Installation and Operating Manual

Keyboard for Fastrax Dome Video Cameras

EDC-KBD1

eneo®

Table of Contents

1. Introduction 3
1.1 Features 3
1.2 Parts supplied 3

2. Installation 4
2.1 Connection Diagram 4
2.2 Termination & Dip Switch Setting 8
2.3 Multiplexer Control 9
2.4 Keyboard Setup 9
2.5 Master & Slave Keyboard Setting 11
2.6 Installation with DLR2-4/9/16 channel and DXR series 12
2.7 How to control many DLRs with EDC-KBDXX 14

3. Operation 17
3.1 Keyboard Lock/Unlock 17
3.2 Controlling Multiplexer 17
3.3 Summary of Keyboard Controls 19

4. Trouble Shooting 22
5. Specifications 22

Safety Instructions

- Read these safety instructions and the operation manual first before you install and commission the unit.
- Keep the manual in a safe place for later reference.
- Protect your unit from contamination with water and humidity to prevent it from permanent damage. Never switch the unit on when it gets wet. Have it checked at an authorized service center in this case.
- Never operate the units outside of the specifications as this may prevent their functioning.
- Do not operate the unit beyond their specified temperature, humidity or power ratings. Operate the unit only at a temperature range of 0°C to +50°C and at a humidity of max. 90%.
- To disconnect the power cord of the unit, pull it out by the plug. Never pull the cord itself.
- Pay attention when laying the connection cable and observe that the cable is not subject to heavy loads, kinks, or damage and no moisture can get in. Do not attempt to disassemble the camera board from the dome.
- The warranty becomes void if repairs are undertaken by unauthorized persons. Do not open the camera housing.
- Maintenance and repair have to be carried out only by authorized service centers.
- Do not use strong or abrasive detergents when cleaning the dome. Use a dry cloth to clean the dome surface. In case the dirt is hard to remove, use a mild detergent and wipe gently.

NOTE: This is a class A digital device. This digital device can cause harmful interference in a residential area; in this case the user may be required to take appropriate corrective action at his/her own expense.

1. Introduction

1.1 Features

This keyboard controller is capable to control 254 Fastrax II dome cameras and remote control functions for variety of external switching devices like Multiplexer(max 255), Digital Video Recorder(max 99) etc…

The keyboard controller features:

- The capability of control a camera's panning and tilting movement with variable speed as well as its zoom, focus, and iris command. Normal speed is inversely proportional to the current zoom ratio. Turbo speed is Max 360°/sec when **Ctrl** key pressed.
- The ability to define and recall up to 240 **presets**, which are immediate camera call-ups of preset position view.
- The ability to define and run up to 4 **patterns**.
- The ability to define and run up to 8 **scans**, which scan between two limits.
- The capability to incorporate up to 300 of the presets, patterns, scan and tour itself in up to 8 **tours**, where the presets, patterns and scan automatically displayed one after the other on the Main monitor.
- **Global preset** recalls preset of all dome cameras.
- Auto Iris mode activated by moving the joystick slightly.
- Auto Focus mode is activated by twisting the zoom handle slightly.
- Programmable user preferences (alarm, preset, title, etc.).
- Administrator and user, two levels of password are supported for higher security.
- One Master and slave Keyboard is supported to control in a distant place.
- Multiplexers (Max 255) or DVR system (Max 99) can be controlled remotely.
- Up to two programmed data from domes can be downloaded to none volatile memory space in KBD, and uploads to a new dome.

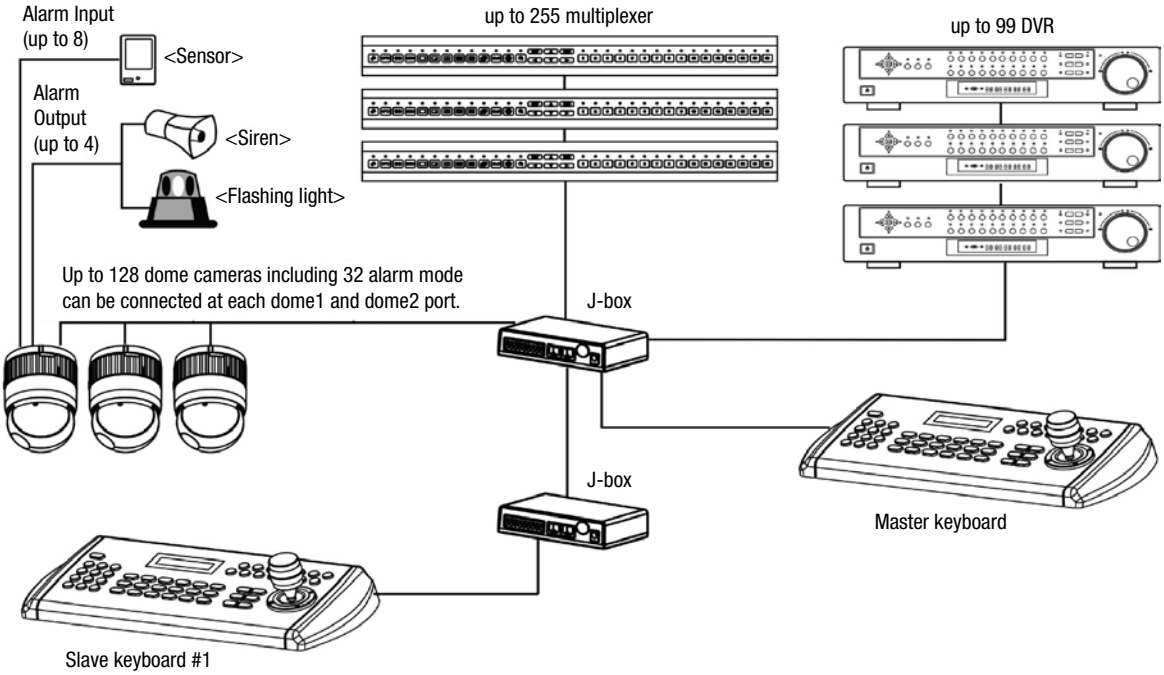


Figure 1: Typical System Configuration

1.2 Parts supplied

Unpack the equipment and make sure all listed items are included in the box.

1x Keyboard controller
1x Junction box
2x 3m cable
4x M4 Self tapping screws
1x Instruction manual
1x 12VDC SMPS

2. Installation

2.1 Connection Diagram

2.1.1 Basic Installation Diagram

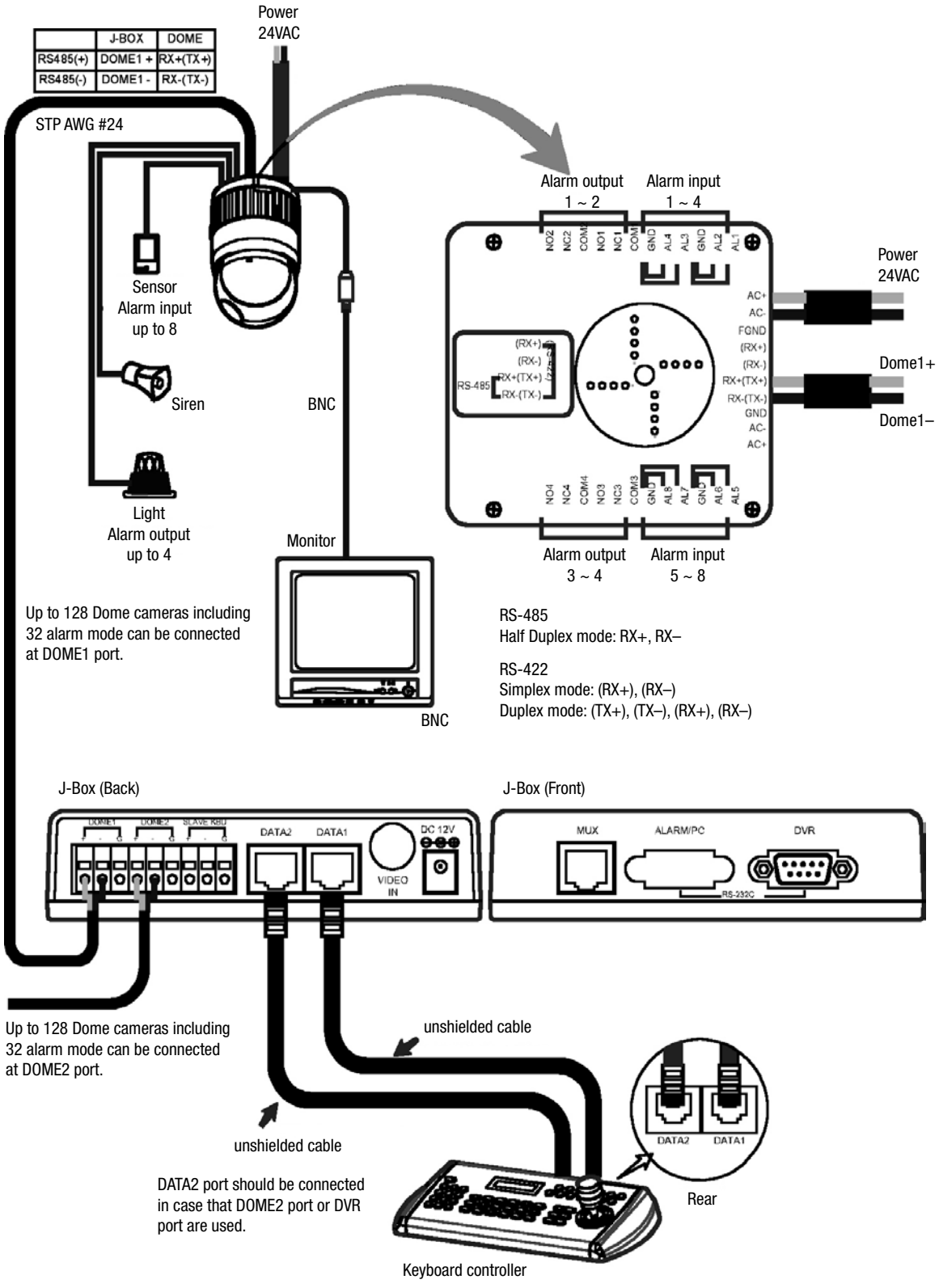


Figure 2: Basic installation diagram

2.1.2 Single Multiplexer

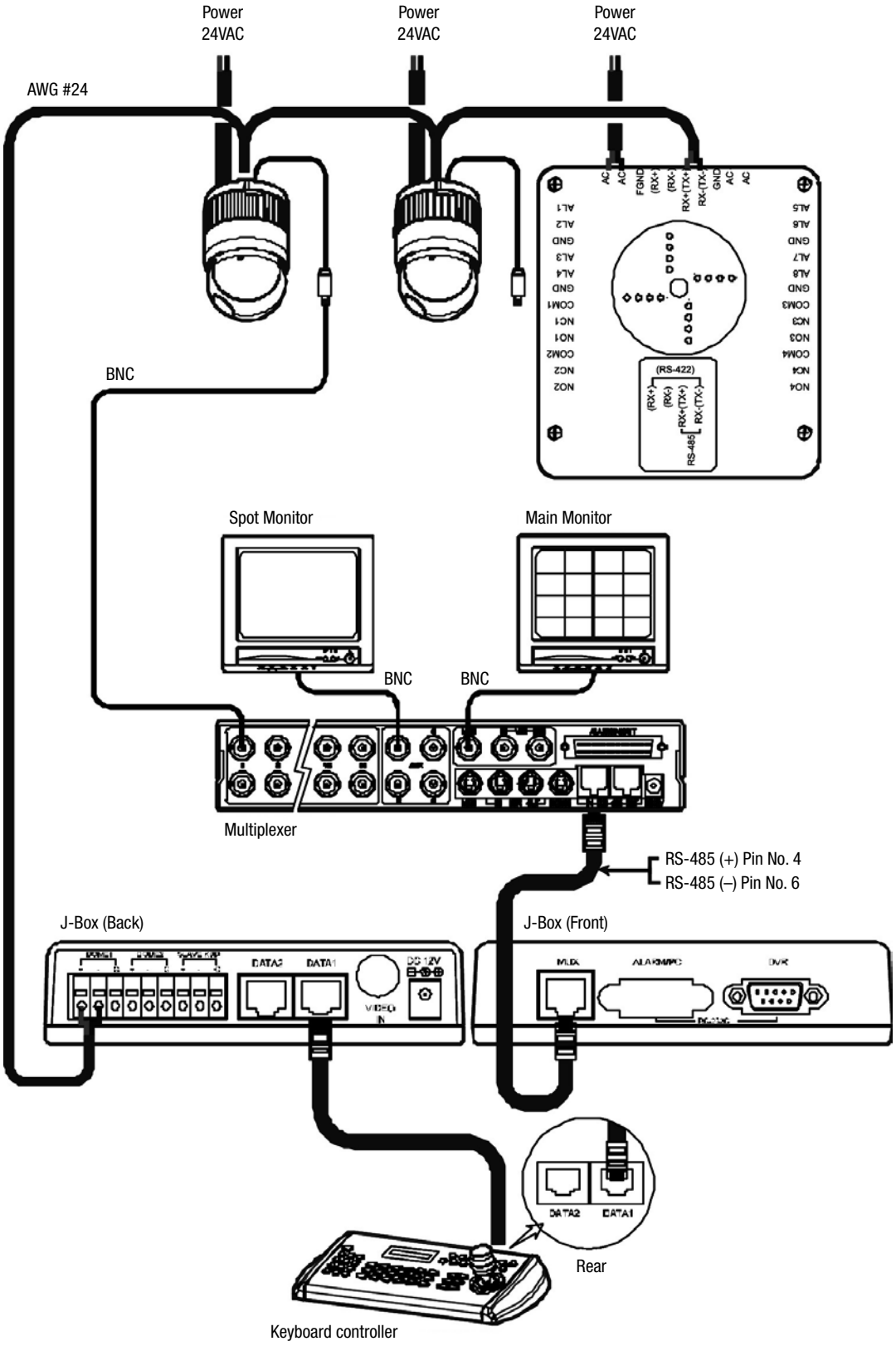
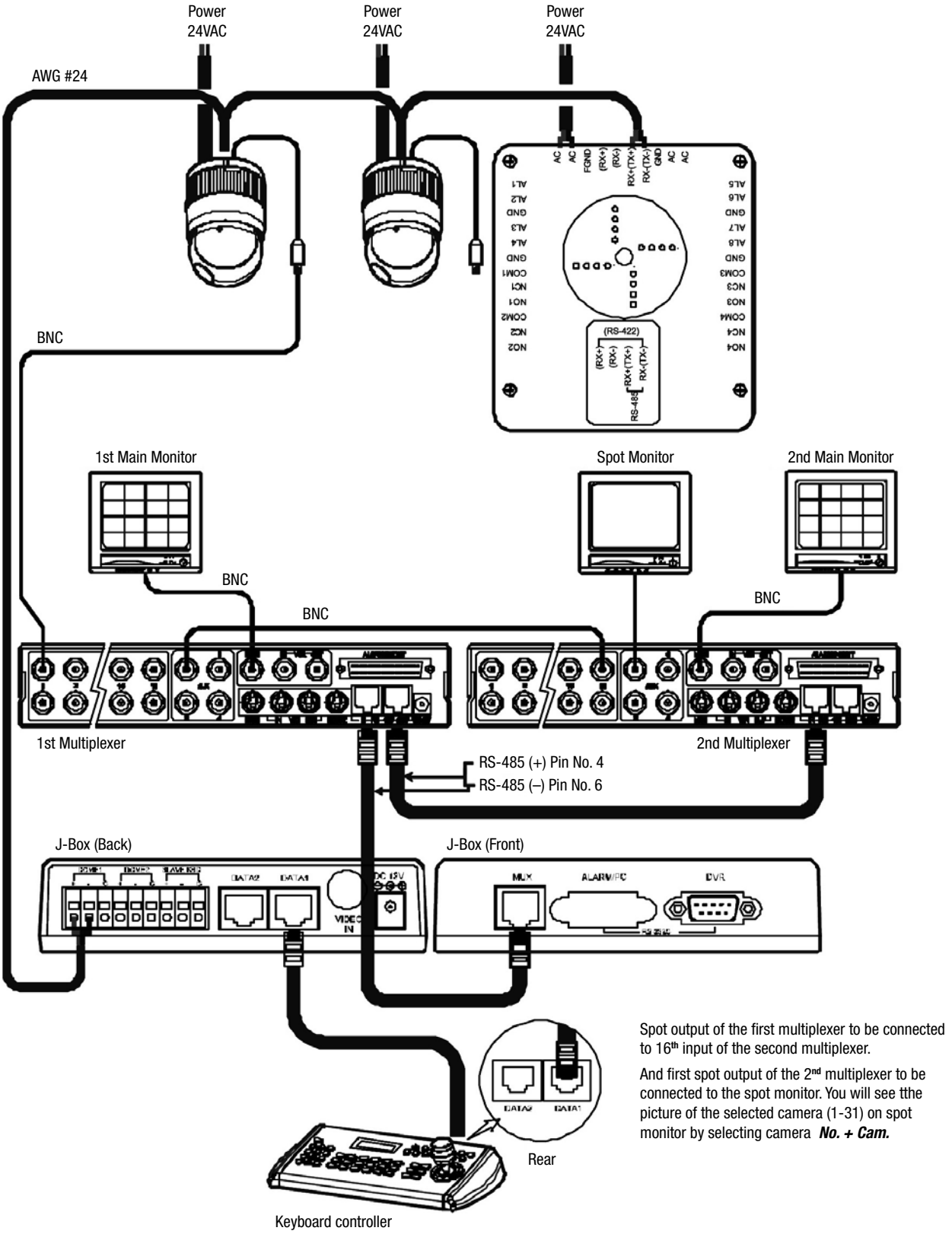


Figure 3: Single Multiplexer

2.1.3 Two Multiplexer



Spot output of the first multiplexer to be connected to 16th input of the second multiplexer.

And first spot output of the 2nd multiplexer to be connected to the spot monitor. You will see tthe picture of the selected camera (1-31) on spot monitor by selecting camera ***No. + Cam.***

Figure 4: Two Multiplexer

2.1.4 Two Multiplexer with Slave Keyboard Controller

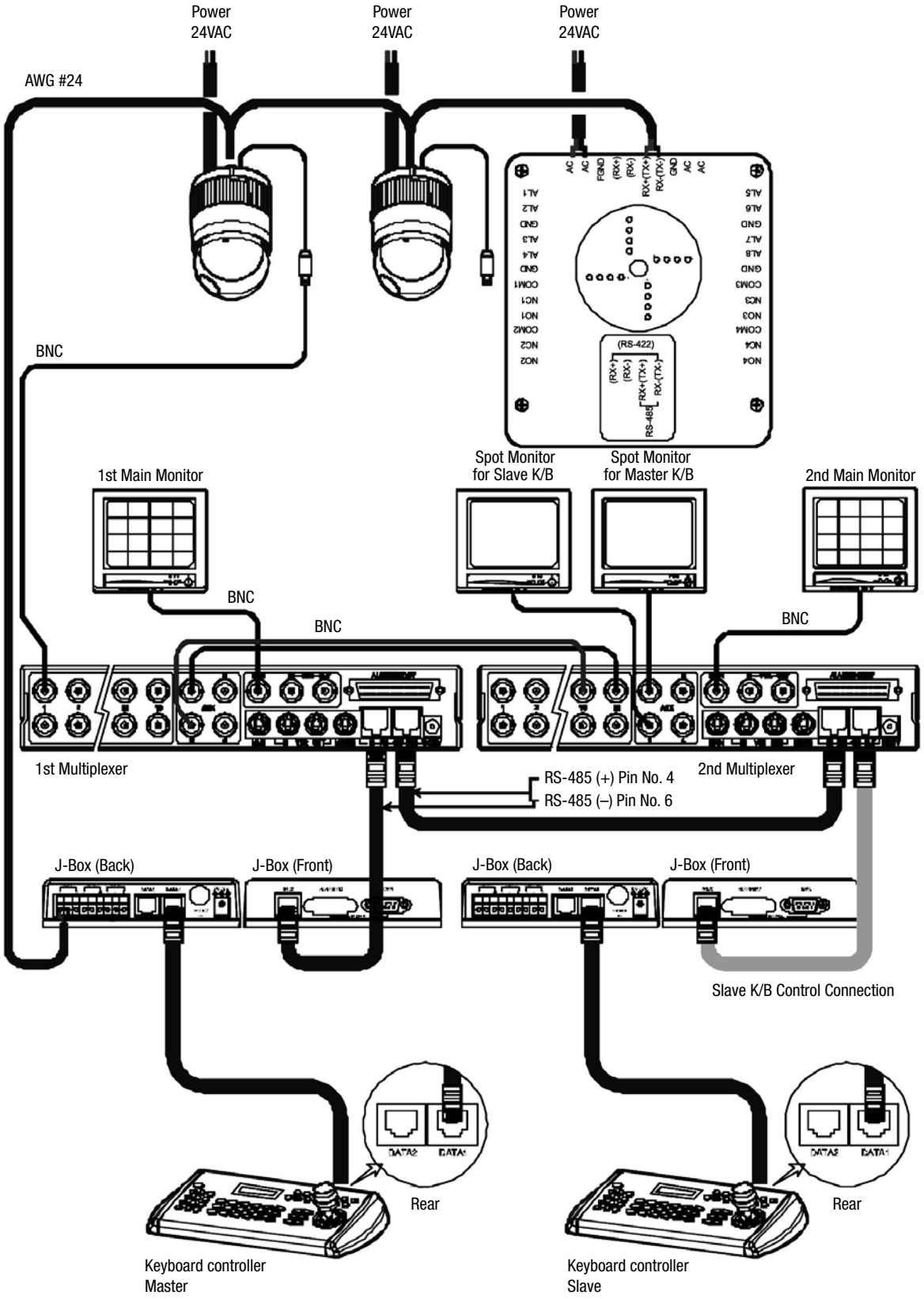


Figure 5: Two Multiplexer with Slave Keyboard Controller

Spot output 1 of the first multiplexer to be connected to 16th input of the second multiplexer.

n: User, Spot out of nth to be connected to (17-n)th camera input of the 2nd multiplexer. nth spot out of the 2nd multiplexer to be connected to the nth spot monitor. Each user will see the picture of the selected camera (1 ~ (31-n)) on nth spot monitor of the Mux 2 by selecting camera ***No. + Cam.***

2.2 Termination & Dip Switch Setting

The first and last devices in an installation (dome and keyboard controller) must have the data line terminated by setting the DIP switch. Without proper termination, there is potential for control signal errors. Total length of the cable for communication should not exceed 1.2km.

Refer to Figure 7 for setting the dome camera and keyboard controller termination.

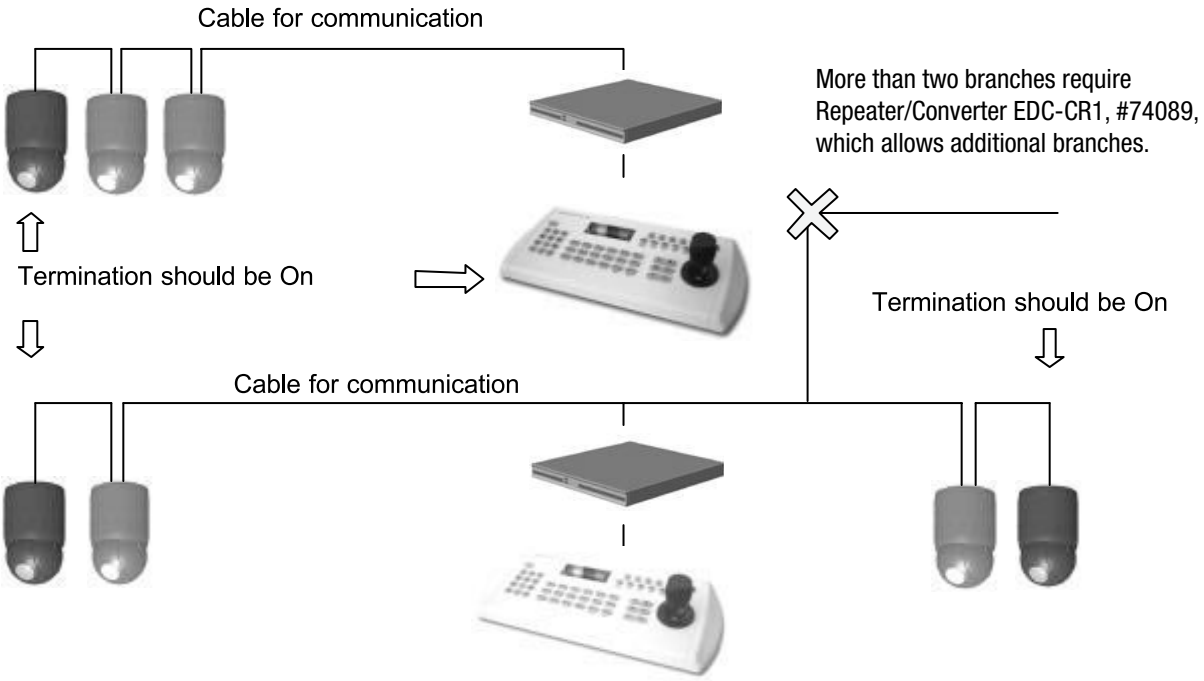


Figure 7: Termination and ID Switches

Termination and Master/Slave: Set the switches according to your configuration.

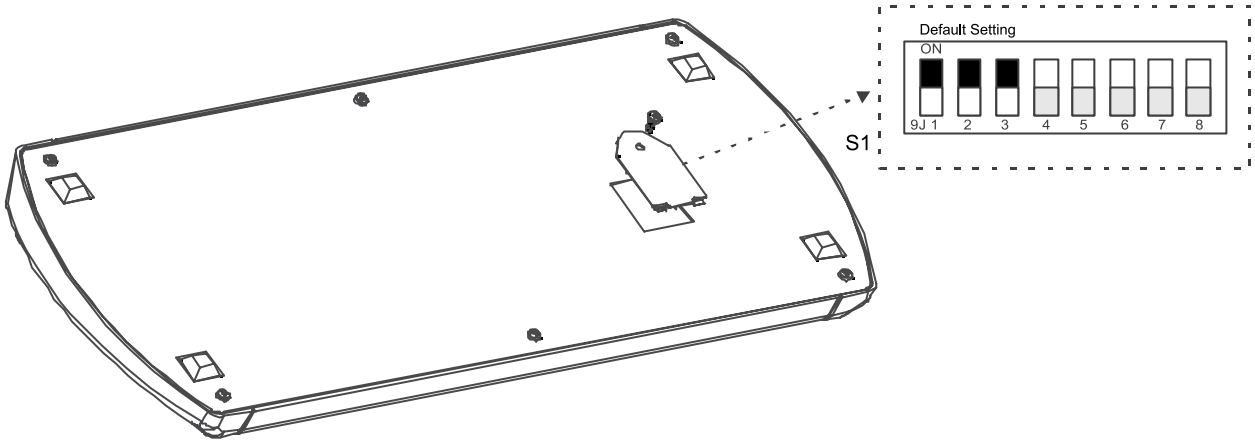


Figure 8: Keyboard DIP Switches

Termination	DOME1	MUX/Slave	DOME2				Controller		
	1	2	3	4	5	6		7	8
ON	ON	ON	ON	reserved			SLAVE	ON	reserved
OFF	OFF	OFF	OFF				MASTER	OFF	

Table 1: S1 Switch setting

2.3 Multiplexer Control

Duplex setup:

NOTE:

- Multiplexers require a new ROM version to be controlled by the keyboard controller. The new multiplexer ROM accepts control instructions from the keyboard controller.
- If your multiplexer's serial number is **M104xxxx** or higher, then it is ready to accept control instructions.
- Alternately, you can check the status of your multiplexer by pressing the Menu key of the multiplexer and then selecting item 9.
- If you see the „** Protocol" option line in the Communication Setup menu, your multiplexer has the new ROM, and you do not need to replace the ROM.
- If your multiplexer has the old ROM version, contact your distributor on how to get new a ROM.

CAUTION: Before opening the multiplexer, make certain you are working on an antistatic work surface and that you are wearing a grounding wrist strap. Also, be very careful to orient the ROM chip correctly and not bend any of the pins.

NOTE: Replace the multiplexer firmware with the new multiplexer ROM (U45) as follows:
Remove the top cover of the multiplexer, and locate the **ROM (U45)**. Before removing the ROM, note the orientation of the ROM. After removing the old ROM from the socket, insert the new ROM. Be careful to orient the new ROM the same as the old ROM.
(Refer to the Multiplexer instruction manual.)

Set the multiplexer functions as follows:

Press the **Menu** key of the multiplexer to enter the Unit Options menu.

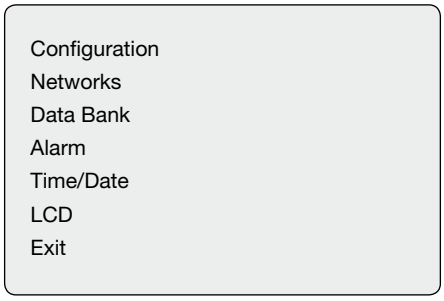
Unit Options	
Unit Number:	001 (first Mux) or 002 (second Mux)
Communication Type:	RS-485
Baud rate:	9600 bps
PORT:	ON
** Protocol:	B (If you see this line, the multiplexer has the new ROM)

** The old ROM version does not show Protocol selection option.
Multiplexer alarm inputs will function normally, but the Dome controller has no way of knowing about alarms wired to the Multiplexer. If a Dome preset is required for such an alarm, you must connect the same alarm input to both the multiplexer and Dome.

Triplex setup:	Unit setup
Network Type:	RS-485
Baud Rate:	9600 bps
Unit address:	001 ~ 128
Protocol:	B1

2.4 Keyboard Setup

User need to setup network, passwords and special functions such as Uploading and Downloading programmed data from the dome cameras. To enter the Keyboard menu, press **Ctrl + Menu**. You will see the following menu. Joystick Up/Down scrolls menu items, push the stick to Right to enter the sub-menu.



Configuration

- Key Beep :	ON - enable key beep sound, OFF - Disable beep sound.
- Key-Lock :	OFF~60Min - After elapsed setup time, keyboard lock automatically. OFF - Disable Auto Key-Lock function. User needs login password to operate Keyboard again.
- Chg User Pin	- Change 4digit of user password.
CurrentPin :	Enter 4 digits of current user's password.
NewPin :	Enter 4 digits of new password.
ConfirmPin :	Confirm 4 digits of new password.
- Chg Admin Pin	- Change 4 digits of administrator's password.
CurrentPin:	Enter 4 digits of new password.
NewPin:	Enter 4 digits of new password.
ConfirmPin:	Confirm 4 digits of new password.

Note: Factory default Administrator's password is 9999+Enter and user password is 1111+Enter.
If you forgot your own password, contact service personnel or distributor.

- Rescan Domes	Scan newly installed dome cameras without turn off the Keyboard power.
- Save and Exit	Save the programmed data and return to the previous Menu (Exit without saving if you press **ESC** key)
Networks	Network Setup Properties of devices to be connected.
Network Setup	Properties of devices to be connected.
- Set Baud rate	
D1:	2400~230K Correspond with dome setting (9600bps)
D2 / DVR:	2400~230K
MUX / AUX:	2400~230K
DVR / AUX:	2400~230K
Save and Exit	
- Com Ports	Select the device to be connected on selected port.
D1:	None / Dome
D2 / DVR:	None / Dome / DLR / DLR2 / AUX IN / AUX I/O
MUX / AUX:	None / VCMD / VCMT / AUX IN / AUX I/O
DVR / MUX:	None / DLR / DLR2 / AUX IN / AUX I/O
Save and Exit	Save the programmed data and return to the previous Menu (Exit without saving if you press **ESC** key)
- Set Slave kbd	
Slave kbd: ON/OFF	ON- Slave KBD exit, OFF- Not exist.
MUX control: ON/OFF	Set accessibility of the multiplexer menu at slave keyboard
DVR control: ON/OFF	Set accessibility of the DVR menu at slave keyboard
Dome Menu: ON/OFF	Set accessibility of the dome camera menu at slave keyboard
Release: INF/001~200s	INF (Infinite) - Slave Keyboard user never have the control right of the dome which is selected by master Keyboard users 1 ~ 200s (Second) - After elapse of programmed time since master Keyboard user use the dome, slave Keyboard user can get the control right of the dome.
Save and Exit	Save the programmed data and return to the previous Menu
- Exit	
Data Bank	- Up/Download saved data of the dome
DataBank 1: 001	001— Data from Dome ID 001 is exist on Bank 1
- Upload	If you are sure to upload or clear data to the selected dome then
- Clear Data	press **Enter** key, **ESC** key to cancel and exit.
- Exit	
DataBank 2:	Empty
- DownLoad	If you are sure to download data from the selected dome then
- Exit	Press **Enter** key, **ESC** key to cancel and exit.

Alarm

- Alarm Check: ON/OFF Whether KBD check the alarm input of domes or not. ON: 32 domes, Off: 64 dome cameras supported.
- Alarm Beep: ON/OFF When dome's alarm, beep sound on or off
- Exit

Time/Date

- Display: ON/OFF
- Date/Day: 23 SUN
- Month: JAN
- Year: 2005
- Hour: 20
- Minute: 18
- Save and Exit

LCD

- Bright: 01~13
- Save and Exit

2.5 Master & Slave Keyboard Setting

You can use two keyboards at distant site.

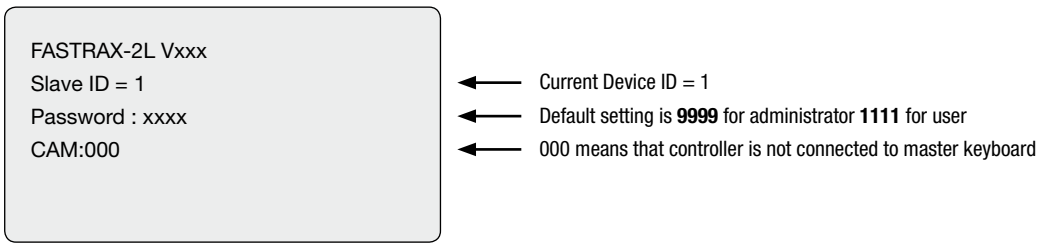
Master keyboard should be setup as following procedure:

1. Check for dip switch the 7th of **S1** „OFF".
2. Press **Ctrl + Menu**. Check Slave KBD setting „ON". (Networks ▶ Set Slave Kbd ▶ Slave kbd:ON)

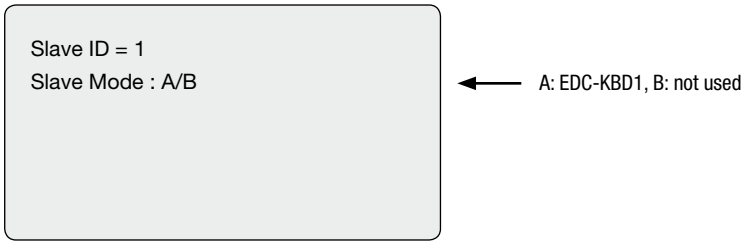
Slave keyboard need to setup as following procedure:

1. Check for dip switch the 7th of S1 „ON".

2. If you setup all connection correctly (See Figure 5) and turn on slave keyboard, you can see following screen:

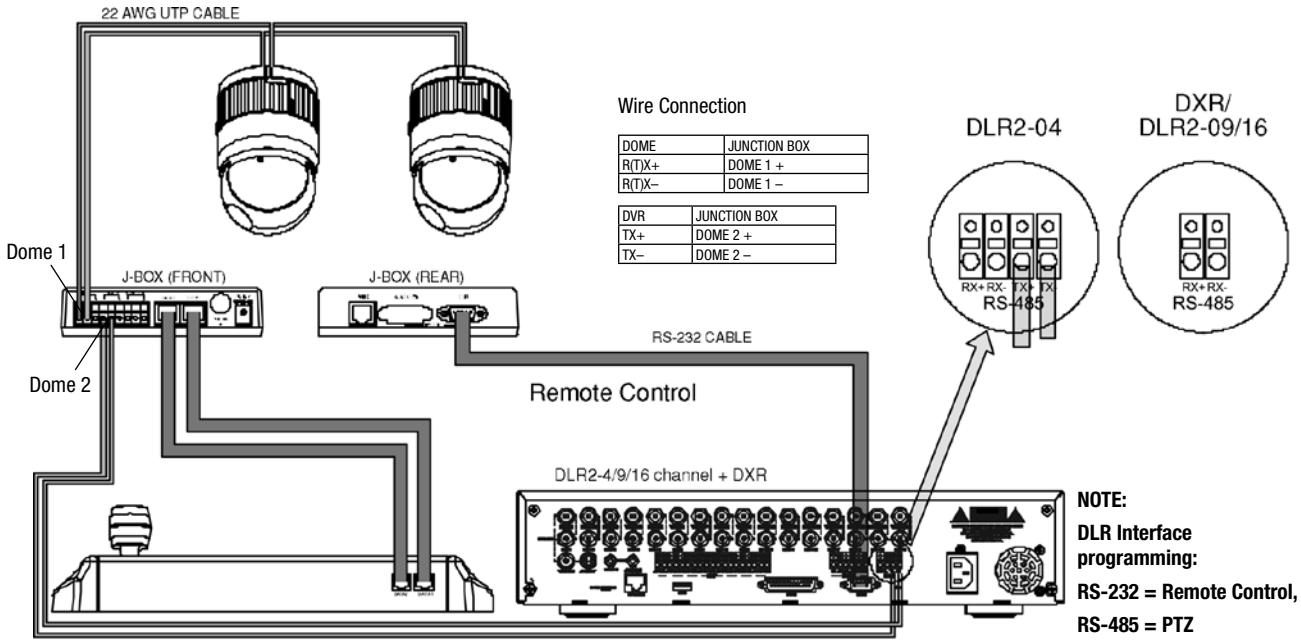


3. Press **Ctrl + Menu**. Set the Slave ID to 01
4. Set Slave Mode to „A" in case that master keyboard model is the EDC-KBD1.



2.6 Installation with DLR2-4/9/16 channel and DXR series

2.6.1 Installation with additional PTZ function via front keyboard or RAS software



PTZ control from DVR and via RAS software

RS-232 cable	
Plug	Female – Female
Assignment	Pin 2 –> 3, 3 –> 2, 5 –> 5

Figure 9: DVR Connection diagram – PTZ control via EDC-KBD1 front keyboard and RAS software

If user wants to connect with DVR, proceed as the following order:

1. Connect RS-232 cable between RS-232 Port of DVR and DVR port of the J-box. (This connection enables DVR control remotely from KBD controller)
2. Connect 8 pin Multi cable between the data2 port of the KBD and the J-BOX.
3. Connect wires between the TX (+/-) of DVR and DOME2 (+/-) of J-Box. (This connection enables DVR PTZ control from the RAS software)
4. How to setup the KBD controller.
   A. Connect 8 pin Multi cable between the data1 port of the KBD and the J-BOX
   B. Input password (Factory setting is **9999**)
   C. Open the menu of the KBD controller by pressing **CTRL + MENU** Key.
   D. Set as below in the Networks and Alarm menu.

Set Baud rate	
D1	: 9600
D2/DVR	: 9600
MUX/AUX	: 9600
DVR/AUX	: 9600
SAVE AND EXIT	

Comm Ports	
D1	: DOME
D2/DVR	: AUX IN
MUX/AUX	: NONE
DVR/AUX	: DLR1 or DLR2
SAVE AND EXIT	

Alarm	
Alarm Check	: ON
SAVE AND EXIT	

2.6.2 PTZ and recorder control via local keyboard EDC-KB1

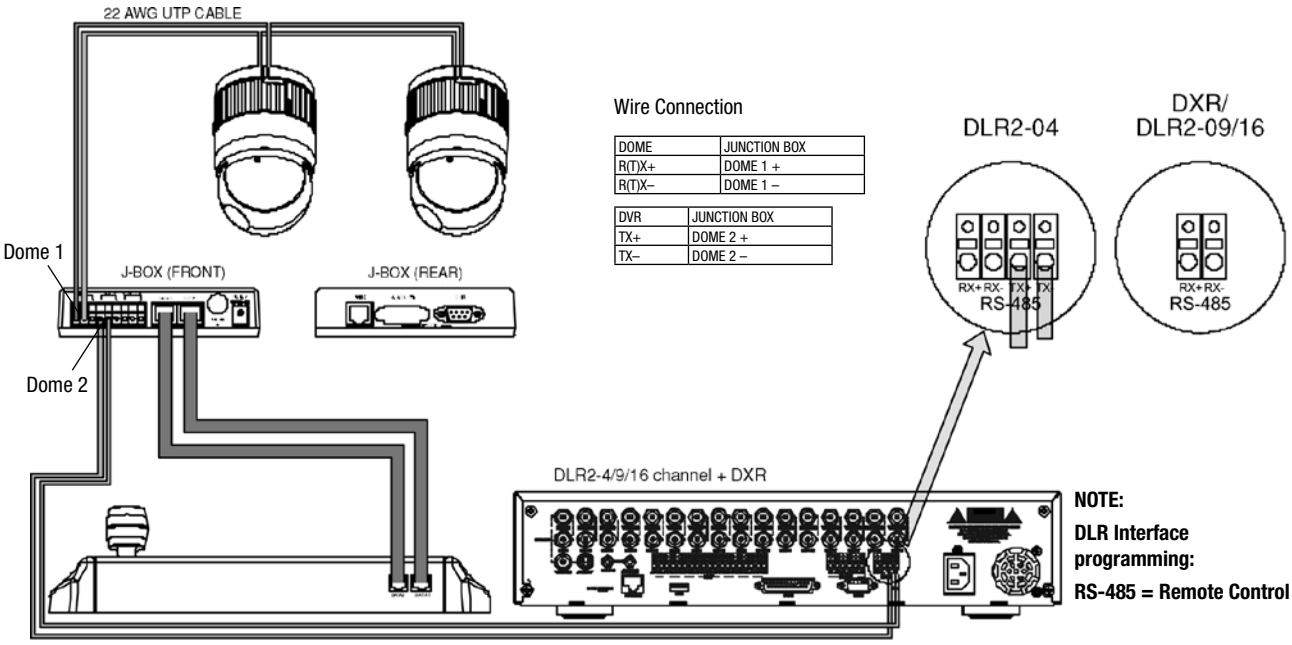


Figure 9A: DVR Connection diagram – PTZ control via EDC-KBD1

If user wants to connect with DVR, proceed as the following order:

1) Connect wires between the TX(+/-) of DVR and Dome2 (+/-) of J-Box. (This connection enables DVR/PTZ control from the keyboard controller)
2) How to setup the controller:
   A. Connect 8 pin Multi cable between the data1 port of the KBD and the J-BOX
   B. Input password (Factory setting is **9999**)
   C. Open the menu of the keyboard controller by pressing **CTRL + MENU** Key.
   D. Set as below in the Networks and Alarm menu.

Set Baud rate	
D1	: 9600
D2/DVR	: 9600
MUX/AUX	: 9600
DVR/AUX	: 9600
SAVE AND EXIT	

Comm Ports	
D1	: DOME
D2/DVR	: DLR1 or DLR2
MUX/AUX	: NONE
DVR/AUX	: NONE
SAVE AND EXIT	

Alarm	
Alarm Check	: ON
SAVE AND EXIT	

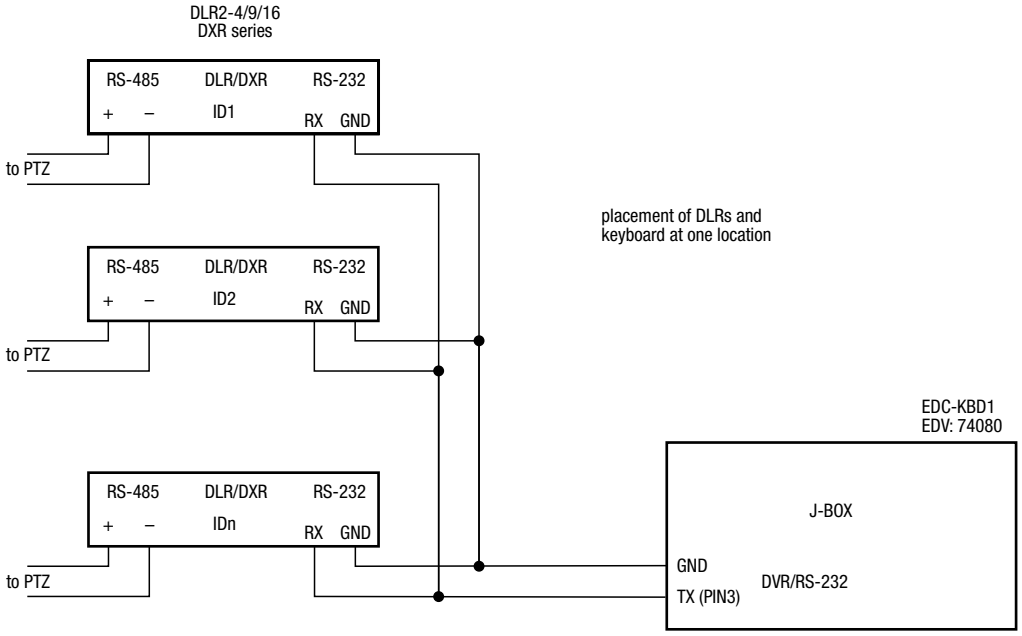
2.7 How to control many DLRs with EDC-KBDXX

Three different possibilities to control many DLR and DXR machines with one

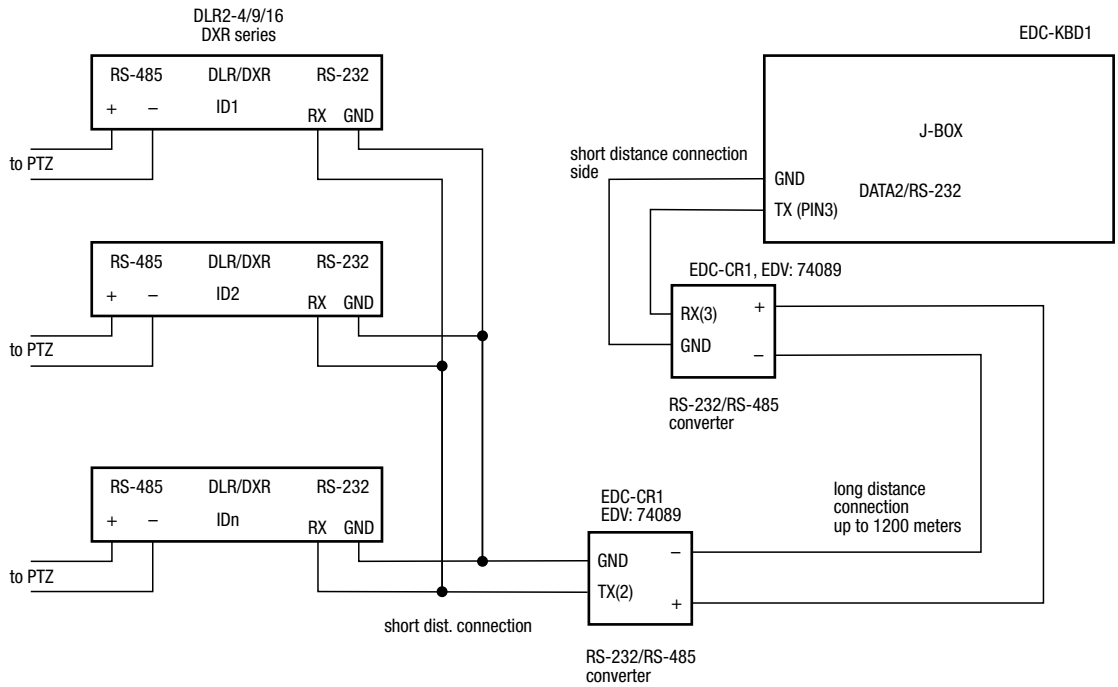
EDC-KBDXX Keyboard are illustrated below. The first one and the second one are very similar and allow to use RS-485 port on the DLR2 and DXR machines to control the PTZ units with the PTZ protocol selected on the DLR2. In the third approach the DLR2 machines are controlled via RS-485 port. This port once used to control DLR2 can not be used to control PTZ units. In this example Domes can be controlled only direct from keyboard.

For all cases RAS control can be realized in parallel to the serial control.

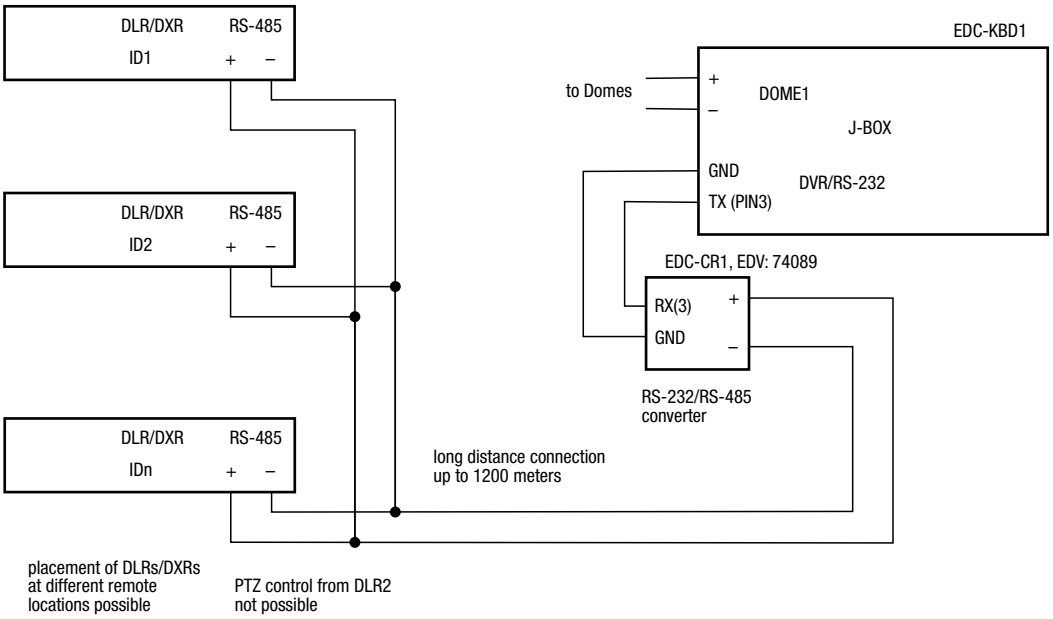
DLR2 and DXR control using DLR RS-232 port,
connection distance limited to 10-15 meters



DLR/DXR control using DLR RS-232 port,
remote keyboard distance up to 1200 meters
with 2x RS-232/RS-485 converters

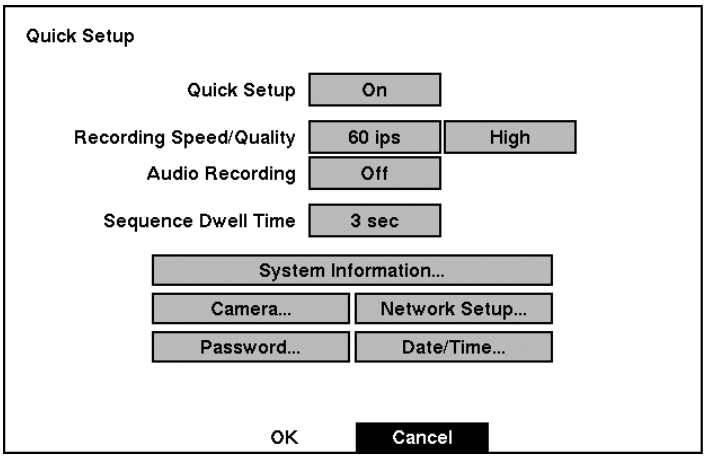


DLR/DXR control using DLR RS-485 port,
remote keyboard distance up to 1200 meters
with one RS-232/RS-485 converter

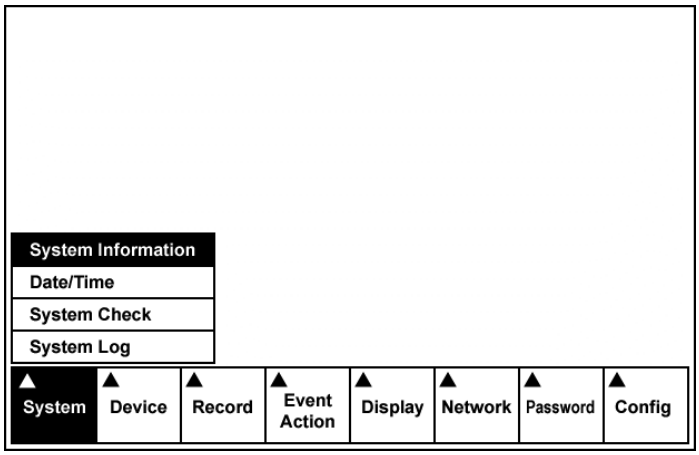


4) How to setup DVR

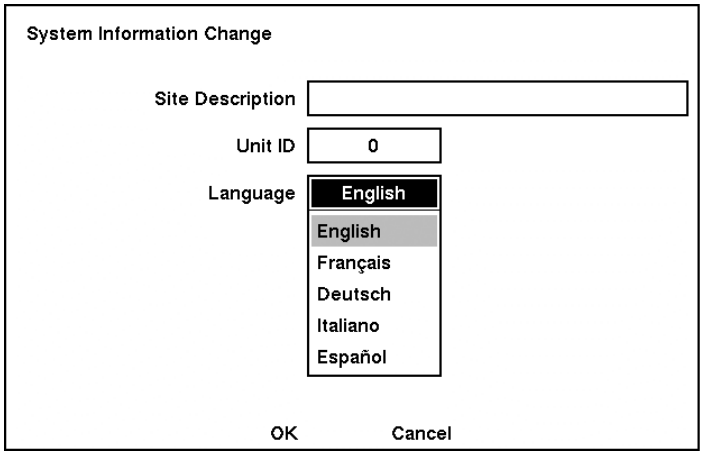
- Switch the DVR on.
- Press the **Menu** button. Input password according to the instruction. (Factory setting is **4321**)
- if the below screen is appeared, set „Quick Setup" to „Off".



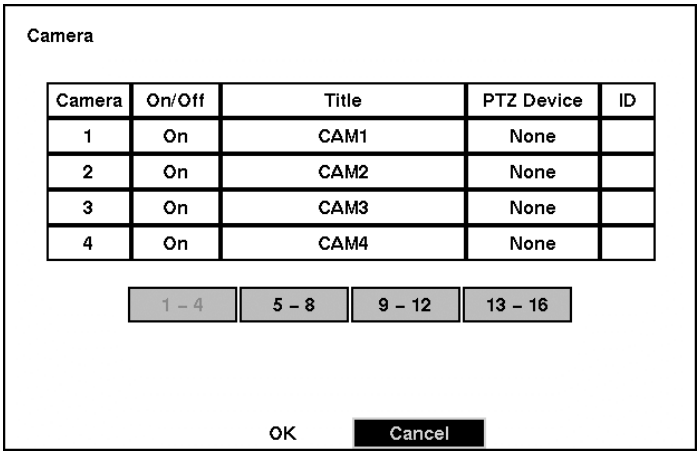
Press „OK”, and the below screen will be appeared.



Select „System Information” on the system menu and change UNIT ID.

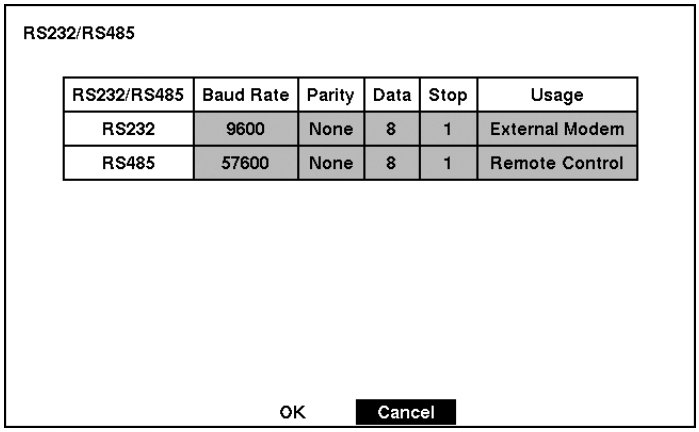


Select „Camera” on the Device menu. Unit ID should be 1 up to 99. Unit ID is not allowed number „0”.



Set „PTZ Device" and „ID" of the dome camera.

Select RS-232/RS-485 after PTZ is installed, and then set-up as below table.



RS-232/RS-485	Baudrate	Parity	Data	Stop	Usage
RS-232	9600	None	8	1	Remote Control
RS-485	9600	None	8	1	PTZ Control

5) After setting Unit ID, Camera, and RS-232/RS-485, installing dome camera is basically completed. Please refer to the manual of DVR for the other installation.

6) Press the related number of the controller which is correspondent to unit ID of DVR. Then press DVR button and adjust unit ID of the controller

7) Make sure if any change is appeared on screen when you press button of the controller for basic testing. If there's no change appeared, verify cable connection and setting of installation.

3. Operation

3.1 Keyboard Lock/Unlock (Hidden command)

When the user leaves the control desk, he may wish to lock the keyboard controller to prevent unauthorized use.

Pressing **777 + Enter** will lock the keyboard controller. Pressing **777 + Enter** while the keyboard is locked will open the password screen. If the correct password is entered, the keyboard controller will return to normal operation.

If the power is turned OFF and ON while the keyboard is locked, it will ask for the password. Entering the correct password will cause the keyboard controller to return to normal operation.

Note: ** If you forget your own passwords, turn off the keyboard controller, contact distributor to get 4-digit back door password. This will change the passwords to the factory default 1111 and 9999. Contact your service personnel to get 4-digit back door password.

3.2 Controlling Multiplexer

Using a multiplexer allows more flexibility in the types of cameras that can be used in a full system. Dome cameras and regular cameras can be mixed.

The keys **PIP, 2x2, 3x3, 4x4, Zoom, Set,** etc., are keys that are used to operate the multiplexer. See chapter 3.3 for details.

3.2.1 Selecting Multiplexer

Duplexer: Press **Macro/Menu** key to enter Multiplexer set up menu and hold down the **Enter** Key while navigating using the joystick. (**Enter+Joystick**)

Triplexer: Push the **Jostick** to upward with **Enter** pressed (**Enter+Joystick**) will show the Mux menu. It will act like a mouse. Rotatingthe handle clockwise will act like the set key of the multiplexer. Rotating counterclockwise will act like the **ESC** key of the Multiplexer.

3.2.2 Dome Camera Selection

There are three types of dome camera selection, **No. + Cam, No. + Main** and **Prev** or **Next**. And with these selections, the keyboard controller has full control of the selected camera if it is a dome camera.

Single multiplexer configuration

By pressing the camera No. **1** to **16 + Cam**, you will see the picture of the selected camera through the spot monitor which connected to the spot output of the multiplexer.

Two multiplexer configurations

By pressing the camera No. **1** to **31 + Cam**, you can see the picture of the selected camera through the spot monitor which is connected to the spot output of the second multiplexer.

Spot output of the first multiplexer is connected to the 16th camera input of the second multiplexer.

For example, **1 + Cam** will switch the camera 1 to second multiplexer spot output. If the selected camera is a dome, the keyboard controller has control of it, and you can control all functions of the selected camera using the keyboard controller.

Pressing the **Next** or **Prev** keys will scroll through all connected dome cameras and display them on the Spot output.

Viewing full screen mode (m + Mux, n + Main)

Select cameras 1 to 16 by pressing the camera number and then **Main**. The selected camera will appear in the full screen mode and is under control if it was dome camera.

Even if no camera is connected to the multiplexer input, the screen will show the camera input (see following example).

To select first multiplexer under control, press **1 + Mux** (m: ID of Mux – up to 128)successively

Multiplexer 1	Keyboard controller
1	**1 + Main**
2	**2+ Main**
.	
.	
15	**15 + Main**
16	**16 + Main**

This sequence (**No. + Main**) is same as pressing the 1, 2, 3… 16 buttons on the multiplexer. To select second multiplexer under control, press **2 + Mux** when a second multiplexer is connected:

Multiplexer 2	Keyboard controller
1	**1 + Main**
2	**2 + Main**
3	**3 + Main**
.	
.	
16	**16 + Main**

When using two multiplexer configuration, connect the main or spot output of the first multiplexer to the Camera 16 input of the second multiplexer.

If the spot output of the first multiplexer is connected to the Camera 16 input of the second multiplexer, you can see selected camera output through the spot output of second multiplexer by pressing camera No. (**1** to **31**) + **Cam** Successive camera call is valid on two Mux configuration only.

Example: **1+Cam** will switch camera 1 to the second multiplexer spot output and you can control all functions of the selected camera using the keyboard controller.

If you install more than two Multiplexers, the unit number (ID : up to 128) of the Multiplexer and selection of the Multiplexer must be the same in order to control the Multiplexer with the Keyboard.

Example: If the unit address (number, see page 15) of the Multiplexer is 128, you should press **128 + Mux** to control the 128th Multiplexer.

Picture on Spot output monitor (Camera No.1~16+Aux1~4)

Pressing Camera No. **1** to **16** + **Aux1~ 4** will switch the selected camera number to the specific spot monitor output of the multiplexer. The selected camera can be a dome camera or a standard camera. The Keyboard controller maintains control of the previously selected dome camera. It does not change the main output of the multiplexer.

Example: **m + Mux, n + AuxN m**: ID of Mux, **n**: input No. of camera, **N**: spot output No.

1 + MUX, 2 + Aux1 (~4) will switch camera 2 on multiplexer 1 to the spot output of multiplexer 1.

2 + MUX, 3 + Aux1 (~4) will switch camera 3 on multiplexer 2 to spot output of multiplexer 2.

1 + Cam will switch camera 1 to the spot output of multiplexer 1 and the keyboard controller has control of the selected camera.

In a two multiplexer configuration, **18** + **Cam** will switch camera 18 (second camera on Multiplexer 2) to the spot output of multiplexer 2 and the keyboard controller has control of the selected camera.

31 + **Cam** = camera 15 of the second multiplexer.

3.3 Summary of Keyboard Controls

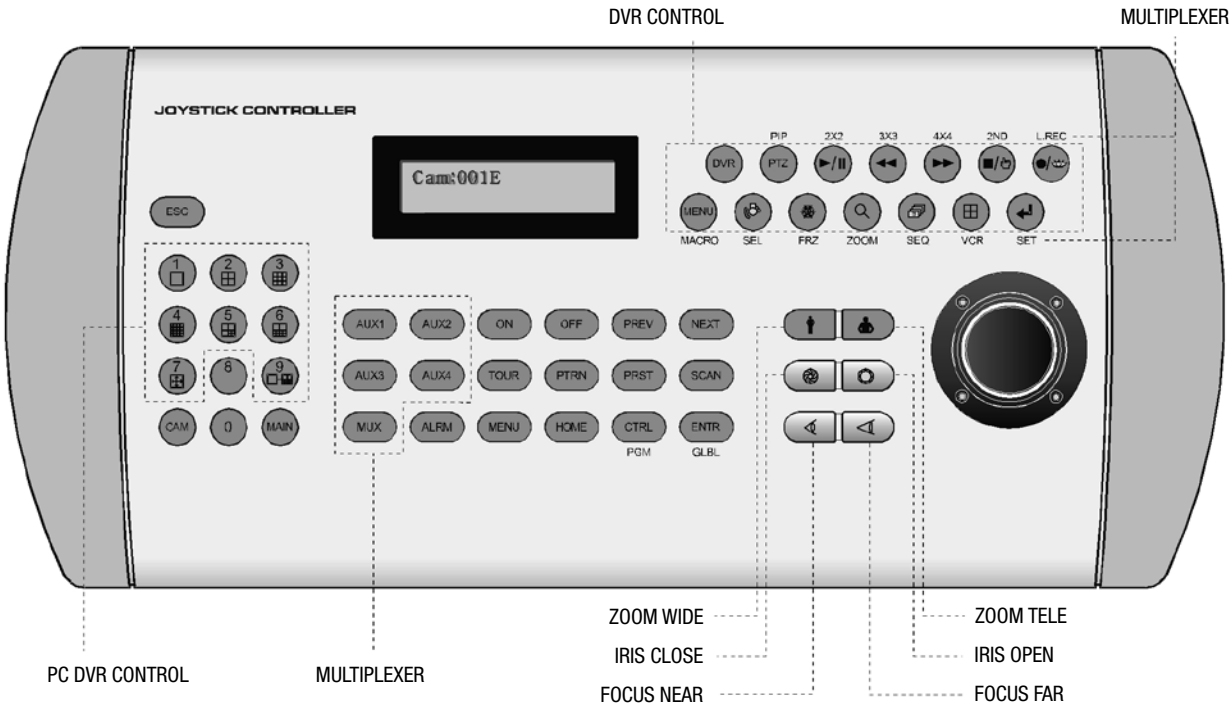


Figure 12: Keyboard Key map

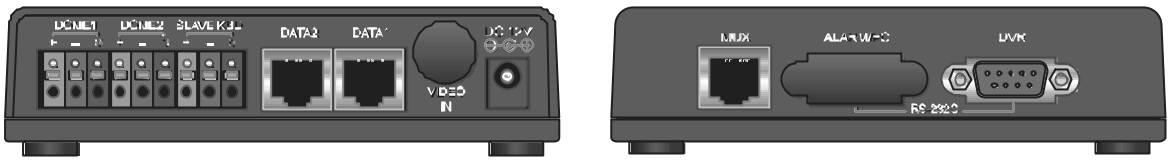


Figure 13: J-box Front & Rear

Key operation example

Ctrl + Menu: Press and hold down **Ctrl** Key and press **Menu** Key

1 + Cam: Press **1** Key, **Cam** Key sequentially

Ctrl + Joystick: Press and hold down **Ctrl** Key while manipulate **Joystick** Handle

Enter + Joystick: Press and hold down **Enter** Key while manipulate **Joystick** Handle

3.3.1 Keys for Dome Camera

Function	Key Label	Descriptions
1,2, ... 9,0	**1,2, ... 9,0**	Camera selection with **Cam** key. Function number selection with function keys. (e.g., **1 + Cam, 3 + Tour, 5 + Scan, 6 + Prst**)
Camera	**CAM**	Displays the selected camera on the spot out of the multiplexer and allows the camera to be controlled by the keyboard controller, if the selected camera is a dome camera.
Full	**MAIN**	Camera No. **1~16 + Main** will display the selected camera full screen
Cancel	**ESC**	Cancels current inputs. Exits from currently running functions or menu, error status, etc.
Alarm	**ALRM**	Disregards all currently activated alarms and turns off the beep temporarily. If alarm is activated again within the programmed hold time, the timer will restart and beep again.
Relay ON	**ON**	Relay No. **1~4 + ON** will activate the selected relay.
Relay OFF	**OFF**	Relay No. **1~4 + OFF** will disable the selected relay.
Previous	**PREV**	Previous **PREV** Allows the previous dome camera to be controlled manually.
Next	**NEXT**	Allows the next higher number dome camera to be controlled manually.
Home	**HOME**	Immediately calls Home function. Deletes selected value or function in programming mode.
Global	**GLBL**	Sends all cameras to preset (e.g., **1, 2… 55 + Enter/Glbl**). **888+Enter/Glbl**: Night shot mode, **999 + Enter/Glbl**: Normal mode
Call Preset Position	**PRST**	Pressing Prst will bring up the preset programming menu. Recalls preset; e.g.; **1, 2… 31… 240 + Prst** In the preset or tour programming mode, the operator can review the exiting preset (selected by cursor) by pressing this key.
Tour	**TOUR**	Pressing **Tour** will bring up the tour programming menu directly Recalls programmed presets or functions sequentially. (e.g., **1 ~ 8+Tour**)
Pattern	**PTRN**	Pressing **Ptrn** will bring up the pattern programming menu directly. Repeats the selected pattern of the current dome camera. (e.g., **1 ~ 4+Ptrn**)
Auto Scan	**SCAN**	Pressing **Scan** will bring up the Auto Scan programming menu. Calls Auto panning function (e.g., **2 + Scan** repeats Auto Scan 2).
Configuration	**MENU**	Enters programming menu. **Ctrl + Menu** will invoke Keyboard set up menu
Program	**PGM**	**No. + Pgm + Prst** will store current view as a preset directly. **No. + Pgm + Tour** will open programming menu **No. + Pgm + Scan** will open programming menu
Control	**CTRL**	**Ctrl + Joystick**: In a programming mode (Preset, Pattern, Scan, Privacy… .) the joystick operates as if in the normal control mode. While pressing and holding down the **Ctrl** key, all movements of the joystick will start recording when in the pattern programming menu. **Ctrl + Joystick**: In normal operation mode, manual speed of the joystick control will be operated in turbo mode. (Max. speed = 380º /sec)
Enter	**ENTER**	Completes entering data for the password or title. **ENTER + Joystick :** Direction key in DVR remote mode or Mux (PTZ, Mouse, Cursor)
Manual Focus		Overrides auto focus. Moving the Zoom handle reactivates Auto Focus mode.
Manual Iris		Overrides auto iris . Moving the joystick reactivates Auto Iris mode.
Zoom		Zoom control.
Joystick	**Twist** **Up / Down** **Left / Right**	Zoom control (proportional to position). Tilt control, Cursor Up / Down in the PGM. menu Pan control, Cursor Left / Right or Page scroll in the PGM. Menu

3.3.2 Keys for Multiplexer

Function	Key Label	Descriptions
PIP	**PIP**	Picture-in-Picture mode
2 by 2 Display	**2x2**	Displays view of four cameras. The remaining cameras can be sequenced in the lower-right window.
3 by 3 Display	**3x3**	Displays view of nine cameras. The remaining cameras can be sequenced in the lower-right window.
4 by 4 Display	**4x4**	Displays view of 16 cameras in 1/16-size pictures.
	2ND	Second mode of PIP multiplexer. Pressing **2nd + Enter** again will return to normal mode.
	L.REC	Put a camera in the Panic Record Mode.
	MACRO	Same as **Menu** key in the Duplexer model. Same as **Macro** key in the Triplexer model.
Select or Alarm	**SEL**	Same as Select key in the Duplexer model. Same as Alarm key in the Triplexer model.
Freeze	**FRZ**	Freeze the video from the currently selected camera.
Digital Zoom	**ZOOM**	Enter the Zoom Mode.
Sequence	**SEQ**	Put the multiplexer in the Sequence Mode.
VCR	**VCR**	Switch the multiplexer into VCR playback mode.
SET	**SET**	This button has several functions . It brings up a Popup Menu, sets selections on the OSD menus and decreases numbers in the number setup function.
Spot Output	**AUX1(-4)**	Displays selected camera as spot output of the current Multiplexer. (e.g., 2+Aux1 will display camera 2 as a spot output of the current Multiplexer)
Select MUX ID	**MUX**	Select Multiplexer (e.g.; 1 or 2 + Mux)
Cursor Movement	**Enter + Joystick**	Up / Down / Left / Right control in the ZOOM and SET UP mode. Handle turn clockwise for SET mode. Handle turn counterclockwise for ESC mode.

3.3.3 Keys for DVR

Function	Key Label	Descriptions
ID Selection		DVR ID Selection. (e.g.:1 or 2+DVR).
PTZ		Open a Pan/Tilt/Zoom screen which allows you to control properly configured cameras.
Play/Pause		Play recorded data / Pause playing.
Rewind		Play video backward at high speed. Pressing the button again toggles the playback speed.
Fast Forward		Play video forward at high speed. Pressing the button again toggles the playback speed from high to normal.
Stop/Preset Save		During Playback mode returns the DVR to the Live Monitoring mode.
Record/Preset Call		Set the DVR so that it is ready to record video.
Menu		Enter the Quick Setup screen. You will need to enter the administrator password to access the Quick Setup. Pressing the button also closes the current menu or setup dialog box.
Alarm		First, it will reset the DVR's outputs including the internal buzzer during an alarm. Second, it will display the event log when you are in the live monitoring mode unless there is an active alarm.
Freeze		Freeze the current live screen.
Search		Display the Search menu. Pressing the button again will exit the Search menu.
Sequence		When in the live mode, pressing the SEQUENCE button displays another full live channel sequentially. When in one of the multi-view formats, pressing this button will cause the DVR to sequence cameras in two sequence modes: „Page" and „Cameo". In the Page mode, the DVR sequences through user-defined screen layouts (pages). In the Cameo mode, the bottom, right screen to display live cameras sequentially. Pressing the SEQUENCE button while in the Sequence mode will exit the Sequence mode.
Display Mode		Toggle between different display formats. The available formats are: full, 4x4, 3x3, 2x2 and PIP.
Enter		Select a highlighted item or completes an entry that you have made.
Display Mode	**CTRL + 1-7,9**	DCR screen mode.

Function	Key Label	Descriptions
Go Last	**CTRL +** ◄◄	Go last in DCR
Go First	**CTRL +** ►►	Go first in DCR
X times Backward Play	**No. +** ◄◄	Fast play at x(No.) times speed in DCR
X times Forward Play	**No. +** ►►	Fast rewind at x(1~8) times speed in DCR
Shuttle Ring	**CTRL + ENTR + Joystick**	The Shuttle Ring only functions in the Playback mode. Turning the ring clockwise plays video forward. Turning the ring counterclockwise plays video backward.
Jog Dial	**CTRL + ENTR + Zoom Handle**	The Jog Dial only functions when playback video has been paused. By turning the jog dial clockwise, you can play video forward image-by-image.
Spot Sequence	**AUX1 – AUX2**	Toggle on and off sequence mode of the selected spot output.
Spot output	**NO + AUX1 - 4**	Displays selected camera as spot output of the current DVR.

4. Trouble Shooting

If problems occur, verify the installation of the camera with the instructions in this manual and with other operating equipment. Isolate the problem to the specific piece of equipment in the system and refer to the equipment manual for further information.

Problem	Possible Solution
Joystick can't control system.	1. Check that the dome camera IDs are set properly (See Figures 1 to 5). Check the polarity of the data line.
Camera number does not match the multiplexer number.	1. Check the camera ID and insert the BNC cable into the proper input of the multiplexer.
Forgot password	1. Consult your supplier, distributor or service Center
Multiplexer & DVR can't work with the Joystick controller.	1. Check that the data cable for the multiplexer has the correct Pin configuration (1=1, 2=2, 3=3 .... 8=8). 2. Check the communication menu of Multiplexer.

5. Specifications

Type	EDC-KBD1
EDP No.	74088
Baud rate	2.400 to 230.000
LCD display	16x2 characters
Integrated monitor	–
Video input	–
Remote control	Control of up to 254 Fastrax and/or Minitrax dome cameras, camera series Almira. Up to 99 Digital Video recorders of the series DLR, DXR and DTR and 255 Triplex Multiplexers max. of the series VBMT/VCMT-8000
Interfaces	3x RS-485, RJ45 (8-pin). for dome cameras. 1x KBD (For connection of the junction box: Dome camera series Fastrax). 1x for Multiplexer/Slave, 1x DVR
Site control (direct mode operation)	Keys select cameras and monitors, operates up to 254 presets, 4 patterns, 8 scans. Capability to incorporate up to 300 of presets, patterns, scan and tour itself in up to 8 tours. Camera functions: pan, tilt, zoom, focus, iris for fixed or variable speed control of the camera series Fastrax, Minitrax and Almira. Auxiliaries and sequences.
Supply voltage	12VDC (connection to the Junction box, 230VAC PSU included)
Power consumption	Approx. 5watts
Temperature range	0 ~ +50°C
Dimensions (HxWxD)	96 (incl. Joystick) x 380 x 168mm
Weight	Approx. 1.2kg
Parts supplied	System keyboard, Junction box with connection cable and PSU

The Product is Accessory to:

EDP No.	Type	Description
92074	**VKC-1416/IR**	1/4" D&N Camera with 22x Zoom lens, removable IR CF, 12VDC, 480TVL
74086	**EDC-141E**	1/4" Day&Night High Speed Dome Camera with 18x Zoom lens, 24VAC, 480TVL
74091	**EDC-143E**	1/4" Day&Night High Speed Dome Camera with 23x Zoom lens, 24VAC, 480TVL
74100	**EDC-144E**	1/4" Day&Night High Speed Dome Camera with 26x Zoom lens, 24VAC, 480TVL
74117	**EDC-142E**	1/4" Colour/B&W High Speed Economy Dome Camera, 22x Zoom lens, 24VAC, 480TVL
74116	**EDMC-142**	1/4" Colour High Speed Mini Dome Camera with 10x Zoom lens, 24VAC, 430TVL
74119	**EDCH-144E/C**	1/4" Day&Night 26x HighSpeed Dome Camera, clear bubble/wall mount, 24VAC, 480TVL
74123	**EDCH-142E/C**	1/4" Day&Night 22x HighSpeed Dome Camera, clear bubble, 24VAC, 480TVL
96064	**VKC-1416/IR-VHU**	1/4" D&N Camera with 22x Zoom lens, pre-wired in VHU-165, RS-485, 12VDC
71702	**ALMIRA C-1202**	1/2" CMOS 3M Pixel Camera 2048x1536, 360° display, for HighSpeed recording
72382	**VBMT-8009**	B/W Multiplexer, Triplex, 9 inputs, resolution 720x480, alarm inputs, 12VDC
71921	**DLR1-04N/160**	Digital Video Recorder (4-channel) 160GB HDD, alarm in/outputs, Ethernet
71958	**DLR1-04N/250**	Digital Video Recorder (4-channel) 250GB HDD, alarm in/outputs, Ethernet
71931	**DLR2-04N/160**	Digital Video Recorder (4-channel) 160GB HDD, alarm input, Ethernet
71932	**DLR2-04N/320**	Digital Video Recorder (4-channel) 320GB HDD, alarm input, Ethernet
71933	**DLR2-04N/480**	Digital Video Recorder (4-channel) 480GB HDD, alarm input, Ethernet
71923	**DLR3-08N/160CD**	Digital Video Recorder (8-channels) 160GB HDD, CD-RW Drive, Ethernet, 230VAC
71924	**DLR3-08N/410CD**	Digital Video Recorder (8-channels) 410GB HDD, CD-RW Drive, Ethernet, 230VAC
71925	**DLR3-08N/660CD**	Digital Video Recorder (8-channels) 660GB HDD, CD-RW Drive, Ethernet, 230VAC
71926	**DLR3-16N/160CD**	Digital Video Recorder (16-channel) 160GB HDD, CD-RW Drive, Ethernet, 230VAC
71927	**DLR3-16N/410CD**	Digital Video Recorder (16-channels) 410GB HDD, CD-RW Drive, Ethernet, 230VAC
71928	**DLR3-16N/660CD**	Digital Video Recorder (16-channel) 660GB HDD, CD-RW Drive, Ethernet, 230VAC
71943	**DTR-2009/250CD**	Digital Video Recorder (9-channels) 250GB HDD, CD-RW Drive, Ethernet, 230VAC
71944	**DTR-2009/500CD**	Digital Video Recorder (9-channels) 500GB HDD, CD-RW Drive, Ethernet, 230VAC
71945	**DTR-2009/750CD**	Digital Video Recorder (9-channels) 750GB HDD, CD-RW Drive, Ethernet, 230VAC
71946	**DTR-2016/250CD**	Digital Video Recorder (16-channels) 250GB HDD, CD-RW Drive, Ethernet, 230VAC
71947	**DTR-2016/500CD**	Digital Video Recorder (16-channels) 500GB HDD, CD-RW Drive, Ethernet, 230VAC
71948	**DTR-2016/750CD**	Digital Video Recorder (16-channels) 750GB HDD, CD-RW Drive, Ethernet, 230VAC
71949	**DTR-4009/250CD**	Digital Video Recorder (9-channels) 250GB HDD, DVD-RW Drive, Ethernet, 230VAC
71965	**DTR-4009/500CD**	Digital Video Recorder (9-channels) 500GB HDD, DVD-RW Drive, Ethernet, 230VAC
71966	**DTR-4009/750CD**	Digital Video Recorder (9-channels) 750GB HDD, DVD-RW Drive, Ethernet, 230VAC
71951	**DTR-4016/250CD**	Digital Video Recorder (16-channels) 250GB HDD, CD-RW Drive, Ethernet, 230VAC
71967	**DTR-4016/500CD**	Digital Video Recorder (16-channels) 500GB HDD, CD-RW Drive, Ethernet, 230VAC
71952	**DTR-4016/750CD**	Digital Video Recorder (16-channels) 750GB HDD, CD-RW Drive, Ethernet, 230VAC
71942	**DTR-6008/250CD**	Digital Video Recorder (8-channels) 250GB HDD, CD-RW Drive, Ethernet, 230VAC
71961	**DTR-6008/500CD**	Digital Video Recorder (8-channels) 500GB HDD, CD-RW Drive, Ethernet, 230VAC
71962	**DTR-6008/750CD**	Digital Video Recorder (8-channels) 750GB HDD, CD-RW Drive, Ethernet, 230VAC
71929	**DTR-6016/250CD**	Digital Video Recorder (16-channels) 250GB HDD, CD-RW Drive, Ethernet, 230VAC
71959	**DTR-6016/500CD**	Digital Video Recorder (16-channels) 500GB HDD, CD-RW Drive, Ethernet, 230VAC
71963	**DTR-6016/750CD**	Digital Video Recorder (16-channels) 750GB HDD, CD-RW Drive, Ethernet, 230VAC
71955	**DPR-2016/500D**	Digital Video Recorder (16-channels) 500GB HDD, DVD Pentaplex, Ethernet, 230VAC
93153	**NTC-4101**	1/4" Network D&N Colour Camera with 22x Zoom Lens, Removable IR CF, 12VDC, 480TVL

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