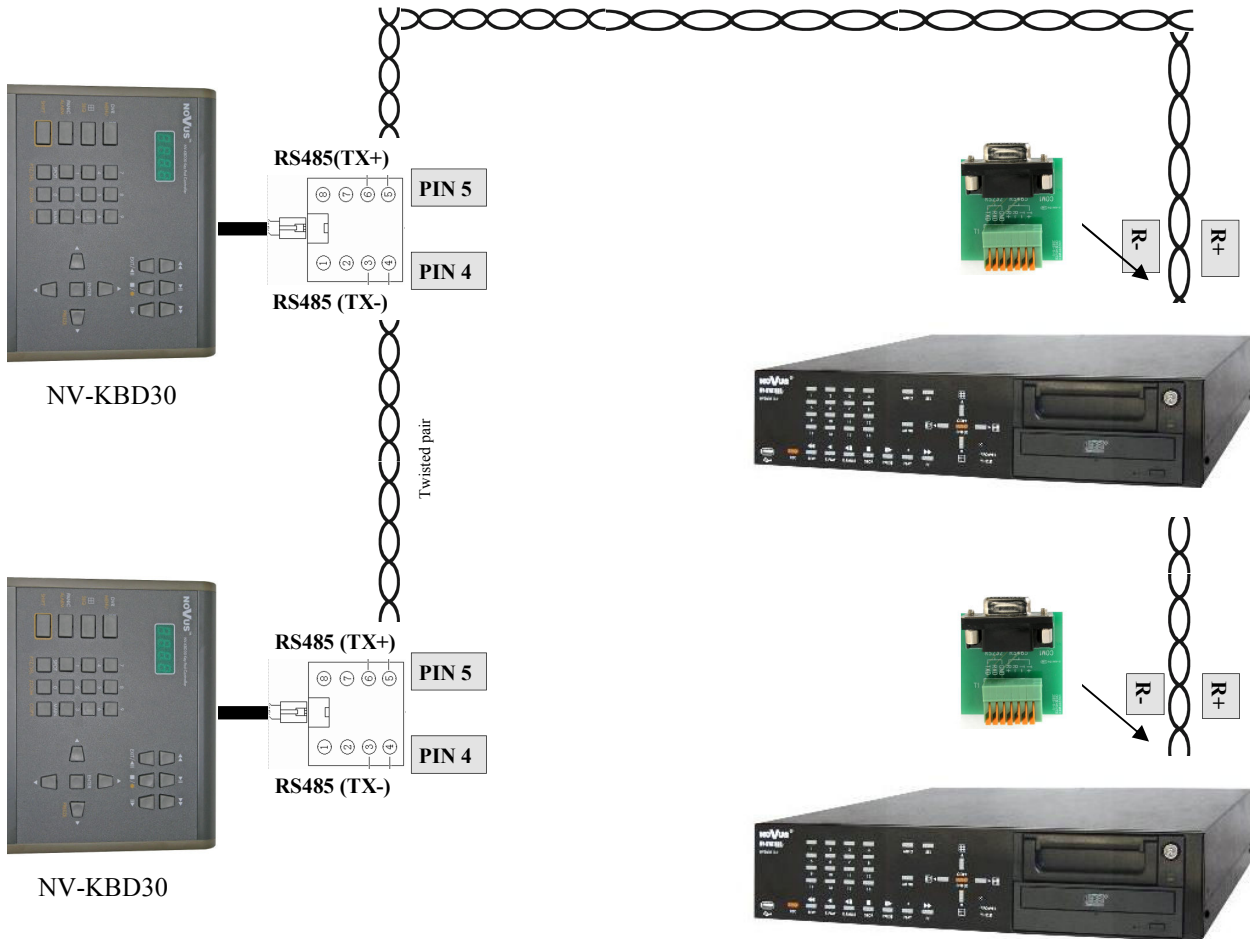
4.4 Connecting keyboard and NV-DVR3009/NV-DVR3016 digital multiplexers

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CONNECTING DIGITAL MULTIPLEXER AND KEYBOARD

4.5 Connecting keyboards and NV-DVR1104/NV-DVR1108/NV-DVR1116 digital multiplexers



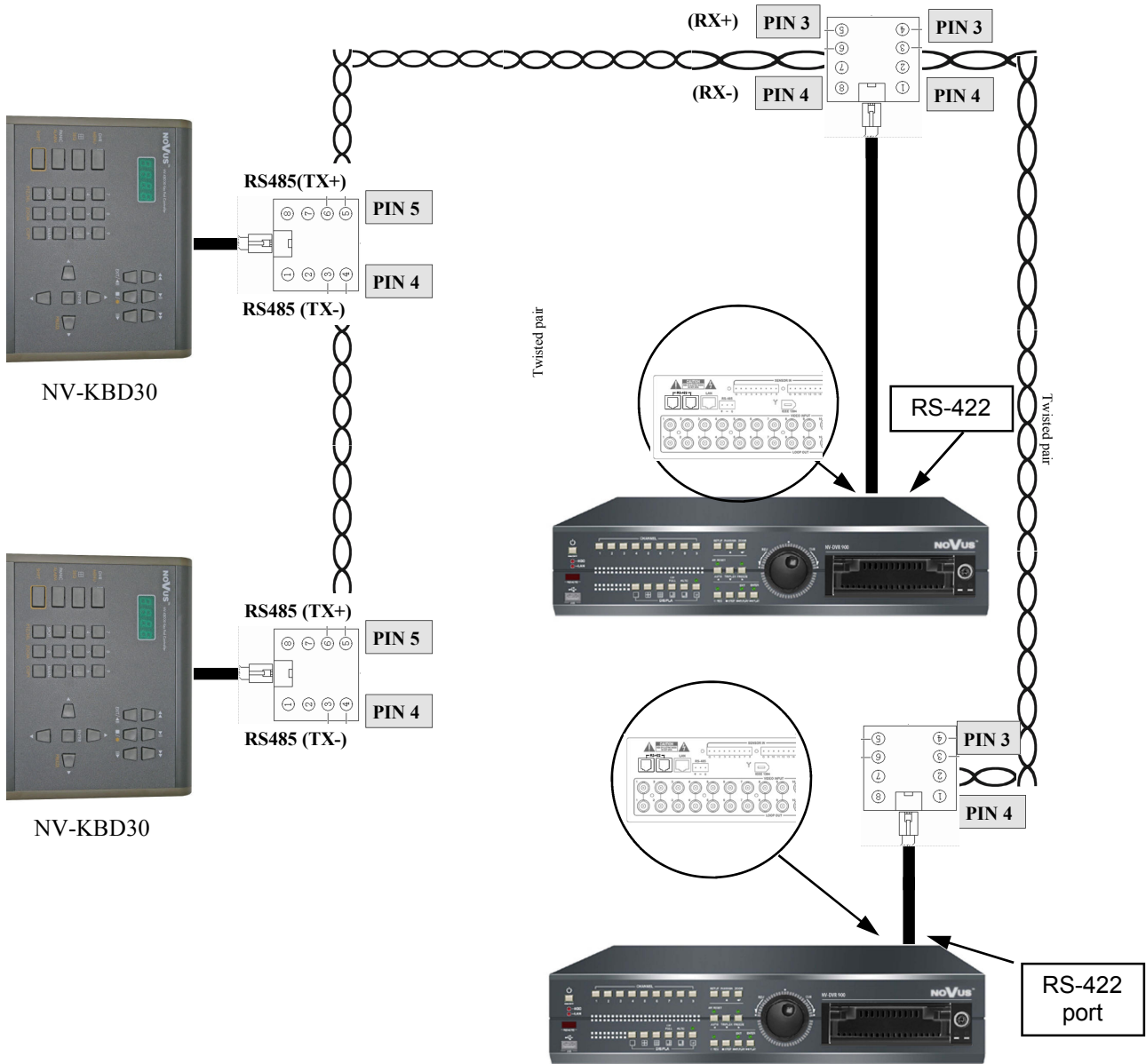
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Warning:

In case system consists of more than two multiplexers, connections between following multiplexers should be made as on the diagram.

CONNECTING DIGITAL MULTIPLEXER AND KEYBOARD

4.6 Connecting keyboards and NV-DVR900/NV-DVR1600 digital multiplexers

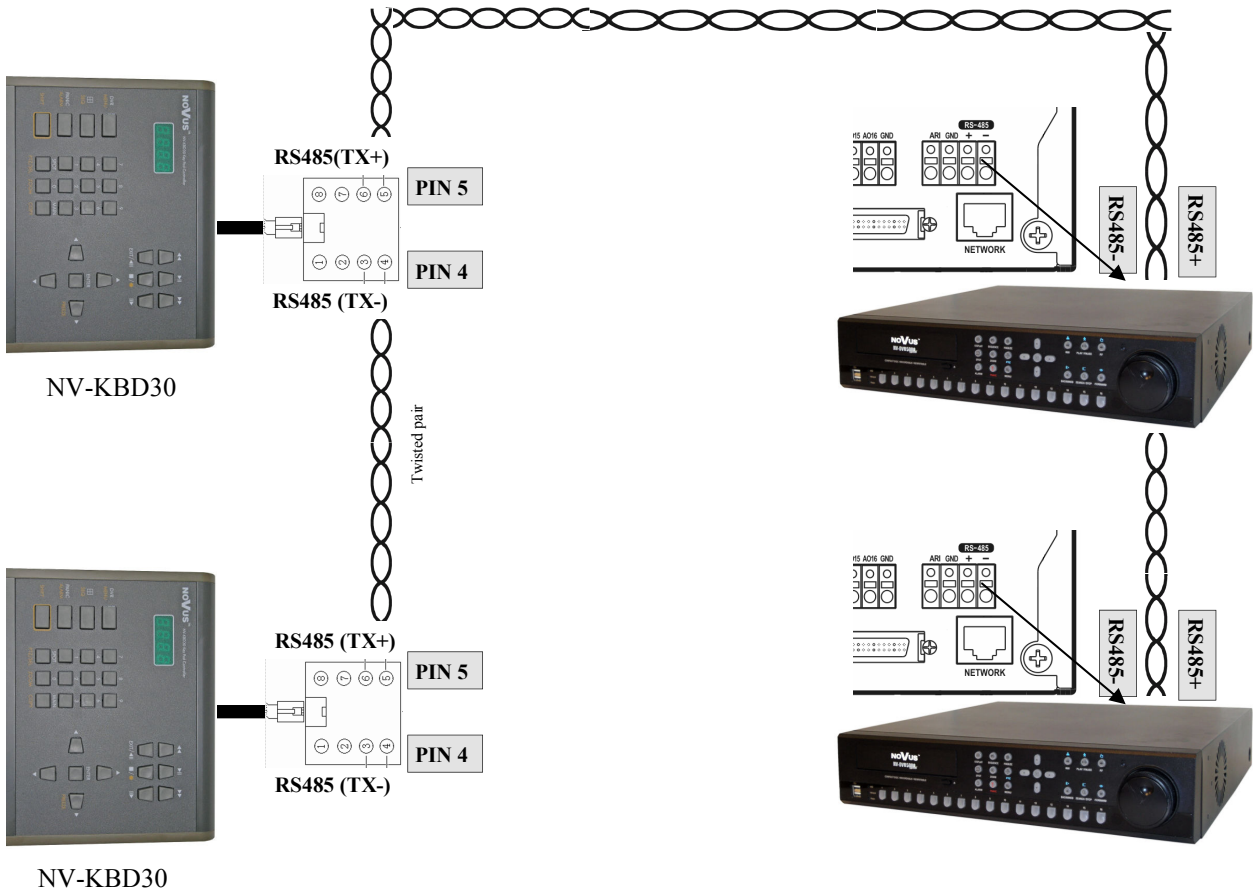


Warning:

In case system consists of more than two multiplexers, connections between following multiplexers should be made as on the diagram.

CONNECTING DIGITAL MULTIPLEXER AND KEYBOARD

4.7 Connecting keyboards and NV-DVR5004 / NV-DVR5009/NV-DVR5016 digital multiplexers



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Warning:

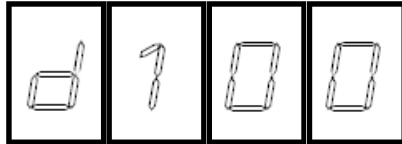
In case system consists of more than two multiplexers, connections between following multiplexers should be made as on the diagram.

TURNING ON THE KEYBOARD

5. USING KEYBOARD

5.1. Operating the keyboard

After connecting Power supply, you will see the following characters on LED display:



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This means that the keyboard is ready to work.

The keyboard has two operating modes:

1. Normal operating mode—in this mode you can control DVR's and 'd' character is displayed on LED display.
2. Configuration mode—in this mode you can configure keyboard protocols and 'd' character is displayed on LED display.

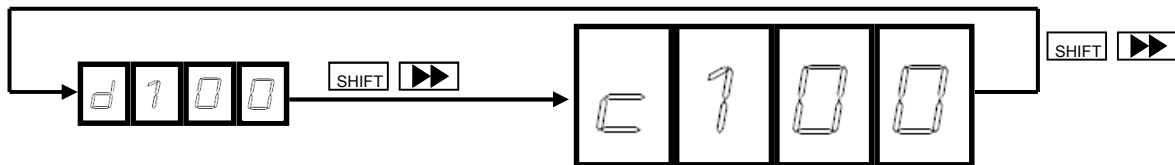
To start controlling a multiplexer select it's number using numerical keys and press DVR

Important! Some buttons have more than one function. Secondary functions are described in orange near the button. To select a secondary function press SHIFT together with selected key.

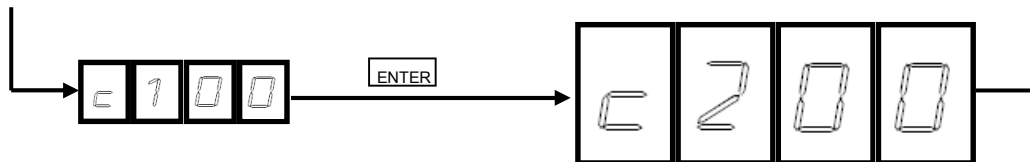
KEYBOARD CONFIGURATION

5.2. Keyboard configuration

Press **SHIFT** **▶▶** keys to enter configuration mode. Following characters will be displayed:



Select protocol using **1** **2** **3** keys and press **ENTER** to confirm and switch to next camera ID. Follow steps above to configure cameras 2-9.



Press **SHIFT** **▶▶** keys to leave configuration mode.

Protocol list:

- 1** – Novus NV-DVR900/NV-DVR1600 protocol
- 2** – Novus NV-DVR5009/NV-DVR5016 protocol
- 3** – Novus NV-DVR1104/NV-DVR1108/NV-DVR1116 protocol

Important:

- 1. Keyboard controller is using 9600 baud rate only. The same baud rate should be selected in connected DVR's.**
- 2. DVR numbers on the keyboard level are strictly related to DVR ID numbers and they can not be changed.**

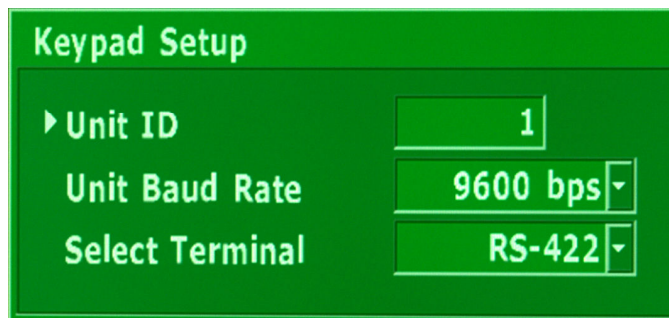
USING KEYBOARD

6. REMOTE CONTROL OF THE DEVICES BY MEANS OF NV-KBD30 KEYBOARD

6.1. Remote control of NV-DVR900/NV-DVR1600/NV-DVR3009/NV-DVR3016 multiplexers using keyboard

6.1.1. Configuration of transmission parameters.

9600bps baud rate should be selected in the multiplexer level. You should also select appropriate transmission terminal - RS-422.



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Warning: in case of connecting more than one multiplexer, each multiplexer address should be unique in the system.

6.1.2. Remote control

To change multiplexer, select new multiplexer number using numerical keyboard and press

To change channel on the main monitor, type channel number using numerical keyboard and press

To change channel on the spot monitor, type channel number using numerical keyboard and press



















Use cursors to move through the menu. To Enter selected option in the menu press

To type password, press number from numerical keyboard and press to select character. Follow this procedure to type all characters of password

In the camera control mode, FFWD & REW buttons work in the same way as the shuttle knob from the multiplexer panel. To move a camera you need to press the cursors on the keyboard and next choose the speed of camera pan/tilt.

To choose a preset you need to use the FFWD & REW buttons to select preset numbers, and confirm you selection using button.

USING KEYBOARD

KEYS	FUNCTION
	digital zoom function
	picture freeze function
	switching display mode
	entering setup
	starting sequential displaying
	enter key
	exiting setup
	play/pause
	stop
	recording start
	fast forward
	fast backward
	picture forward
	picture backward
	cursor UP
	cursor DOWN
	cursor RIGHT
	cursor LEFT

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USING KEYBOARD

6.2. Remote control of NV-DVR5004/NV-DVR5009/NV-DVR5016 multiplexers using keyboard

6.2.1. Configuration of transmission parameters.

To establish a make proper communication between multiplexer and keyboard, the following steps should be accomplished:

1. Select MENU (from DVR front panel), select DEVICES -> REMOTE CONTROL. Select RS-485 port and keyboard type: KEYBOARD. Select SETUP and configure port as follows:
9600 bps, 8 data bits, 1 stop bit, none parity
2. Select SYSTEM->INFORMATION. Select device ID.

Warning: in case of connecting more then one multiplexer, each multiplexer address should be unique in the system.

6.2.2. Remote control

To change multiplexer, select new multiplexer number using numerical keyboard and press

To change channel on the main monitor, type channel number using numerical keyboard and press

To change channel on a spot monitor, type channel number using numerical keyboard and press











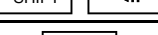




Then select spot monitor number.

Use cursors to move through the menu. To Enter selected option in the menu press

To type password, press number from numerical keyboard and press to select character. Follow this procedure to type all characters of password.

Caution! In PTZ mode the movement of the cameras is not continuous (press the movement button repeatedly). To make the operation of PTZ camera easier it is advisable to use programmable presets.

USING KEYBOARD

KEYS	FUNCTION
	switching display mode
	entering setup
	starting sequential displaying
	enter key
	play/pause
	stop/search
	picture freeze
	fast forward
	fast backward
	picture forward
	picture backward
	cursor UP
	cursor DOWN
	cursor RIGHT
	cursor LEFT

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USING KEYBOARD

6.3. Remote control of NV-DVR1104/NV-DVR1108/NV-DVR1116 multiplexers using keyboard

6.3.1. Configuring transmission parameters.

To make proper communication between multiplexer and keyboard, following steps should be accomplished:

1. Select MENU (from DVR front panel), select SYSTEM SET. Select device ID.
2. Select 9600 baud rate and proper device ID (in keyboard)

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Warning: in case of connecting more then one multiplexer, each multiplexer address should be unique in the system.

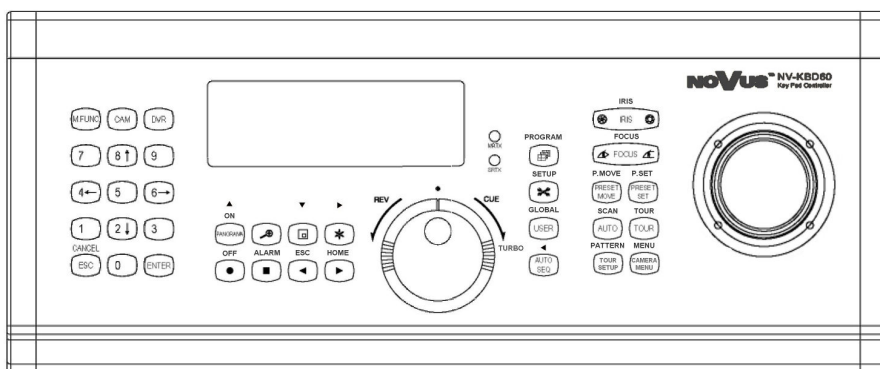
6.3.2. Remote controlling

To start controlling a multiplexer using numerical keys select it's number and press 















Keyboard will display the following information :

DVR: 01

You can control multiplexer functions using buttons located in keyboard's center and numerical buttons.



USING KEYBOARD

KEYS	FUNCTION
	switching display mode
	PTZ
	Auto
	enter key
	play
	stop
	fast forward
	fast backward
	picture forward
	picture backward
	cursor UP
	cursor DOWN
	cursor RIGHT
	cursor LEFT

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