

FASTRAX II E KEYBOARD CONTROLLER

Instruction Manual



Please read this manual thoroughly before use and keep it handy for future reference.

Rev.M70601

WARNINGS AND CAUTIONS

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

FCC COMPLIANCE STATEMENT

FCC INFORMATION: THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

CAUTION: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS A DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.

CE COMPLIANCE STATEMENT

WARNING

THIS IS A CLASS A PRODUCT. IN A DOMESTIC ENVIRONMENT THIS PRODUCT MAY CAUSE RADIO INTERFERENCE IN WHICH CASE THE USER MAY BE REQUIRED TO TAKE ADEQUATE MEASURES.

IMPORTANT SAFEGUARDS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that product heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. CAUTION - THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.
15. Use Certified/Listed Class 2 power supply transformer only.

Table of Contents

Chapter 1 — Introduction	1
1.1 Features	1
Chapter 2 — Installation and Configuration	3
2.1 Package Contents	3
2.2 Required Installation Tools	3
2.3 Basic Configuration of Fastrax II E Dome System	4
2.4 RS-485 End of Line Termination	5
2.5 Dip Switch Setting	6
2.6 Quick Installation Procedure	6
2.7 Getting Started	7
2.8 Recommended Installation Examples	8
2.9 Multiplexer Configuration Examples	11
2.10 Keyboard Configuration Menu Setup	15
• MAIN MENU	15
• CONFIGURATION MENU	16
• CHANGE USER PASSWORD	16
• CHANGE ADMIN PASSWORD	17
• NETWORK SETUP	17
• SET BAUD RATE	17
• COMMUNICATIONS PORTS	18
• MULTIPLEXER CONFIGURATION	18
• ALIAS PRESET MENU	19
• SLAVE KEYBOARD SETUP MENU	19
• SLAVE KEYBOARD UNIT	20
• GRANT ACCESS DOME	20
• DATA BANK	21
• TIME & DATE	21
• ALARM MENU	22
• ALARM BOX	22
• ALARM SCHEDULE	23
• ALARM HISTORY	23
• SCHEDULE	24
• MACRO SETUP	24
• WEEKLY SCHEDULE	25
• ANNUAL SCHEDULE	25
• NIGHT SHOT SCHEDULE	25
• SEQUENCE SETUP	26
2.11 Install with standalone DVR Series	27
2.12 Install with PC DVR Series	30

Chapter 3 — Operation	33
3.1 Keyboard Lock/Unlock.....	33
3.2 Selecting Camera & Mux Control	33
3.3 Camera Control	35
MANUAL FOCUS CONTROL	
MANUAL IRIS CONTROL	
ZOOM CONTROL	
GLBL (GLOBAL) COMMAND	
3.4 Summary of Keyboard Controls	36
KEYS FOR DOME CAMERA	
KEYS FOR MULTIPLEXER	
KEYS FOR DVR	
KEYS FOR KEYBOARD CONTROLLER FUNCTION	
 Appendix A — Specifications	 39
Appendix B — Short Cut Key	40
Appendix C — Trouble Shooting	41
Appendix D — Control the other camera	42
Appendix E — Control the DVR for over version 3.1.0.....	45

Chapter 1 — Introduction

1.1 Features

The Fastrax II E keyboard controller is capable of controlling Fastrax II (E) dome cameras and providing remote control functions for a variety of external switching devices such as Multiplexers, Digital Video Recorders etc...

A combination of 4 Keyboard controllers and 5 Multiplexers comprises a small matrix system (64x4) using its remote control functions and programmable macro functions.

- 5 inch (320x240 dot pitch) TFT LCD monitor.
- Variable speed control joystick with zoom controlling handle.
- Program and recall programmed preset positions, auto scan, tour, pattern, from the selected dome camera.
- 8 Sequences switch cameras to the specific spot monitors as programmed in the KBD controller menu.
- Two levels of password are supported for higher security, administrator and user.
- Up to 254 dome cameras controllable including 64 dome cameras with Alarm mode.
- Multiplexers (Max 255) and DVR system (Max 99) can be controlled remotely at each KBD controller regardless Master or Slave.
- Using 3~5 multiplexers and 4 Keyboard controllers, 32~64x4 matrix system can be configured.
- Up to 3 slave (remote) same type keyboard controllers can be connected to Master(main) keyboard controller.
- Battery backed-up clock displays real time on the LCD screen.
- Weekly and annual schedule of all program functions.
- Up to two dome cameras' programmed data can be downloaded to nonvolatile memory space, and later uploaded to the new dome camera.
- Up to 8 sequence group with 64 cameras programming function.

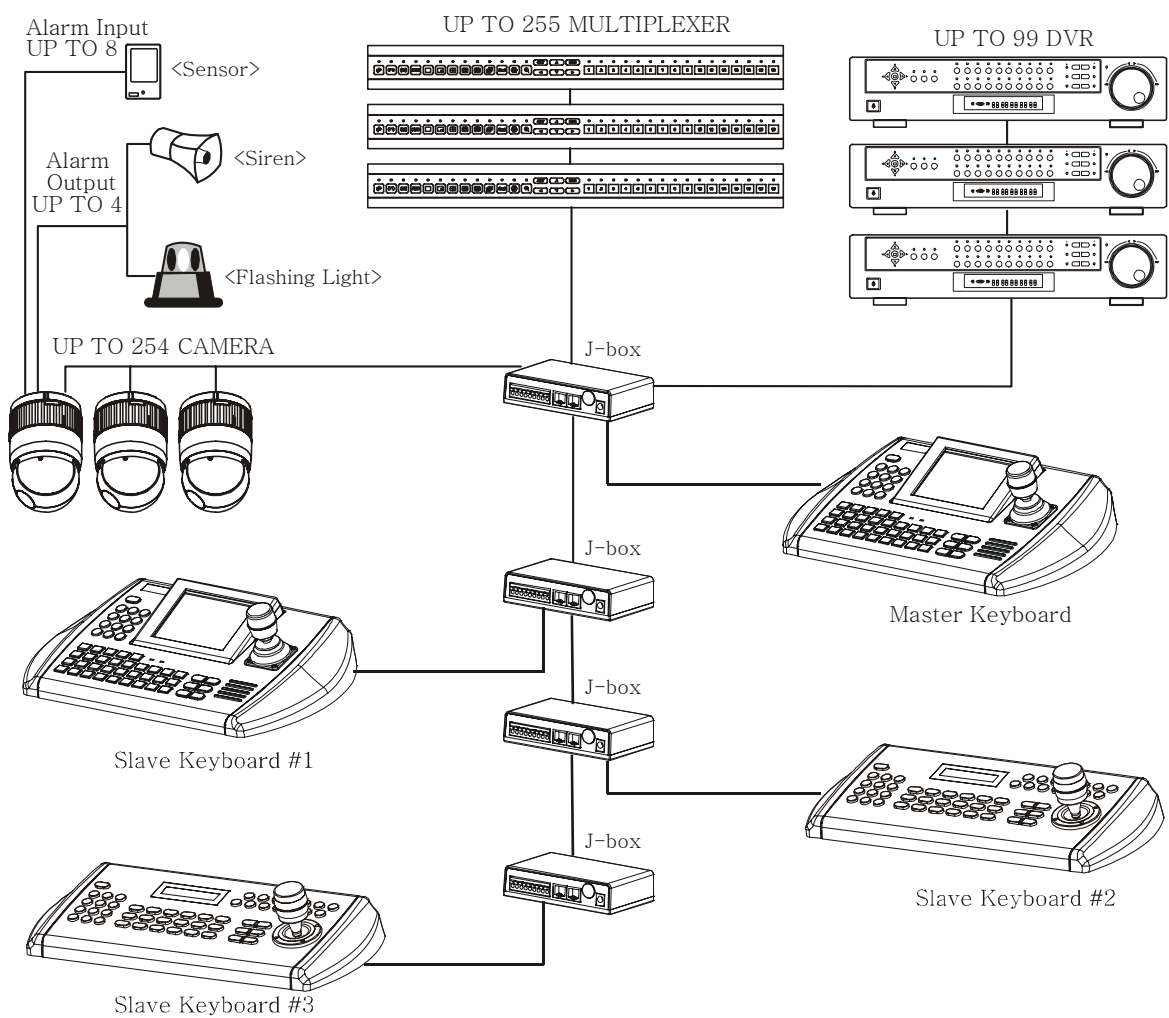


Figure 1 – Typical System Configuration

Chapter 2 — Installation and Configuration

2.1 Package Contents

The package contains the following.

Description	Q'ty
Keyboard controller	1
Junction box (J-box)	1
3m 8pin cable (Shielded cable for video signal)	1
3m 8pin cable (Unshielded cable)	1
M4 x L10 Self tapping screws	4
Instruction manual	1
12VDC Power supply (SMPS)	1
Power Cord	1

2.2 Required Installation Tools

No special tools are required to install the KBD controller. Refer to the installation manuals for the other items that make up part of your system.

2.3 Basic Configuration of Fastrax II E Dome System.

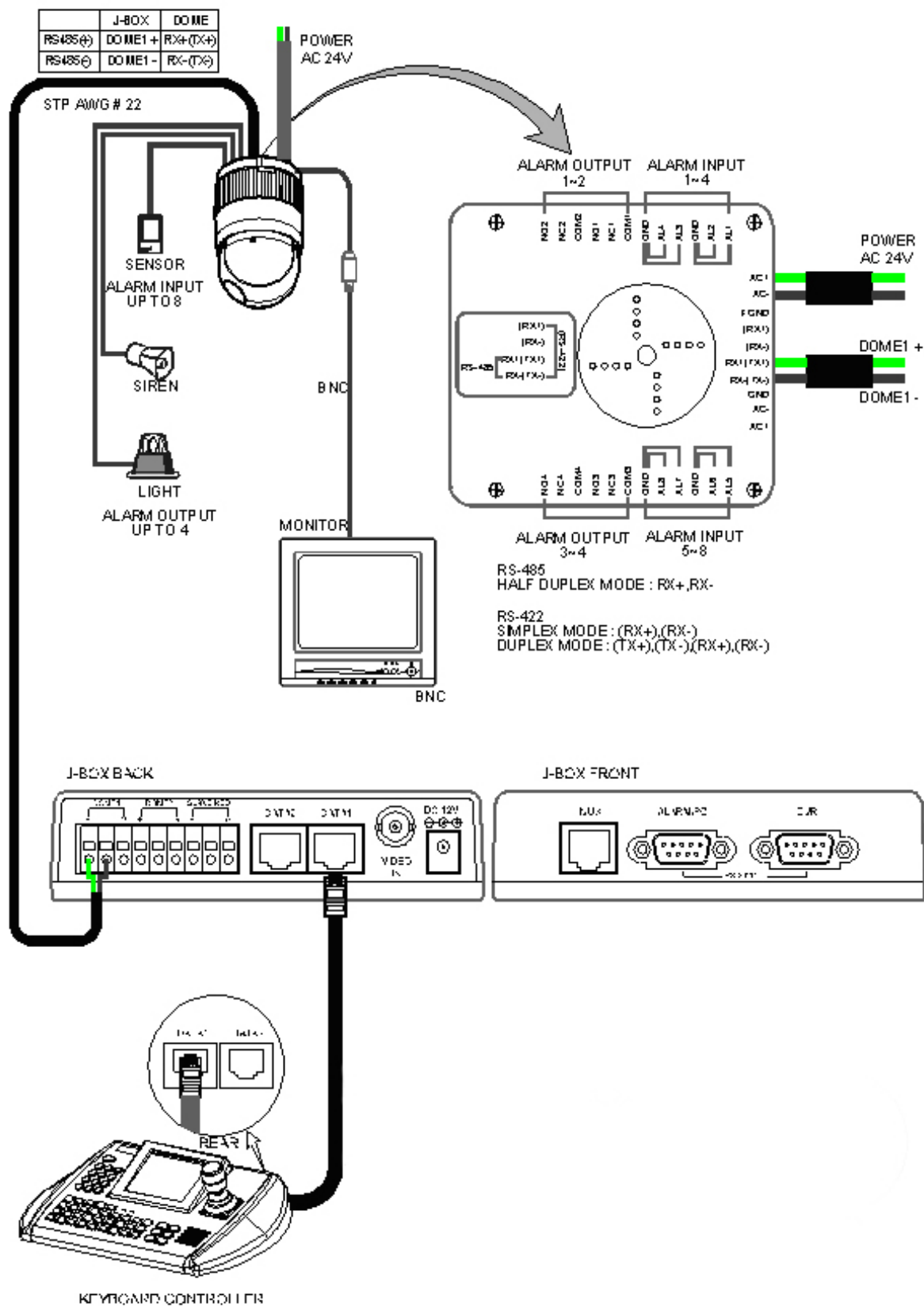


FIGURE 2 – BASIC INSTALLATION DIAGRAM

2.4 RS-485 End of Line Termination

The first and last devices in an installation 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 4000ft (1.2km).

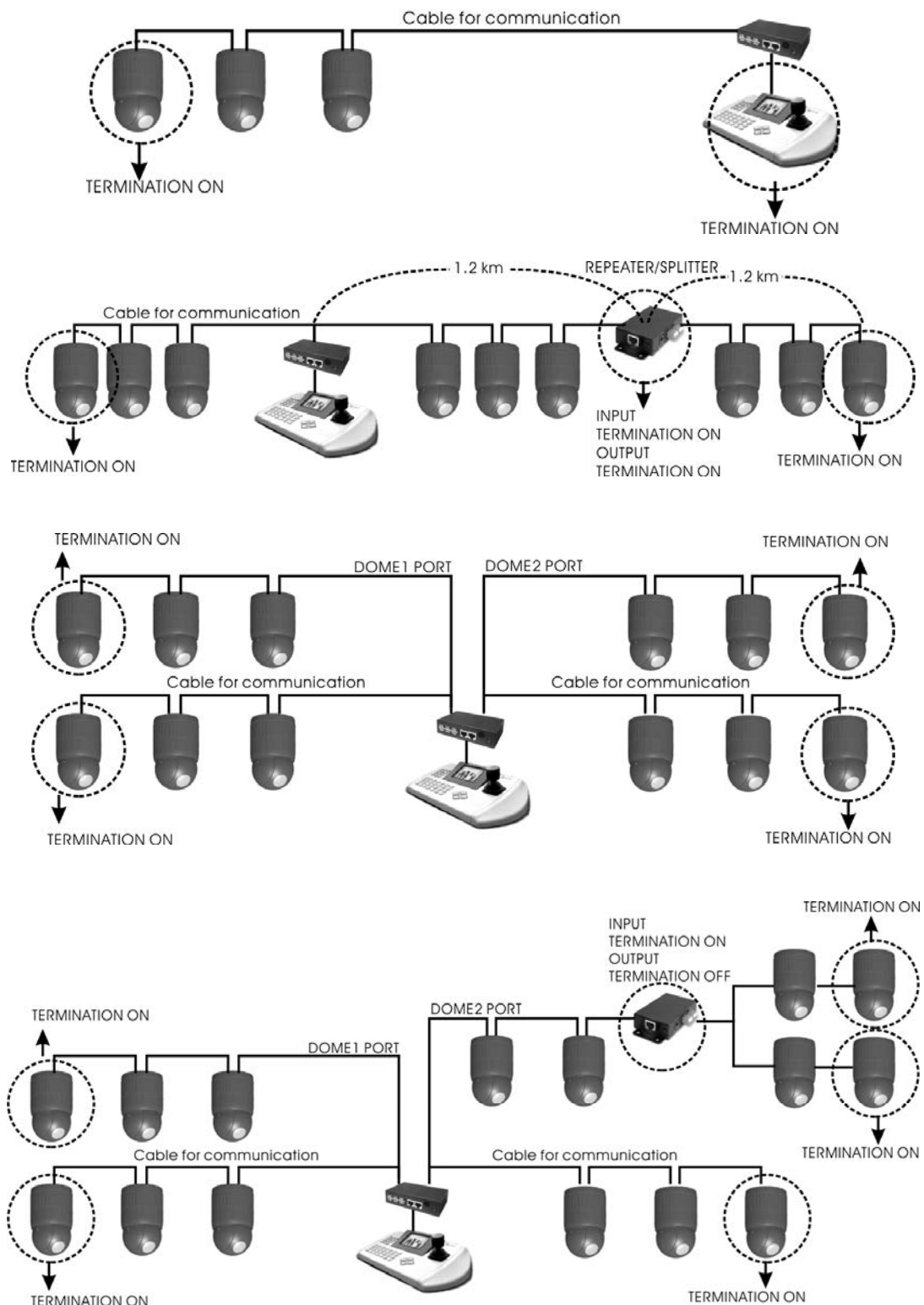


Figure 3 – Termination diagram

2.5 Dip Switch Setting

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

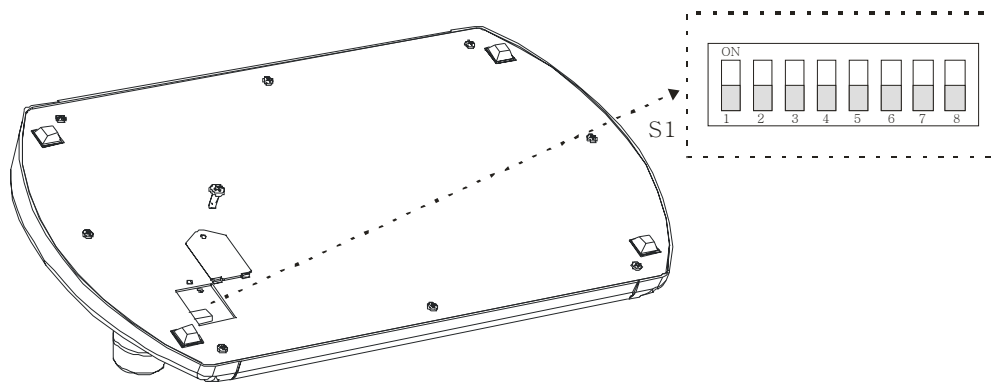


Figure 4 – DIP switches setting

NO	SETTING	DISCRIPTION
1	On	DOME1 Port Termination
	Off	
2	On	Mux/Slave Termination
	Off	
3	On	DOME2 Port Termination
	Off	
4~6	-	Reserved
7	On	Slave
	Off	Master
8	On	PAL
	Off	NTST

2.6 Quick Installation Procedure

The dome camera must be installed by qualified service personnel in accordance with all local and federal electrical and building codes.

1. Fasten the J-box to a rigid wall using the supplied screws.
2. Connect the control signal wires between the dome and J-Box.
3. Connect the 12 VDC power to the J-box.
4. Connect the supplied shielded 8-pin cable between the data1 port of the KBD and the data1 port of J-box. When you connect the dome camera to the data2 port of J-Box, you should connect unshielded 8-pin cable between the data2 port of the KBD and the data2 port of J-box.
5. Connect the BNC cable from the Aux of appropriate switching device to J-box if needed.
6. Turn on the KBD power after all dome cameras have initialized.
7. The keyboard controller will search for all the attached dome cameras and then show the ID of dome cameras found.
8. The user will be prompted for a password for authorization. The user must enter a 4-digit PIN code. There are two authorization levels: operation only and programming. The factory default passwords are 1111 for user, 9999 for administrator.
9. Move the joystick to control the camera direction (Pan, Tilt), and rotate the handle to the counterclockwise/ clockwise for zoom Out/In. Depending on the amount of rotation or deflection of the joystick, zoom and pan/tilt speed will be change.

2.7 Getting Started

Once installed apply power to the KBD controller. The KBD controller will start a scanning the connected device according to configuration. When scanning is going and done, the following information is displayed on the keyboard controller's LCD

```
SCANNING DOME : 009 FOUND.  
SCAN DATA1-254: 001. 003. 004. 033  
049.  
  
SCAN DATA2-254: 007. 008. 009. 011
```

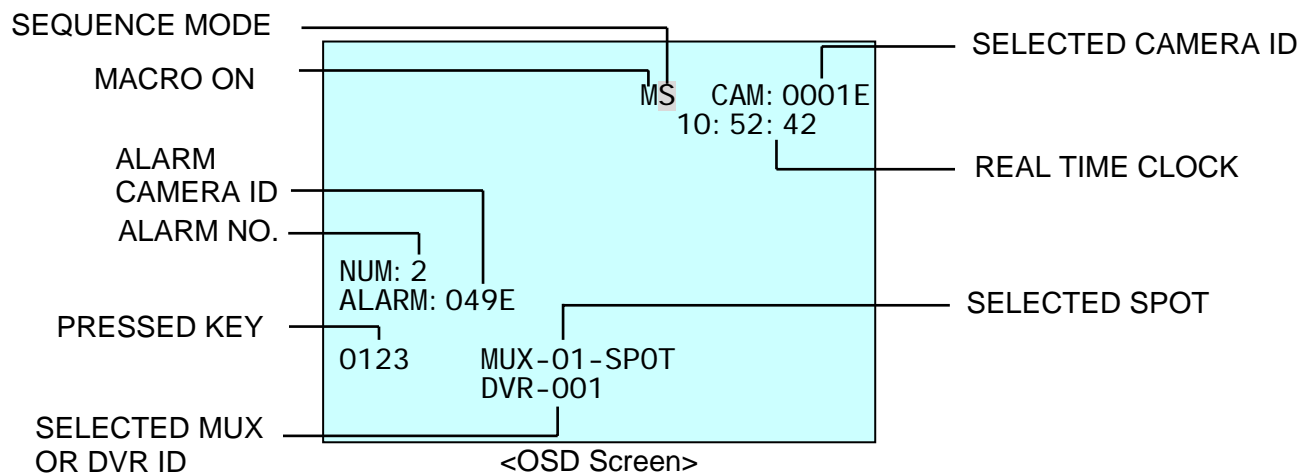
< Scanning dome Screen>

```
SCANNING SLAVE K/B  
  
FOUND 3 SLAVE K/B : OK  
ID : 1 2 3
```

< Scanning Slave K/B Screen>

```
INPUT PASSWORD : ****
```

< Input Password Screen>



2.8 Recommended Installation Examples

1. Single user system with a Mux and Multiple dome cameras

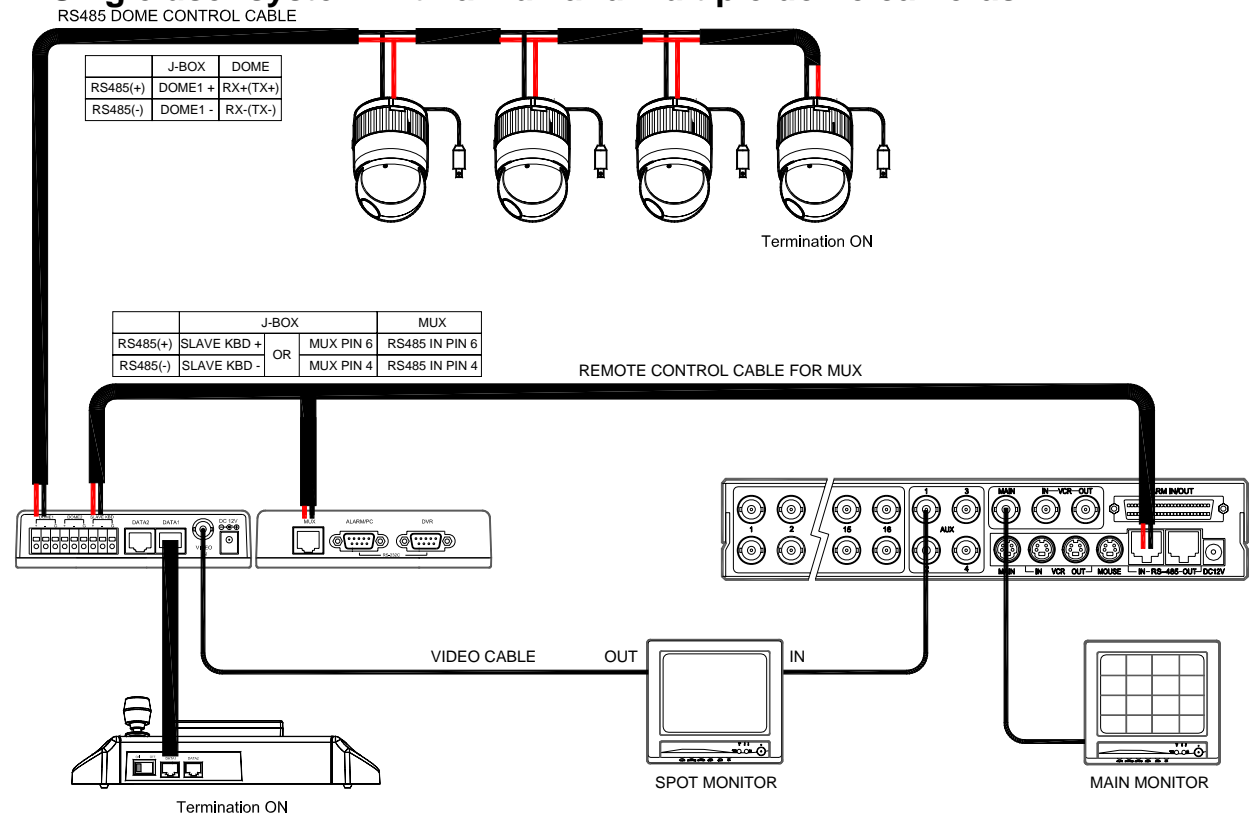


Figure 5 – Single user & Mux installation

2. Single user system with two Multiplexers (31 cameras max)

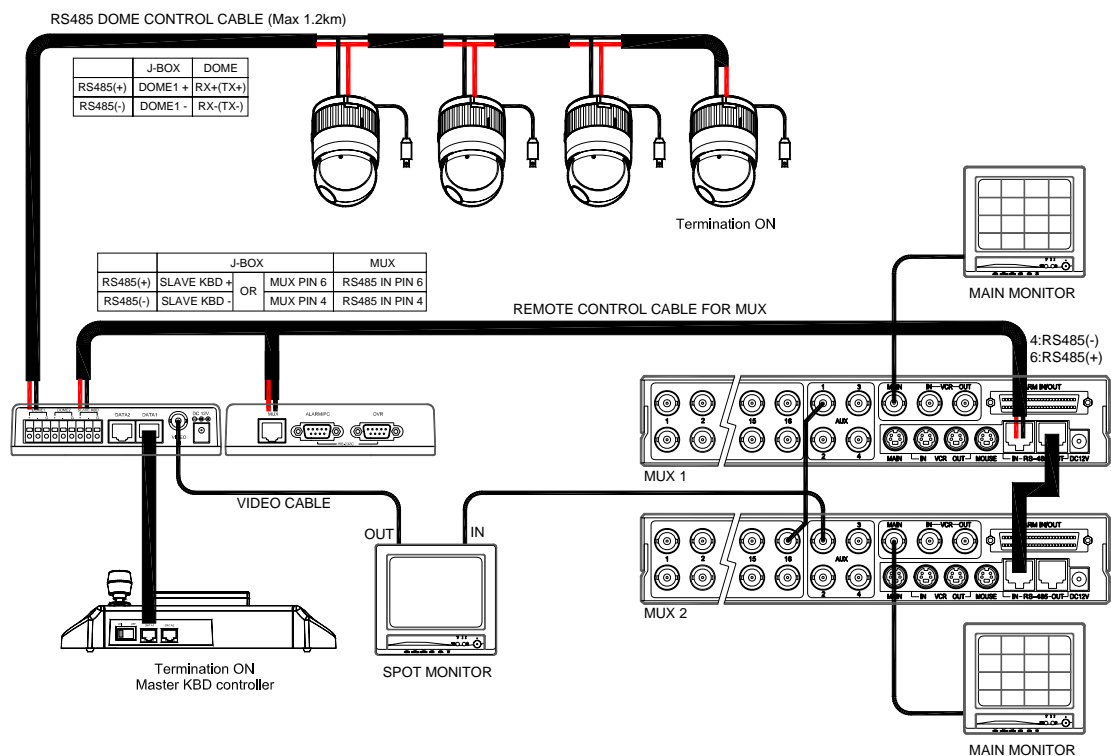


Figure 6 – Single user & two Mux installation

3. Multi user system with two Mux configuration

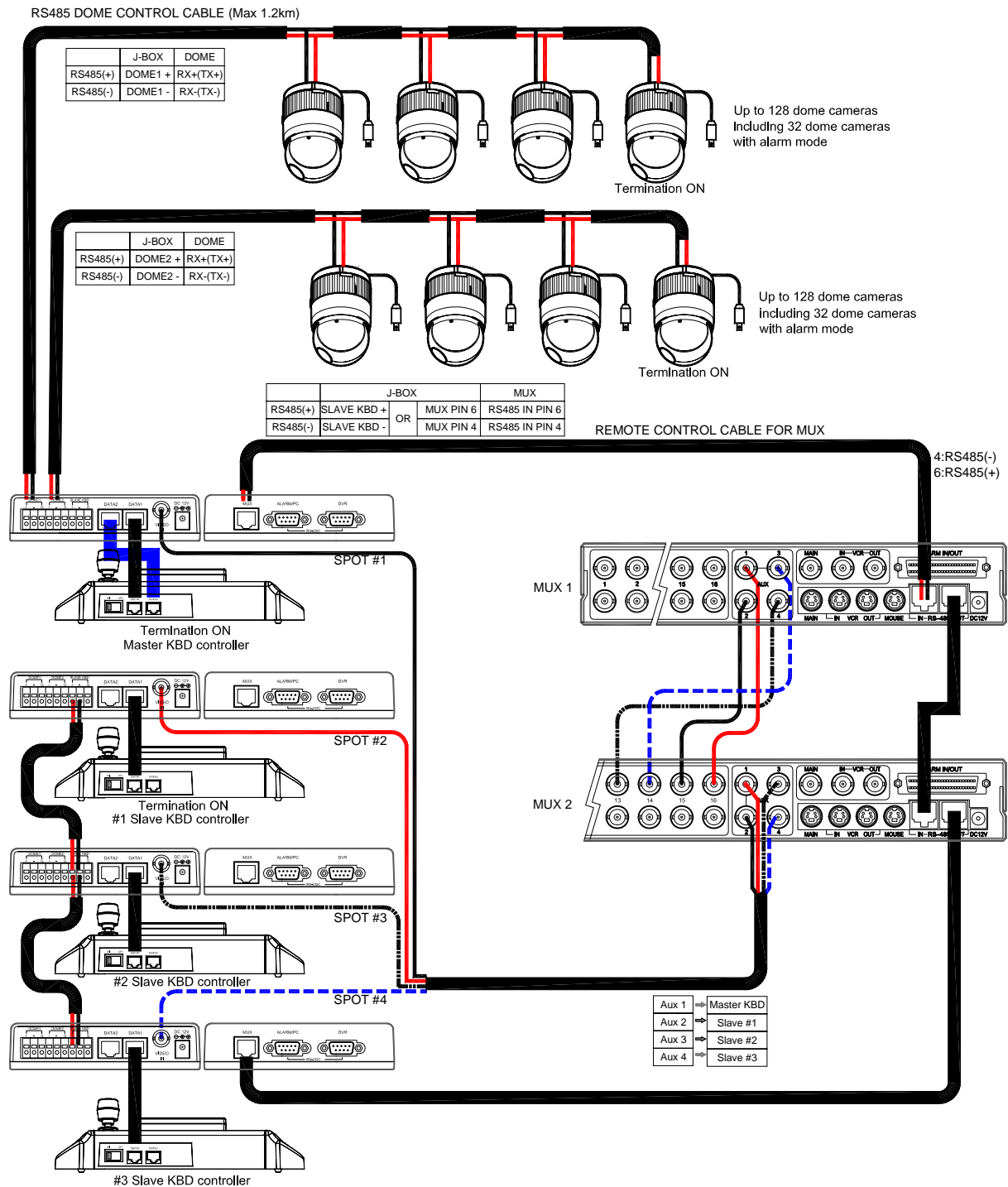


Figure 7 – Multi user & two Mux installation

4. Multi user system with Multiple Mux configuration.

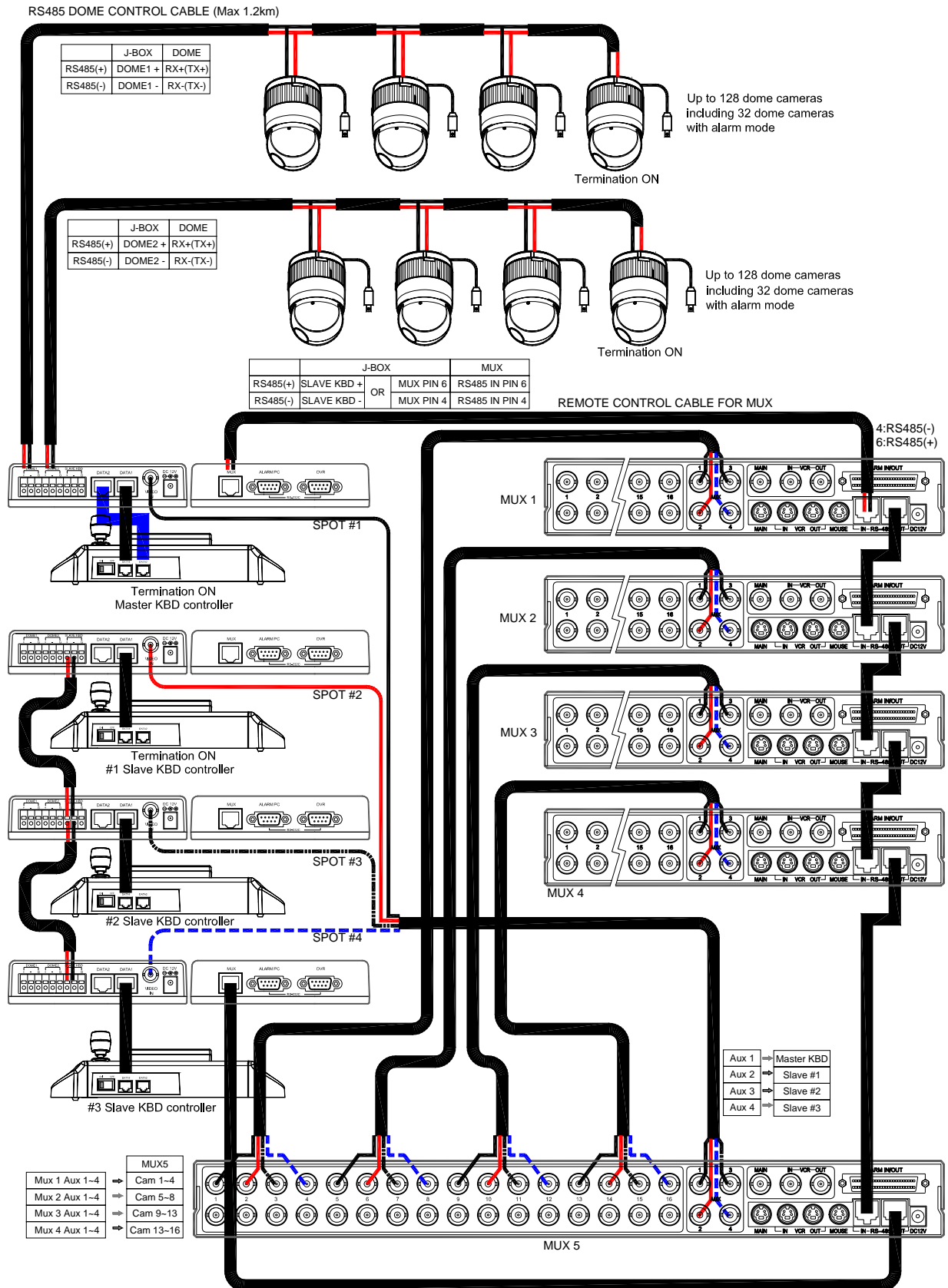


Figure 8 – Multi user & multi Mux installation

2.9 Multiplexer Configuration Examples.

Press **CTRL + MENU** to call the Main menu

Go into MAIN MENU ► NETWORK ► MUX CONFIGURATIONS

After setting up Cam 001 Press the **ON** Key to fill the rest of the camera fields automatically.

Example 1: Multi/Single user system with 16 Cameras and one Multiplexer

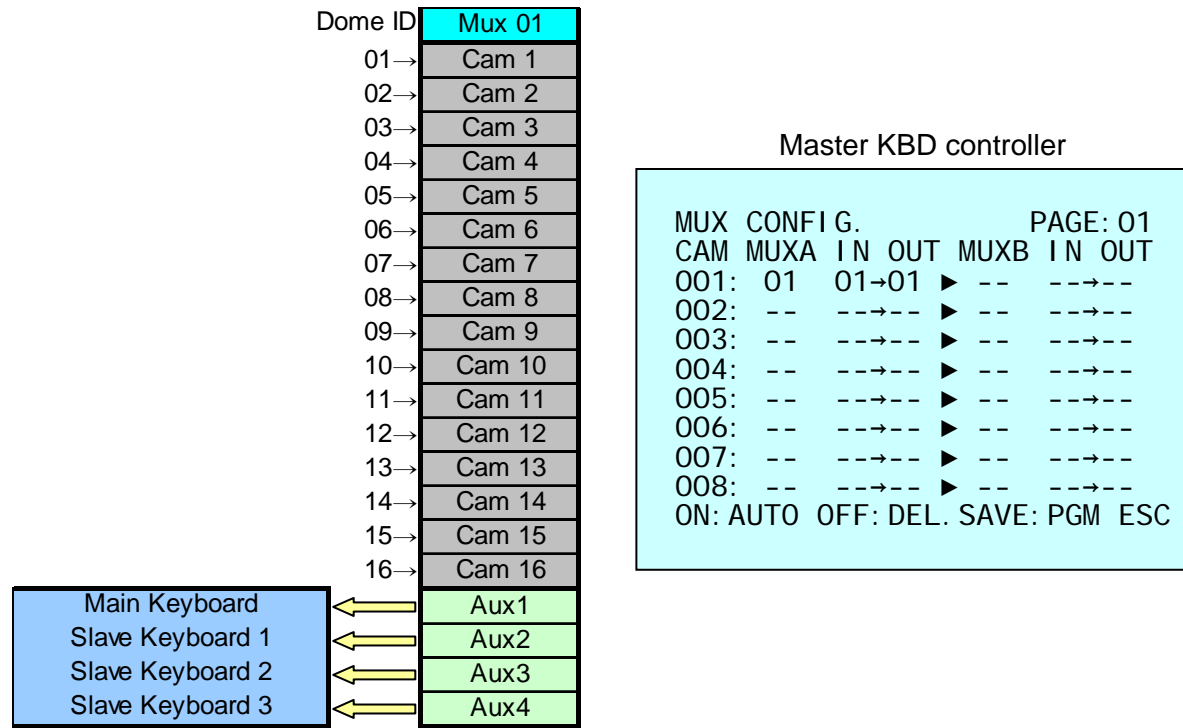


Figure 9 – One Mux configuration

By pressing **No.** + **CAM**, the video of the selected camera is automatically switched to the specific keyboard controller's monitor.

Example 2: Multi/Single user system with 28~31 Cameras and two Multiplexers

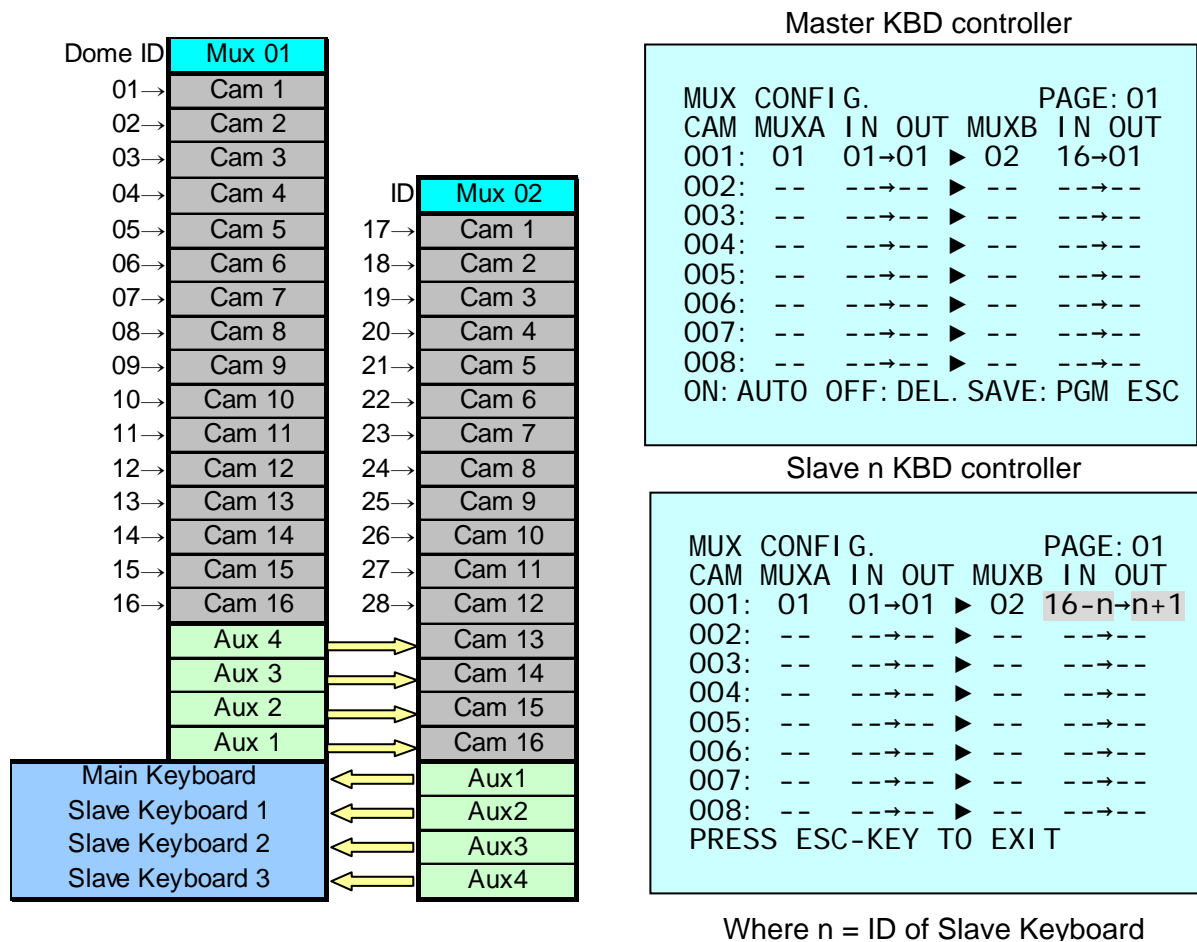


Figure 10 – Two Mux configuration

Picture of selected camera by pressing **No.** + **CAM** is automatically switched to specific user (One of 4 users) monitor. Max No. of camera inputs depends on No. of Keyboards (No. of user). Maximum of 31 cameras can be attached for single user configuration. In the case of a four user (Main, 3 Slave Keyboard) system, 28 cameras can be attached to a system.

Camera selection is done by pressing **1, 2, 3,17, 18.... 27, 28, (29, 30, 31)+CAM**

ID of First MUX is 01 and ID of second is 02. Changing the screen format of each Mux is possible after selecting the MUX to be controlled by pressing **1** or **2** + **MUX**.

Alternatively after 1~16 camera selection, ID 01 Mux is in control. After 17~31 camera selection, ID 02 Mux can be controlled by the user.

If the user wants to connect all 32 cameras, configure Spot(AUX) auto switching methods that will be the same as single Mux system. See example 1.

But first group of 16 cameras goes to Spot(AUX) of first Mux. And second group of 16 cameras goes to Spot(AUX) of second Mux. That is, Spot(AUX) monitor is not interchangeable. Yet, camera ID should be continuous **No. 1, 2, ... 32** and camera selection is done by pressing **1 ~ 32 + CAM**.

Example 3: Multi/Single user System with 48 Cameras and 4 Multiplexers

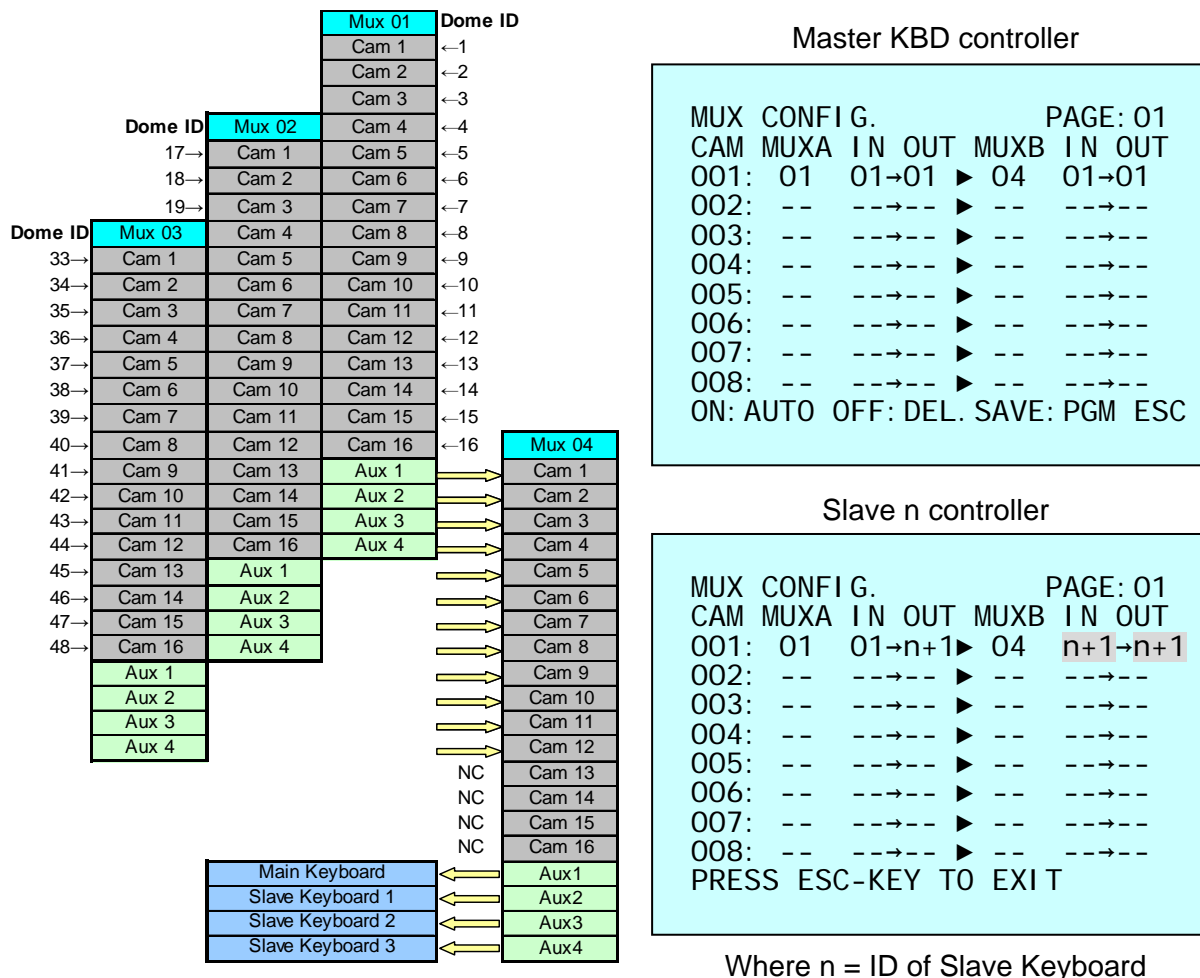


Figure 11 – Four Mux configuration

Picture of selected camera by pressing **No.** + **CAM** is automatically switched to specific user (One of 4 users) monitor. Up to 48 cameras can be attached in this configuration regardless the number of users.

Camera selection is done by pressing **1**, **2**, **3**...**17**, **18**... + **CAM**

ID of First Mux is 01 and second one is 02, 3rd is 03. ID of last Mux is always 04.

Changing the screen format of each Mux is possible after selecting the Mux to be controlled by pressing **1** or **2**, **3** + **MUX**".

Or ID of active Mux is selected implicitly after selection of Nth group of 16 cameras.

Example 4: Multi/Single User system with 64 Cameras and 5 Multiplexers

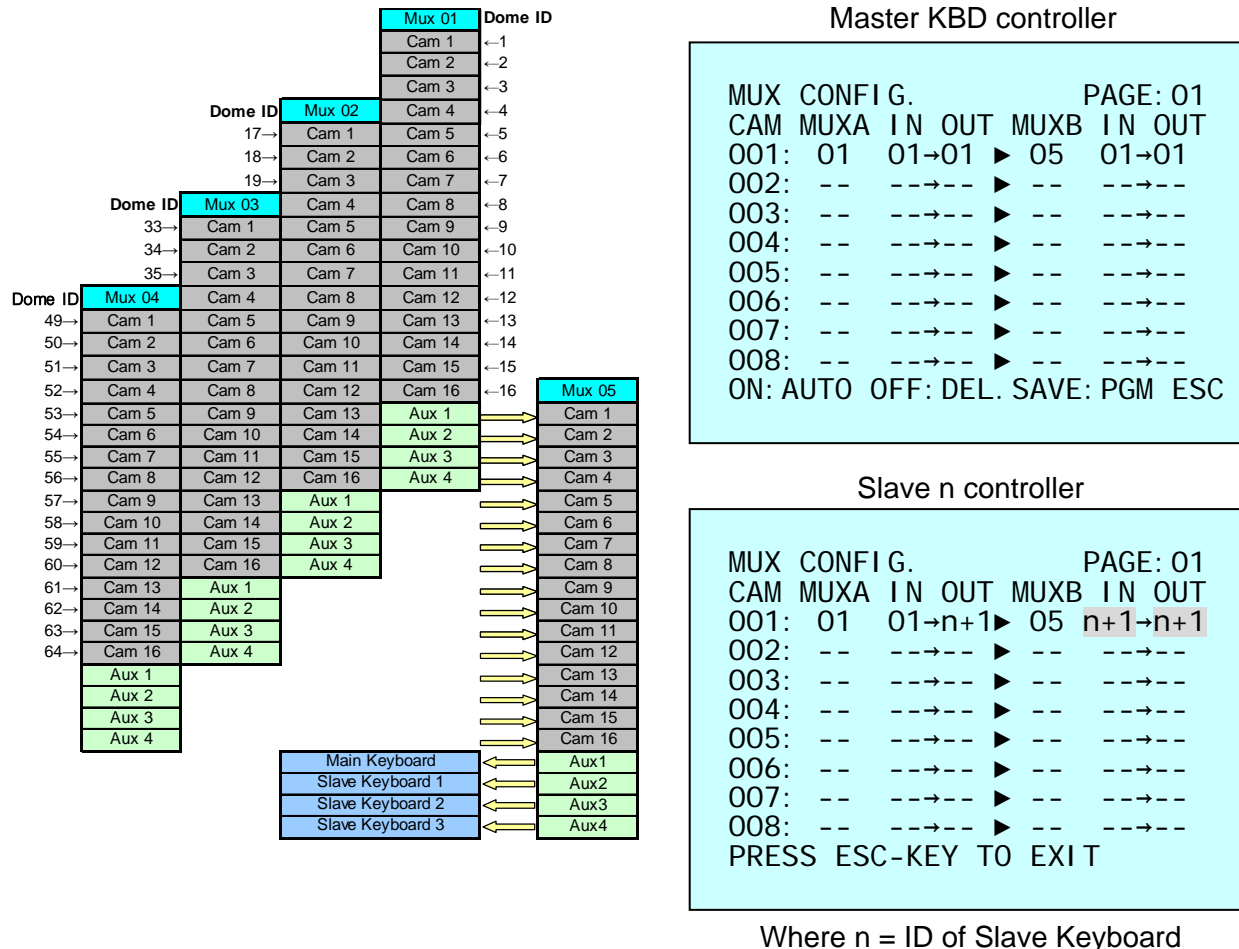


Figure 12 – Five Mux configuration

All operation methods are similar to example 3 configuration.

Regardless of number of users, Max. number of cameras is 64.

Out column of the table for Mux A(ID 01) is set master user = 01, Slave 1 = 02, Slave 2 = 03, Slave 3 = 04. In column of the table for Mux B (ID 05) to be set as Master = 01, Slave 1 = 5, Slave 2 = 9, Slave 3 = 13.

Out column of the table for Mux B(ID 05) is set master user = 01, Slave 1 = 02, Slave 2 = 03, Slave 3 = 04.

2.10 Keyboard Configuration Menu Setup

The user needs to setup network, passwords and special functions such as uploading and downloading programmed data from the dome cameras.

Key operation example

CTRL + MENU : Press and hold down **CTRL** Key and press **MENU** Key

1 + CAM : Press **1**, **CAM** keys sequentially

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

Special Key action in the Menu

PGM Key : Press **PGM** Key to save and exit to previous menu

ESC Key : Press **ESC** Key to exit current menu without saving.

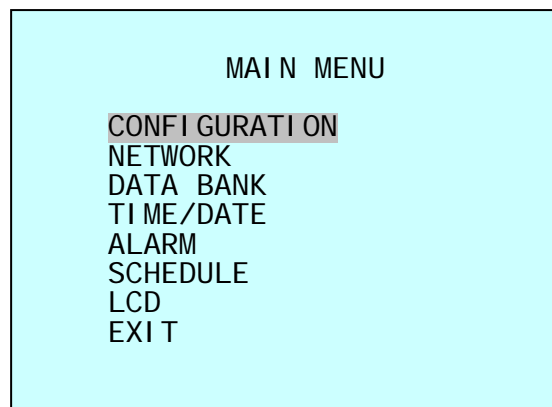
ON Key : Press **ON** Key when you need to insert or fill the data field automatically.

OFF Key : Press **OFF** Key to delete the data field.

Joystick : Move **Joystick** upward/downward to select item in the menu.
Move **Joystick** right/left to enter sub-menu or change the value.
Twist the handle to select or increase/decrease the value.

MAIN MENU

Press **CTRL + MENU** to enter the KBD controller main menu. You will see the following menu.

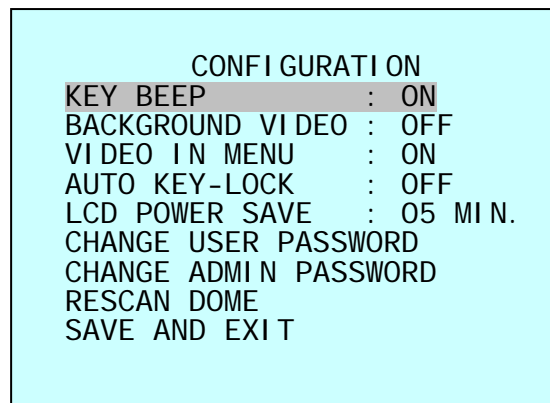


<Main Menu Screen>

Configuration	Enters the configuration setup submenu.
Network	Enters the Network setup submenu to set baud rate, port, Mux & Slave KBD.
Data bank	Enters the Data bank submenu to upload or download the programmed data.
Time/date	Enters the Time and Date setup submenu.
Alarm	Enters Alarm setup submenu for the Alarm interface box.
Schedule	Enters the Schedule setup submenu to set macro, weekly & annual schedule & sequence.

LCD	Adjust Brightness, Contrast, Tint, and Color of the LCD
Exit	Exit from the Main Menu and return to the normal operation mode.

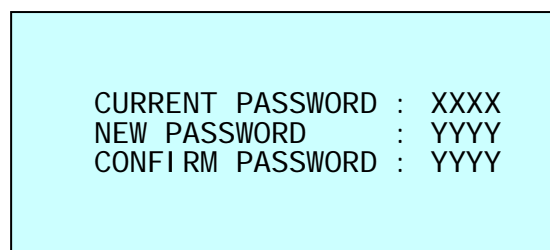
CONFIGURATION MENU



<Configuration Setup Screen>

Key beep	When set to ON, the KBD controller's internal speaker will sound when you press key.
Background video	When set to OFF, the keyboard controller's LCD will hide the image
Video in menu	When set to OFF, the keyboard controller's LCD will hide the image for legibility when the menu is on screen.
Auto key-lock	When set to 1 ~ 60Min, the KBD controller log out for security after elapsed time. You can set time OFF to 60 minute.
LCD power save	When set to 1 ~ 60Min, the KBD controller's LCD power will be turned off after elapsed time. You can set time OFF to 60 minute.
Change user password	Enters the change user password submenu.
Change admin password	Enters the change administrator password submenu.
Rescan dome	Rescan the connected dome cameras.
Save and exit	Save the changed settings and return to the previous menu

CHANGE USER PASSWORD



<Change User Password Screen>

This screen allows you to change user password.
 Password can be 4 digits. Factory Default setting is 1111.
 The user is not allowed to setup or program the KBD controller and the Dome Camera.

CHANGE ADMIN PASSWORD

```
CURRENT PASSWORD : XXXX
NEW PASSWORD      : YYYY
CONFIRM PASSWORD  : YYYY
```

<Change Administrator Password Screen>

This screen allows you to change administrator password.
Password can be 4 digits. Factory Default setting is 9999.
Log on Administrator level allows all rights of operation, setup, and program.

NOTE : If you forget your own password, contact service personnel or distributor.

NETWORK SETUP

NETWORK

```
SET BAUD RATE
COMMUNICATION PORTS
MUX CONFIGURATIONS
ALIAS PRESET MENU
SET SLAVE KEYBOARD
SAVE AND EXIT
```

<Network Setup Screen>

Set Baud rate	Enters the Baud rate setup submenu.
Communication Ports	Enters the Communications Ports setup submenu.
MUX Configurations	Enters the MUX configurations setup submenu.
Set Slave Keyboard	Enters the Slave KBD controller submenu.

SET BAUD RATE

BAUD RATE

```
DOME1 : 9600
DOME2/DVR : 9600
MUX/KBD : 9600
DVR/AUX : 9600
ALARM/AUX : 9600
SAVE AND EXIT
```

<Baud Rate Setup Screen>

This screen allows you to set up baud rate of each port.

Communication speed can be set 2400/ 4800/ 9600/ 19200/ 38400/ 57600/ 11.5k/ 230k. bps

COMMUNICATIONS PORTS

PORT DEFINITIONS	
DOME1	: DOME
DOME2/DVR	: DOME
MUX/KBD	: DUPLEX
DVR/AUX	: NONE
ALARM/AUX	: NONE
SAVE AND EXIT	

<Port Definitions Setup Screen>

This screen allows you to select what kind of device will be connected on the port of J-BOX.

Dome1	DOME / NONE
Dome2/DVR	DOME / DVR1- DVR5 / PC DVR / AUX IN / AUX I/O / NONE
MUX/KBD	DUPLEX / TRIPLEX / AUX IN / AUX I/O / NONE
DVR/AUX	DVR1 –DVR5 / PC DVR / AUX IN / AUX I/O / NONE
Alarm/AUX	ALARM BOX / AUX I/O / NONE

NOTE: AUX IN : auxiliary signal input (simplex mode)

AUX I/O : when auxiliary signal input , respond to the signal (Half duplex mode)

MULTIPLEXER CONFIGURATION

MUX CONFIG.				PAGE: 01	
CAM	MUXA	IN OUT	MUXB	IN OUT	
001:	01	01→01	▶ 05	----	
002:	--	----	▶ --	----	
003:	--	----	▶ --	----	
004:	--	----	▶ --	----	
005:	--	----	▶ --	----	
006:	--	----	▶ --	----	
007:	--	----	▶ --	----	
008:	--	----	▶ --	----	
ON: AUTO OFF: DEL. SAVE: PGM ESC					

<Multiplexer Configuration Setup Screen>

This screen allows you to set multiplexer switching settings when you select the camera by pressing **No.** + **CAM**.

Up to 64 Cameras can be installed using 5 MUXs and 4 KBD controllers. It is equivalent to a 64x4 matrix system. All 4 user can view one of 64 cameras to his own Spot(AUX) monitor.

Navigate to 001 Camera and configure switching methods. According to the number of MUXs attached, the remaining camera fields can be filled automatically by pressing the **ON** Key. ID of MuxA is always 01, and ID of MuxB is 02 or 05 depending on the quantity of MUXs attached. (e.g.: MuxB ID=02 in two Mux system, MuxB ID= 05 in 3 MUXs or more.)

Refer to the recommended configuration examples & multiplexer configuration examples.

NOTE: Specific multiplexer is compatible to this system. Recommended Multiplexer is
 Single user : HCXooN (DUPLEX) (oo is No. of camera inputs ie, 04, 09, 16)
 Multi user : HCXooT (TRIPLEX) (oo is No. of camera inputs ie, 04, 09, 16)

ALIAS PRESET MENU

ALIAS PRESET MENU. PAGE: 001					
NO.	DOMEID	ALARMNO	INPUT		
0001:	001	---	---	0001	NO
0002:	002	---	---	0002	NO
0003:	003	---	---	0003	NC
0004:	---	---	---	---	--
0005:	---	---	---	---	--
0006:	---	---	---	---	--
0007:	---	---	---	---	--
0008:	---	---	---	---	--
OFF: DEL. ALRM: EXE. SAVE: PGM ESC					

<Alias Preset Menu Setup Screen>

In case HID2404HCE model, you should upgrade EEPROM data later than Ver1.13 to use Alias Preset command.

This screen allows you to set the KBD controller's internal alias preset, each alias preset can have 3 dome cameras' position. You can execute this function when alarm signal is detected or press **No.** + **ALRM**. This programmed data is saved at the KBD controller's memory. Alias preset can be saved up to 1024.

You can save alias preset by press **No.** + **CTRL + ALRM** at the selected dome camera position.

SLAVE KEYBOARD SETUP MENU

SLAVE KEYBOARD	
SLAVE KEYBOARD :	ON
DOME HOLDING TIME :	003 SEC.
SLAVE KEYBOARD UNIT	
MUX CONTROL :	ON
DVR CONTROL :	ON
DOME MENU SETUP:	ON
GRANT DOME ACCES	
SAVE AND EXIT	

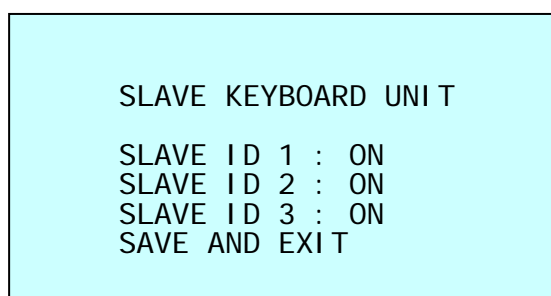
<Slave KBD Setup Screen>

This screen allows you set up Slave KBD controller, how many the slave KBD controller and Mux menu controllability and DVR menu controllability, etc.

Slave Keyboard	When set to ON, Slave KBD controller can control the unit which is connected Master KBD controller.
Dome Holding Time	When set to 0 ~ 200 second, Slave KBD controller's user can operate the dome camera which Master KBD controller's user have controlled after elapsed time (1 ~ 200 Sec or infinite).
Slave keyboard unit	Enters the Slave keyboard unit submenu.
Mux control	When set to ON, Slave KBD controller is allowed to access Mux setup menu.
Dvr control	When set to ON, Slave KBD controller is allowed to access DVR setup menu.
Dome menu setup	When set to ON, Slave KBD controller is allowed to access Dome menu setup.
Grant dome access	Enters the Grant Dome Access submenu.

NOTE : If the number of connected Slave KBD controllers is not matched, master KBD controller will display error message.

SLAVE KEYBOARD UNIT

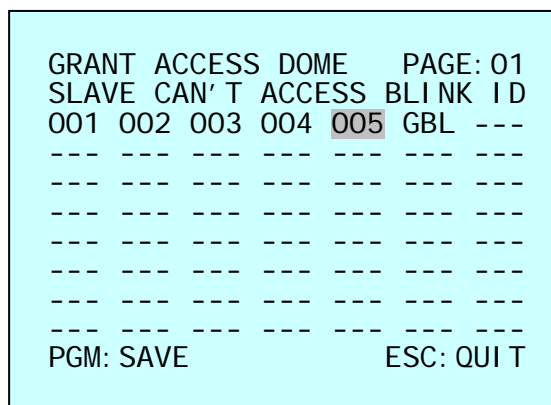


<Slave Keyboard Unit Screen>

This screen allows you set up each Slave KBD controller ON or OFF,

Slave ID No. When set to ON, Slave KBD controller's user can operate the unit which is connected Master KBD controller.

GRANT ACCESS DOME



<Grant Access Dome Setup Screen>

GBL Restrict GBL command from the Slave KBD controller.

This screen allows you to select out of the connected dome camera which the Slave KBD controller's user can't access. Blink ID was selected dome camera.

DATA BANK

	I D	SAVED	DATE
DATA BANK1:	-	-	- - - - -
DATA BANK2:	-	-	- - - - -
EXIT			

<Select Data Bank Screen>

This screen allows you to select data bank on which programmed data can be saved.

DATA-BANK: 1	
- EMPTY DATA -	
DOWNLOAD DATA FROM DOME	
UPLOAD DATA TO DOME	
CLEAR THIS DATA EXIT	

<Data Bank Screen>

This screen allows you to download the Programmed data from the selected dome camera to KBD controller non-volatile memory and upload the downloaded data to the selected dome camera and clear the data-bank

Clear This Data: Clear saved data in the KBD controller.

TIME & DATE

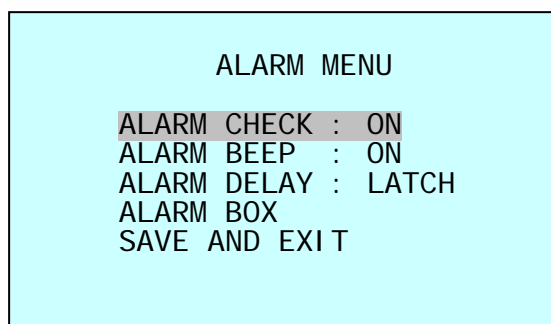
TIME & DATE	
DISPLAY	: ON
DATE/DAY	: 29 THR
MONT	: JAN
YEAR	: 2004
HOUR	: 15
MI NUTE	: 37
SAVE AND EXIT	

<Time & Date Setup Screen>

This screen allows you to set the KBD controllers' Time & Date.

Display: When set to Off, the KBD controller will hide the time.

ALARM MENU

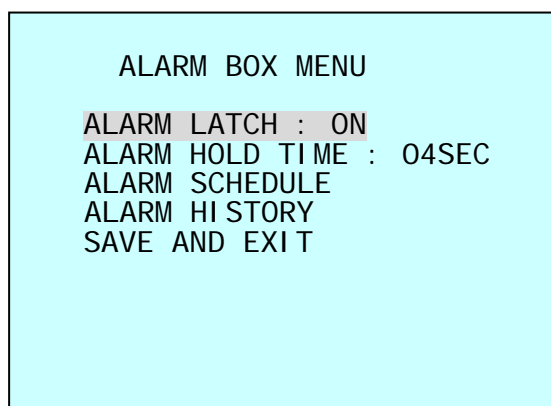


<Alarm Menu Screen>

This screen allows you to set up the actions KBD controller will take when there is an alarm condition.

Alarm Check	When set to ON, the KBD controller will check alarm signal and each port of J-box can be connected 32 dome cameras. When set to OFF, it will not check alarm signal and each port of J-box can be connected 128 dome cameras..
Alarm Beep	When set to ON, the KBD controller will sound beep when alarm signal is detected.
Alarm Delay	When set to 0~99 Sec, the KBD controller will show Alarm status for the setting time. When set to Latch, the KBD controller will show the Alarm status until cleared by user.

ALARM BOX (future function)



<Alarm box Menu Screen>

Alarm latch	When set to On, Alarm message does not disappear until you erase the message.
Alarm hold time	You can set time from Off to 99 second.
Alarm Schedule	Enters the Alarm Schedule submenu.
Alarm History	Enters the Alarm History submenu.

ALARM SCHEDULE

ALARM SCHEDULE				PAGE : 01
CAM	ALARM	AUX	MACRO	
002	12345678	64	8	
---	-	-	-	-
---	-	-	-	-
---	-	-	-	-
064	-2---56-	8	-	-
---	-	-	-	-
---	-	-	-	-
---	-	-	-	-
ON: I NS.		OFF: DEL.	PGM	ESC

<Alarm Schedule Setup Screen>

Alarm Schedule has 8 pages. All 8 alarm inputs of 64 dome cameras can be used to activate programmed Macro.

Cam	Camera to be relayed to the alarm box.
Alarm	1,2, 3 ~ 8 – Select alarm Input to be relayed.
Aux	1, 2, 3 ~64 – Relay Output No. of alarm box.
MACRO	1,2,3 ~ 8 - Programmed macro to be executed by activated alarm.
ON key	Insert row to be newly inserted.
OFF key	Delete row not used.
PGM key	Save And Exit.

ALARM HISTORY

ALARM HI STORY				PAGE : 01
CAM	ALARM	DATE	TIME	
005	12-4-	JAN-30-04	16: 00: 37	
002	0XFF	JAN-29-04	16: 59: 33	
007	COMM.	JAN-29-04	09: 50: 23	

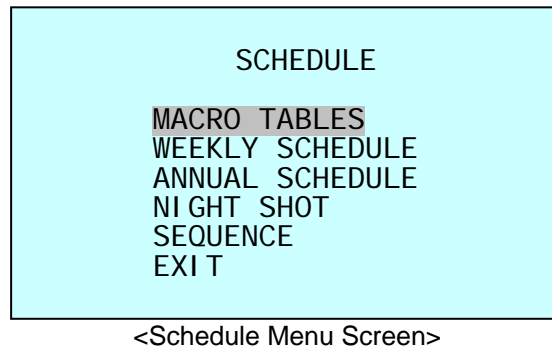
OFF: CLEAR HI STORY		ESC: EXI T		

<Alarm History Screen>

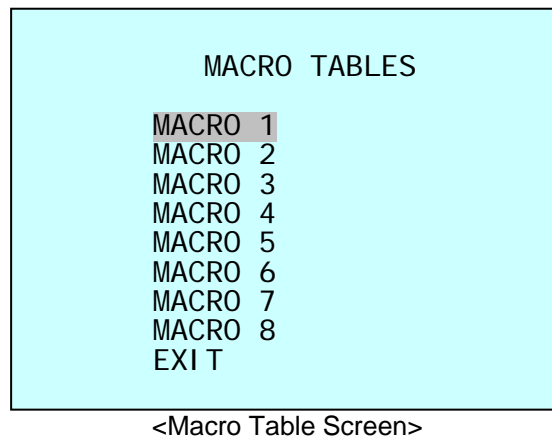
Alarm History has 32 pages and is capable of displaying 256 events.

Cam	ID of alarm activated dome.
Alarm	1,2,3~5 – In case of less than 5 alarm, No. represents activate alarm inputs. 0XFF – In case of more than 5 alarms, corresponding digits are set to 1.
COMM.	When communication error occurred.

SCHEDULE

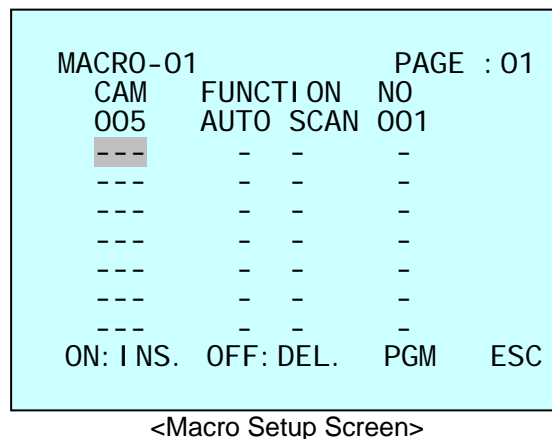


MACRO SETUP



8 MACRO can be programmed in this menu, select MACRO No. to be programmed.

Automatic functions to be executed by **No.** + **CTRL + MACRO** or activated by alarm and its programmed schedule.



Cam ID of installed domes - 1,2,3~ 64
1 ~ 254 (Alarm check OFF)

Function Functions to be executed. (Auto Scan, Pattern, Tour....)

WEEKLY SCHEDULE

WEEKLY SCHEDULE			
MACRO	TIME	DAY	
01	17:05	EVERY DAY	
08	03:00	SUNDAY	
07	08:30	MON-FRI	
01	11:05	SAT-SUN	
--	- -	-	
--	- -	-	
--	- -	-	
--	- -	-	
ON: I NS. OFF: DEL. PGM ESC			

<Weekly Schedule Setup Screen>

This screen allows you to set weekly schedule to execute Macro command.

Macro MACRO No. to be executed at the time

Time Time to execute MACRO

Day Work day or holiday

ANNUAL SCHEDULE

ANNUAL SCHEDULE			
MACRO	DATE	TIME	DAY
01	JAN-01	17:05	SAT
--	- -	-	-
--	- -	-	-
--	- -	-	-
--	- -	-	-
--	- -	-	-
--	- -	-	-
--	- -	-	-
ON: I NS. OFF: DEL. PGM ESC			

<Annual Schedule Setup Screen>

This screen allows you to set annual schedule to execute Macro command on the set time.

Macro Macro No. (01 ~08) to be executed

Date Specific date of year

Time Time to execute the macro

Day Week of day

NIGHT SHOT SCHEDULE

NIGHT SHOT	
NIGHT SHOT : ON	
ON TIME	: 19:30
OFF TIME	: 07:30
SAVE AND EXIT	

<Night Shot Schedule Setup Screen>

This screen allows you to schedule that Night Shot mode is activated at programmed time.

Night shot When set to ON, the dome camera of which night shot mode is global will change the night shot mode at programmed time.

On time Time to be forced Night

Off time Time to be forced normal mode.

NOTE: Only domes with the global option of the night shot operates.

SEQUENCE SETUP

SEQUENCE GROUP	
SEQUENCE-G1	SETUP
SEQUENCE-G2	SETUP
SEQUENCE-G3	SETUP
SEQUENCE-G4	SETUP
SEQUENCE-G5	SETUP
SEQUENCE-G6	SETUP
SEQUENCE-G7	SETUP
SEQUENCE-G8	SETUP
EXIT	

<Sequence Group Menu Screen>

This screen allows you to select sequence group No. for settings.

CAM SEQ-1				PAGE : 01	
NO.	CAM	PRESET	AUX-NO.	DWELL	
01	001	002	4	10	SEC
02	064	---	1	5	SEC
03	007	---	3	99	SEC
04	---	---	-	-	-
05	003	001	2	3	SEC
06	---	---	-	-	-
07	---	---	-	-	-
08	---	---	-	-	-
ON: I NS.		OFF: DEL.		PGM	ESC

<Sequence Setup Screen>

This screen allows you to set the specific camera is displayed specified spot output of the MUX for programmed time.

No. No. of Seq (01,02,03 ~ 64).

Cam No. of Mux channel

Preset Preset No. to be called. Normal camera won't be changed.

Aux-no Spot output No. of MUX

Dwell Dwell time of switching. You can set time from 3 to 99 second or skip.

2.11 Install with Standalone DVR Series

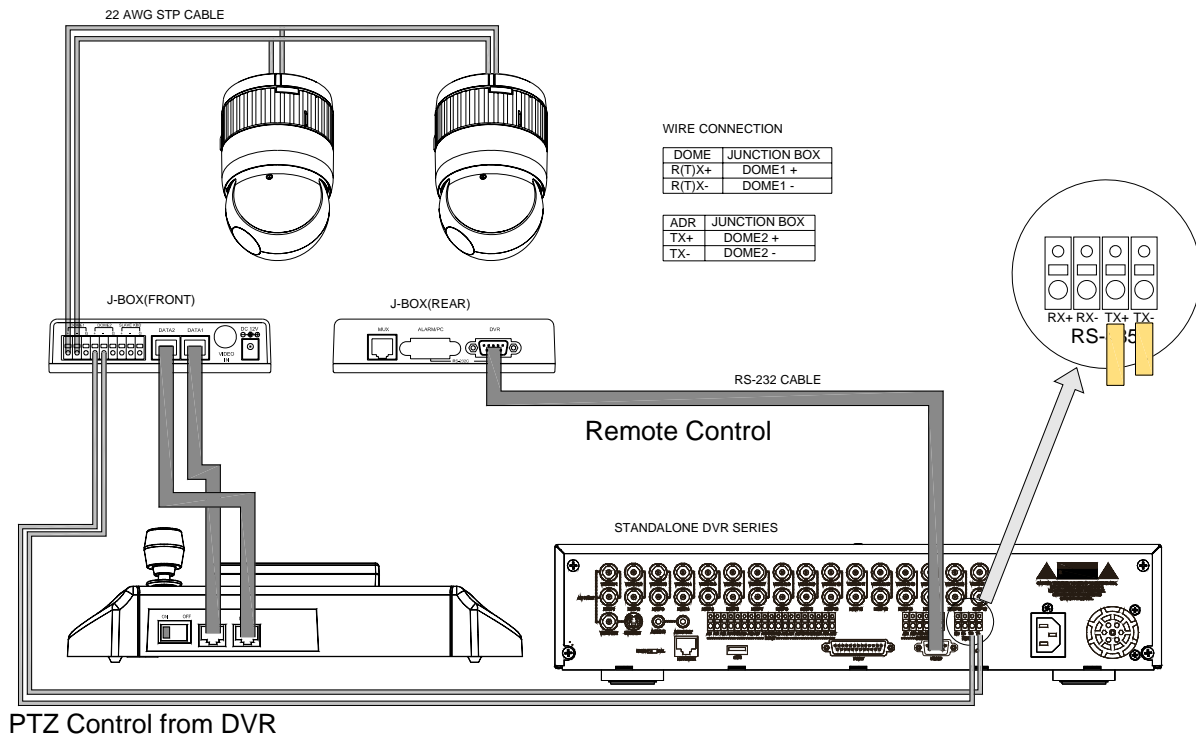


Figure 13 – DVR Connection Diagram

DVR1 or DVR2 can be set by following method though the menu system and screen are different.

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

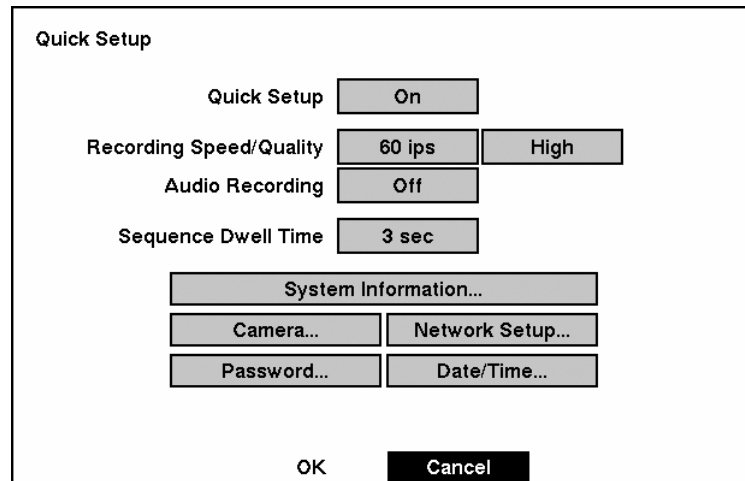
DVR2 also can be set by same method.

1. Connect RS232 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 8pin 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 keyboard controller)
4. How to setup the KBD controller.
 - A. Switch the KBD controller ON
 - 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 Network menu.

BAUD RATE		PORT DEFINITIONS	
DOME1	: 9600	DOME1	: DOME
DOME2/DVR	: 9600	DOME2/DVR	: AUX I N
MUX/KBD	: 9600	MUX/KBD	: NONE
DVR/AUX	: 9600	DVR/AUX	: DVR1(or DVR2)
ALARM/AUX	: 9600	ALARM/AUX	: NONE
SAVE AND EXIT		SAVE AND EXIT	

5. 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".



Quick Setup

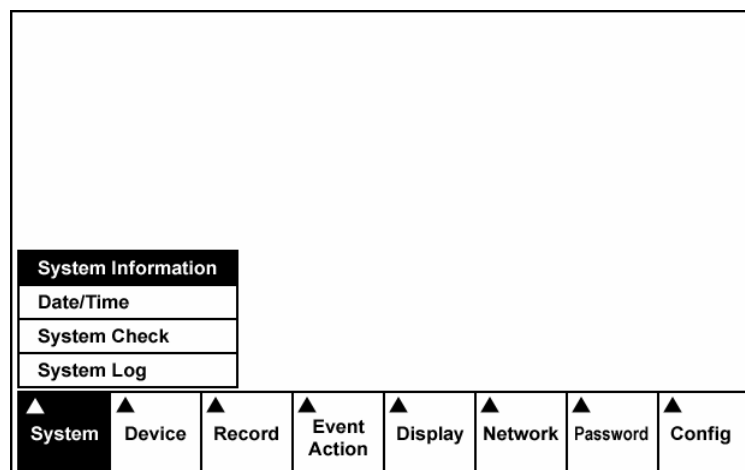
Quick Setup

Recording Speed/Quality

Audio Recording

Sequence Dwell Time

- Press "OK", and the below screen will be appeared.



System Information

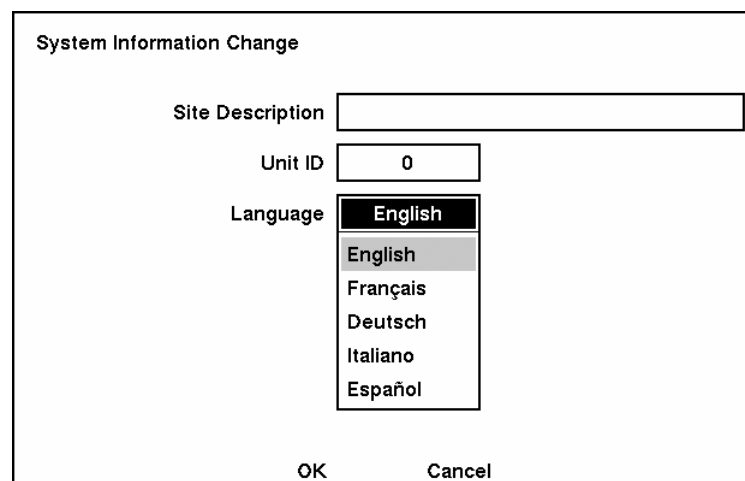
Date/Time

System Check

System Log

▲ System ▲ Device ▲ Record ▲ Event Action ▲ Display ▲ Network ▲ Password ▲ Config

- Select "System Information" on the system menu and change UNIT ID.



System Information Change

Site Description

Unit ID

Language

English

Français

Deutsch

Italiano

Español

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

Camera

Camera	On/Off	Title	PTZ Device	ID
1	On	CAM1	None	
2	On	CAM2	None	
3	On	CAM3	None	
4	On	CAM4	None	

1 - 4

5 - 8

9 - 12

13 - 16

OK

Cancel

- G. Set "PTZ Device" and "ID" of the dome camera. Select RS232/RS485 after PTZ is installed, and then set-up as below table.


RS232/RS485

RS232/RS485	Baud Rate	Parity	Data	Stop	Usage
RS232	9600	None	8	1	External Modem
RS485	57600	None	8	1	Remote Control

OK

Cancel

RS232/RS485	Baud Rate	Parity	Data	Stop	Usage
RS232	9600	None	8	1	Remote Control
RS485	9600	None	8	1	PTZ Control

- After setting Unit ID, Camera, and RS232/RS485, installing dome camera is basically completed. Please refer to the manual of DVR for the other installation.
- 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
- 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.

2.12 Install with PC DVR Series

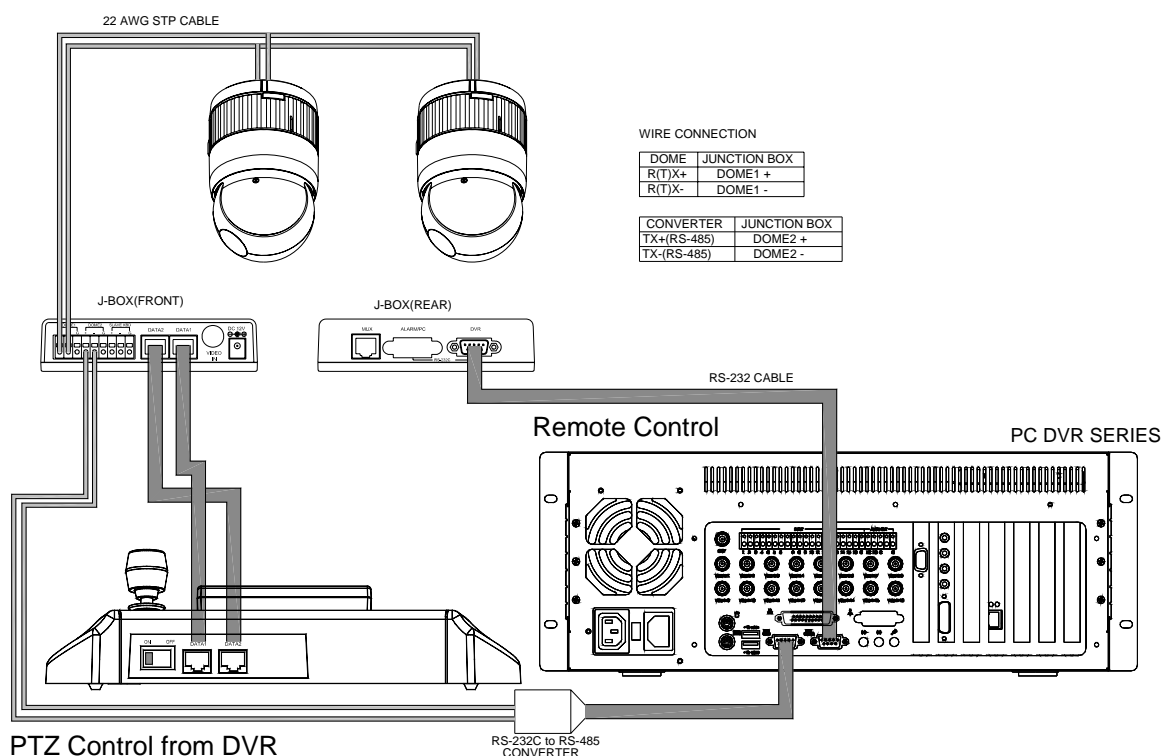


Figure 15 – PC DVR Connection Diagram

If user wants to connect with PC DVR, please proceed as the following order.

1. Connect RS-232C cable between RS-232C Port of PC DVR and DVR port of the J-box. (This connection enables PC DVR control remotely from KBD controller)
2. Connect 8pin Multi cable between the data2 port of the KBD and the J-BOX.
3. Plug the RS-232C TO RS-485 converter in the RS-232C Port of PC DVR. Connect wires between the TX(+/-) of converter and DOME2(+/-) of J-Box. (This connection enables PC DVR PTZ control from KBD controller)
4. How to setup the KBD controller.
 - A. Switch the KBD controller ON
 - 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 Network menu.

BAUD RATE

DOME1 : 9600
 DOME2/DVR : 9600
 MUX/KBD : 9600
 DVR/AUX : 9600
 ALARM/AUX : 9600
 SAVE AND EXIT

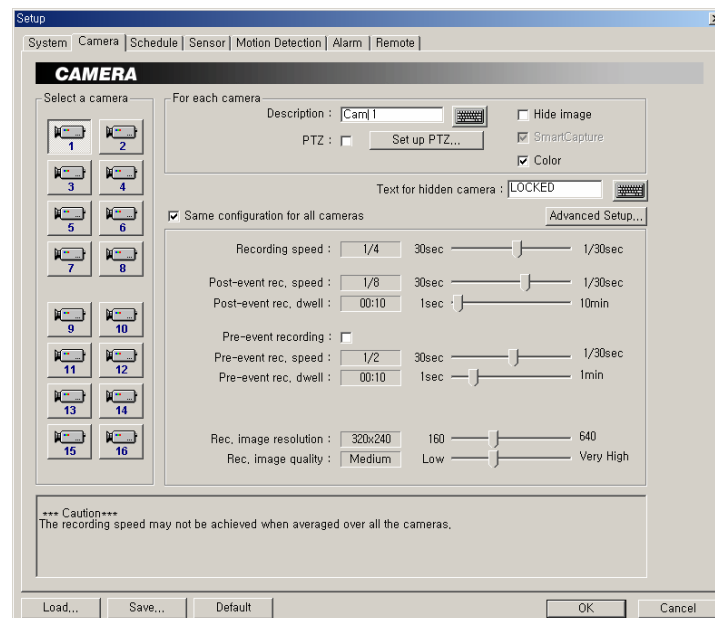
PORT DEFINITIONS

DOME1 : DOME
 DOME2/DVR : AUX IN
 MUX/KBD : NONE
 DVR/AUX : PC DVR
 ALARM/AUX : NONE
 SAVE AND EXIT

5. How to setup PC DVR
 - A. Switch the PC DVR on.



- B. If press setup button on the above screen, the below screen will be appeared.



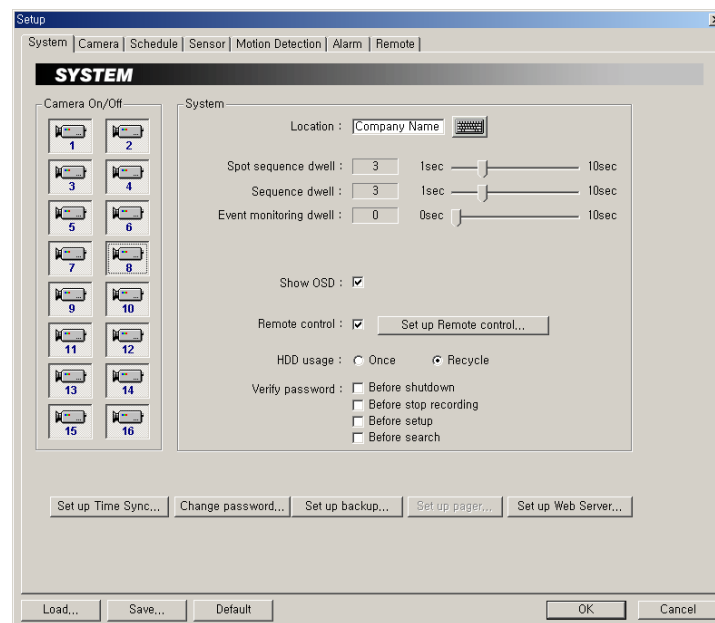
- C. Select camera input number that dome camera connected. Then install as below to select set-up PTZ after checking PTZ box.

Port : COM1
 RX Device : Fastrax....
 Baud Rate : 9600
 Data : 8
 Parity : None
 Stop Bit : 1

- D. If PTZ is not necessary for PC DVR, cable and installation here is not needed. (PC DVR is able to be controlled remotely and there's no PTZ function)

6. How to PC DVR Remote setup

A. If selects Setup on main menu, the below screen will be appeared.



B. After selecting System and checking Remote control box, please install as below to select Setup remote control. Device ID is not allowed number "0".

Port : COM2
Baud Rate : 9600
Data : 8
Parity : None
Stop Bit : 1
Device ID : XX

C. Make sure if any change is appeared on screen to press **QUAD** (Next Screen) button of a controller for basic testing. If there's no change appeared, check cable connection and installation again.

Chapter 3 — Operation

3.1 Keyboard Lock/Unlock

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

Pressing **7 7 7** + **ENTR** will lock the keyboard controller. Pressing **7 7 7** + **ENTR** 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 your distributor to get a 4-digit back door password. This will change the passwords to the factory default. Contact your distributor to get the 4-digit back door password.*

3.2 Selecting Camera & Mux Control

Duplex/Simplex 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.)

Press the **MENU** key of the multiplexer to enter the Unit Options using **▼** and **SET** key of mux.

9. Unit Options

Unit Number : 001 (first Mux) or 002 (second Mux)

Press **▼** and **SET** key of the multiplexer to enter the Communication setting.

Communication

Type : RS 485

Baud rate : 9600 bps

PORT : ON

Protocol : B (If you see this line, the multiplexer has the new ROM)

NOTE : *The old ROM version does not show Protocol selection option.*

Multiplexer alarm inputs will function normally, but the KBD 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 the Dome Camera.

Triplex setup

Press **▲** key double of the multiplexer to enter the Main Menu.

Enter the Unit Setup using **▲▼▶◀** and **SET** key of the multiplexer.

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

Selecting camera (**No.** + **CAM** and **PREV** or **NEXT**)

With these selections, the keyboard controller has full control of the selected camera if it is a dome camera.

Viewing Full Screen (Multiplexer video input **No.** + **MAIN**)

The selected multiplexer's video input will appear in the full-screen mode.

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

Selecting multiplexer (Mux ID **No.** + **MUX**)

Example: If the unit address of the Multiplexer is 128, you should press **1 2 8** + **MUX** to control the 128th Multiplexer.

If the spot output of the first multiplexer is connected to the 16th video input of the second multiplexer, you can see selected camera output through the spot output of the second multiplexer by pressing camera **No.** (1 to 31) + **CAM**

For 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 (address) of the Multiplexer and selection of the Multiplexer must be the same in order to control the Multiplexer with the Keyboard.

In case no multiplexer configuration

Picture on Spot Output of the Multiplexer (Mux's video input **1** ~ **1 6** + **AUX1~4**)

Pressing Mux's video input **1** ~ **1 6** + **AUX1** ~ **AUX4** will switch the selected video input 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: **1** + **MUX**, **2** + **AUX1** will switch camera 2 on multiplexer 1 to the spot output of multiplexer 1.

2 + **MUX**, **3** + **AUX1** will show camera 3 on 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 case 2~5 multiplexer configuration

In a 2~5 multiplexer configuration, **1 8** + **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.

3.3 Camera Control

Manual Focus control

Press the keyboard buttons Far and Near to manually focus the camera. When the ZOOM handle of the joystick is twisted slightly, the camera will return to Auto Focus mode

Manual Iris control

Press the keyboard buttons Open and Close to manually open and close the iris. Move the joystick slightly to return to Auto Iris mode.

Zoom control

Twist the joystick to zoom in and out. Zoom control has two steps of speeds and is proportional to the amount the zoom handle is twisted.

Glbl (Global) command

It is possible to cause all cameras to move to preset positions simultaneously with this feature. (For example, pressing **1** + **ENTR/GLBL** make all dome cameras to move to Preset 1 at the same time.)

Global preset can call presets 1 to 240 if programmed properly.

Pressing **8 8 8** + **ENTR/GLBL** will cause all cameras in the global mode to switch to night shot (B&W) mode.

Pressing **9 9 9** + **ENTR/GLBL** will cause all the cameras in global mode to return to normal (Color) mode.

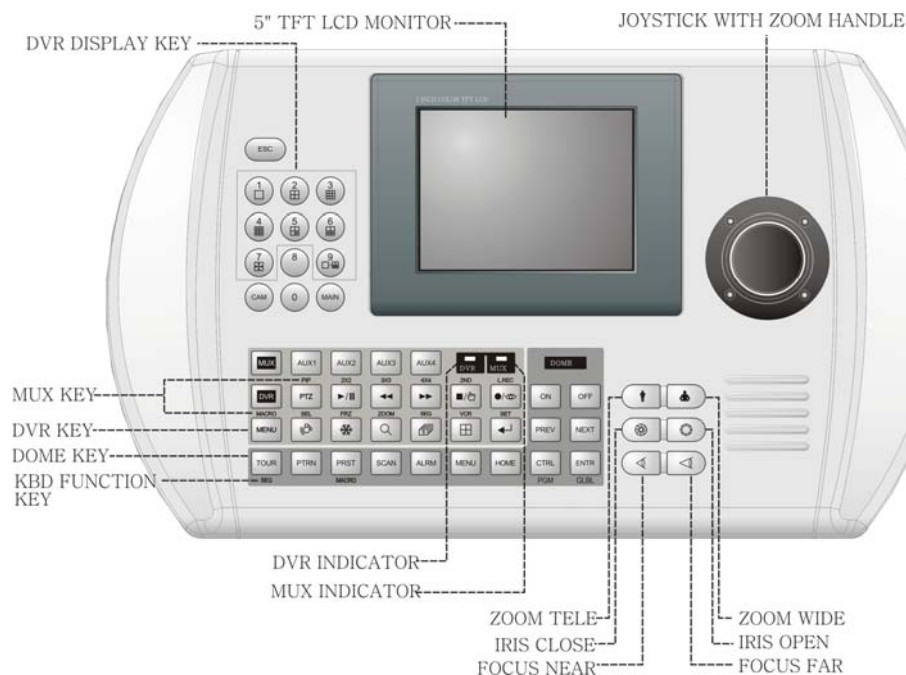







Figure 16 – Keyboard Key map



Figure 17 – J-box Front & Rear

3.4 Summary of Keyboard Controls

Keys for Dome camera










Function	Key Label	Descriptions
Camera selection	[0..9] + 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. Function number selection with function keys. (e.g., [1] + CAM , [3] + TOUR , [5] + SCAN , [6] + PRST)
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	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... 5] + ENTR/GLBL). [8 8 8] + ENTR/GLBL : Night shot mode, [9 9 9] + ENTR/GLBL : Normal mode
Call Preset position	PRST	Pressing Prst will bring up the preset programming menu. Recalls preset; (e.g.: [1, 2 ... 3] + [1 ... 2] + 4 + 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	CTRL/PGM	No. + CTRL/PGM + PRST will store current view as a preset directly. No. + CTRL/PGM + TOUR will open programming menu No. + CTRL/PGM + SCAN will open programming menu
Control	CTRL/PGM	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 = 380°/sec)
Enter	ENTR/GLBL	Completes entering data for the password or title ENTR+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 menu Pan control, Cursor Left / Right or Page scroll in the menu.










Keys for Multiplexer

Function	Key Label	Descriptions
Full Screen	No. + MAIN	Puts the multiplexer in Full-Screen Mode of the selected camera No.

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	2ND	Second mode of PIP multiplexer. Pressing 2nd+ENTR again will return to normal mode.
Panic record	L.REC	Put a camera in the Panic Record Mode.
Macro	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	ENTR+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.

Keys for DVR (Some function may be different according to the 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 from ◀◀ , ◀◀◀ and ◀◀◀◀ .
Fast Forward		Play video forward at high speed. Pressing the button again toggles the playback speed from ▶▶ , ▶▶▶ and ▶▶▶▶ .
Stop/ Preset Save		During Playback mode returns the DVR to the Live Monitoring mode. In case PTZ mode, Save current position to the preset No.
Record/ Preset Call		Set the DVR so that it is ready to record video. In case PTZ mode, Recall the preset No.
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	PC DVR screen mode.
Go last	CTRL + 	Go last in PC DVR
Go First	CTRL + 	Go first in PC DVR
X times Backward play	No. + 	Fast play at x(No.) times speed in PC DVR
X times Forward play	No. + 	Fast rewind at x(1~8) times speed in PC DVR
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 ~ 4	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 .
Full Screen	No. + MAIN	Displays selected camera in the full-Screen Mode and enter the numbers in the login menu.
Cursor movement	ENTR+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.

Keys for Keyboard Controller function

Function	Key Label	Descriptions
Macro	CTRL+PRST/MACRO	Execute Macro. e.g: No. + CTRL+PRST/MACRO
Sequence	CTRL+TOUR/SEQ	Execute Sequence. e.g: No. + CTRL+TOUR/SEQ
Sequence Stop	0 + CTRL+TOUR/SEQ	Stop Sequence.
KBD lock/unlock	7 7 7 + ENTR	Lock/Unlock the KBD controller.
Alias Preset save	No. + CTRL+ALRM	Save Alias Preset Position.
Alias Preset recall	No. + ALRM	Recall Alias Preset Position.

Appendix A - Specifications

GENERAL	
Certification	CE EMC, FCC CLASS A
ELECTRICAL	
LCD	5 inch 320x240 dot pitch TFT LCD
Joystick	3 axis HFX type Joystick
Input Voltage	12 VDC, built-in power-line surge
Power Consumption	15 W
Communications	RS-485/232 baud rate: 2400 ~230k bps (default:9600bps)
Dome1 Port (RS-485)	Up to 127 dome cameras including 32 Alarm mode on
Dome2 Port (RS-485)	Up to 127 dome cameras including 32 Alarm mode on
MUX (SLAVE KBD) Port (RS-485)	Multiplexer Connection : Max 255
	DVR Connection : Max 99
	Slave Keyboard Connection : Max 3
DVR (RS-232)	Remote control for DVR
Alarm/PC (RS-232)	Alarm Box or PC connection
MECHANICAL	
Dimension	See Figure -18 (Unit : mm)
Unit Weight	Approx 1.8 kg
Shipping Weight	Approx 3.8 kg
Shipping Size	452 x 283 x 162 (Unit : mm)
ENVIRONMENT	
Operating temperature	0°C to 50°C (32°F to 122°F)
Operating humidity	0 to 90%RH (non-condensing)
Storage temperature	-20°C to 60°C (-4°F to 140°F)

Specifications are subject to change without notice.

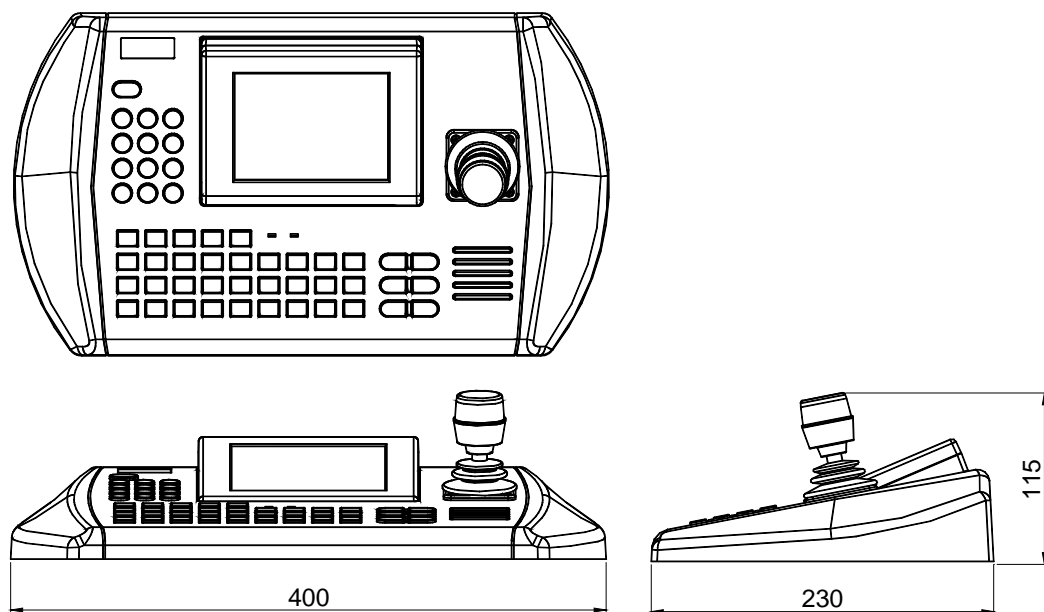


Figure 18 – Dimension

Appendix B – Short Cut Key

Short Cut Key	Function
PRST	Pop up preset setup menu.
TOUR	Pop up guard Tour setup menu.
PTRN	Pop up Pattern setup menu.
SCAN	Pop up Auto Scan setup menu.
No. + PGM + PRST	Store the current view at the selected number.
No. + PGM + TOUR	Pop up tour setup menu at the selected number.
No. + PGM + SCAN	Pop up auto scan setup menu at the selected number.
1~4 + ON	Turn On Relay.
1~4 + OFF	Turn Off Relay.
10 + ON	Night Shot on
10 + OFF	Night Shot off
11 + ON	BLC on
11 + OFF	BLC off
12 + ON	Digital Zoom on (According to digital zoom setting)
12 + OFF	Digital Zoom off
13 + ON	Dome camera OSD on
13 + OFF	Dome camera OSD off
14 + ON	Dome camera Area Title Display on
14 + OFF	Dome camera Area Title Display off
15 + ON	View Direction on
15 + OFF	View Direction off
100 + ON	Shutter speed auto
101 + ON	Shutter speed 1/4 (PAL 1/3)sec
102 + ON	Shutter speed 1/2 sec
103 + ON	Shutter speed 1 sec
104 + ON	WDR on
104 + OFF	WDR off
105 + ON	Stabilizer ON
105 + OFF	Stabilizer OFF
150 + ON	Image Reverse ON
150 + OFF	Image Reverse OFF

* Some function may not operate according to the model.

Appendix C - 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. 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 as per Pages 15 (setting Multiplexer)
No Video on the KBD controller	1. Check that Back(background) Screen On/Off 2. Check if the Dome camera is menu status.

Tip 1.

Dome Holding Time of the slave keyboard setup menu

When the dome2 port set "AUX IN" even if the slave keyboard is not used, the dome holding time has an effect on the transfer time of the command (FASTRAX protocol only) from the dome2.

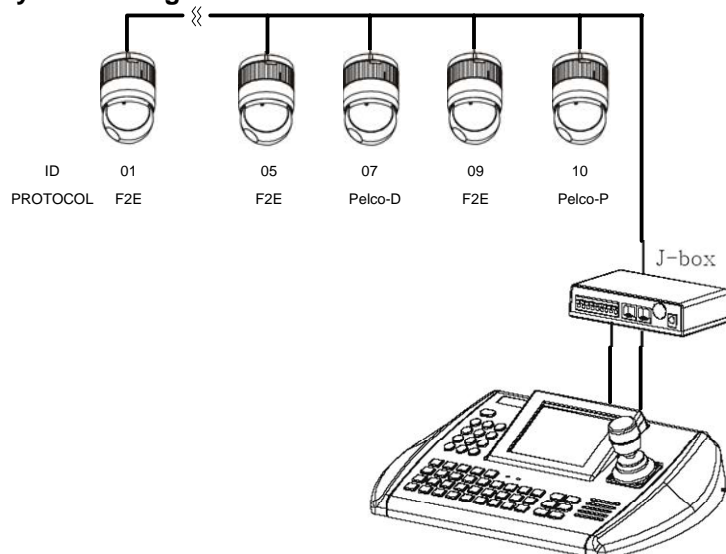
Set the slave keyboard option to ON to change the dome holding time. After changing the time, set the slave keyboard option to OFF when the slave keyboard is not used.

When the slave keyboard or DVR through the dome 2 port has the same as the camera number of the master keyboard, it can operate only after the dome holding time. But two numbers are different, at the same time two cameras can operate.

Appendix D — Control the other camera (available Ver3.0 and over)

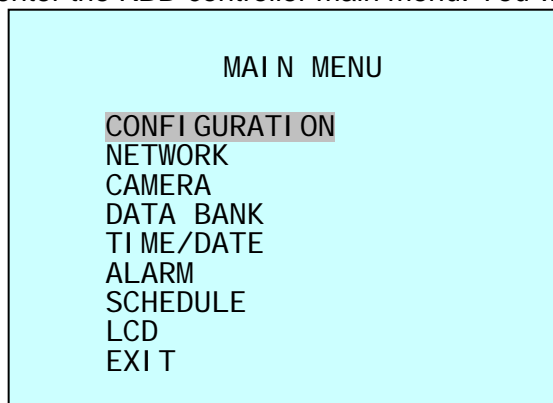
When you want to control to the camera of Spectra III™ SE Series with the FASTRAX camera, refer to the following sentence.

D.1 Example of the system configuration



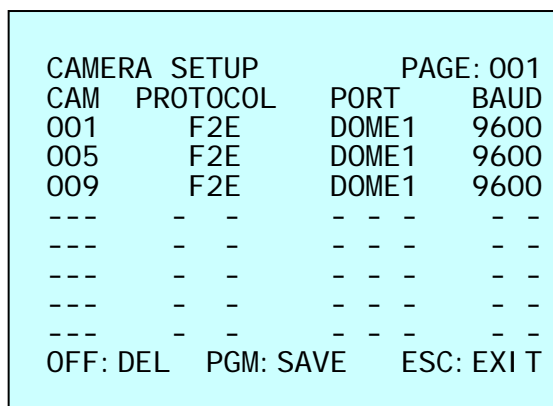
MAIN MENU

Press **CTRL + MENU** to enter the KBD controller main menu. You will see the following menu.



CAMERA To set the type of cameras.

CAMERA SETUP



When the keyboard has that the alarm option is ON, at the first power on, the camera setup displays as above after the keyboard checks the camera automatically.

At this time, the F2E protocol could not be changed.

To add the other camera,

1. Position the cursor at the CAM field below 009, the dash blinks.
2. Twist the handle of the joystick clockwise, the next number displays or press camera number and **CAM** button.
3. Set the appropriate protocol of the camera and the appropriate port.
4. Set the appropriate BAUD rate of the camera.

CAMERA SETUP			PAGE: 001
CAM	PROTOCOL	PORT	BAUD
001	F2E	DOME1	9600
005	F2E	DOME1	9600
009	F2E	DOME1	9600
007	PELCO-D	DOME1	2400
010	PELCO-P	DOME1	2400
---	- -	- - -	- -
---	- -	- - -	- -
---	- -	- - -	- -
OFF: DEL PGM: SAVE			ESC: EXI T

5. Press the **CTRL/PGM** button to save the camera setup.
6. Press the **ESC** button to exit without saving.
7. Press the **OFF** button to delete the selected CAM line.

Note: The baud rate of the F2E is according to the value of the set baud rate menu in the network menu.

When the keyboard has that the alarm option is OFF, at the first power on, the camera setup displays the blank menu and set the all camera as above.

CAMERA SETUP			PAGE: 001
CAM	PROTOCOL	PORT	BAUD
---	- -	- - -	- -
---	- -	- - -	- -
---	- -	- - -	- -
---	- -	- - -	- -
---	- -	- - -	- -
---	- -	- - -	- -
---	- -	- - -	- -
OFF: DEL PGM: SAVE			ESC: EXI T

CAMERA SETUP			PAGE: 001
CAM	PROTOCOL	PORT	BAUD
001	F2E	DOME1	9600
005	F2E	DOME1	9600
009	F2E	DOME1	9600
007	PELCO-D	DOME1	2400
010	PELCO-P	DOME1	2400
---	- -	- - -	- -
---	- -	- - -	- -
---	- -	- - -	- -
OFF: DEL PGM: SAVE			ESC: EXI T

Follow above procedure to set the camera.

* You can set 254 cameras up to the page 32.

Keys for other camera

Function	Key Label	Descriptions
Camera selection	0..9 + CAM	Select the camera to be controlled by the keyboard controller.
Previous	PREV	Allows the previous dome camera to be controlled manually.
Next	NEXT	Allows the next higher number dome camera to be controlled manually.
Call Preset position	0..9 + PRST	Recalls preset. The presets are numbered 1-32, 35-82, and 100-150 of the Spectra III SE system. (Refer to the manual of the dome camera) The following presets are predefined for specific functions: 33 “Flip” command

Appendix E — Control the DVR for the version 3.1.0 and over (available Ver3.0 and over of the keyboard)

Installation of the DVR5 protocol when one DVR is used.

Note: When you set the protocol to DVR5, the keyboard operates as the DVR's keyboard only.

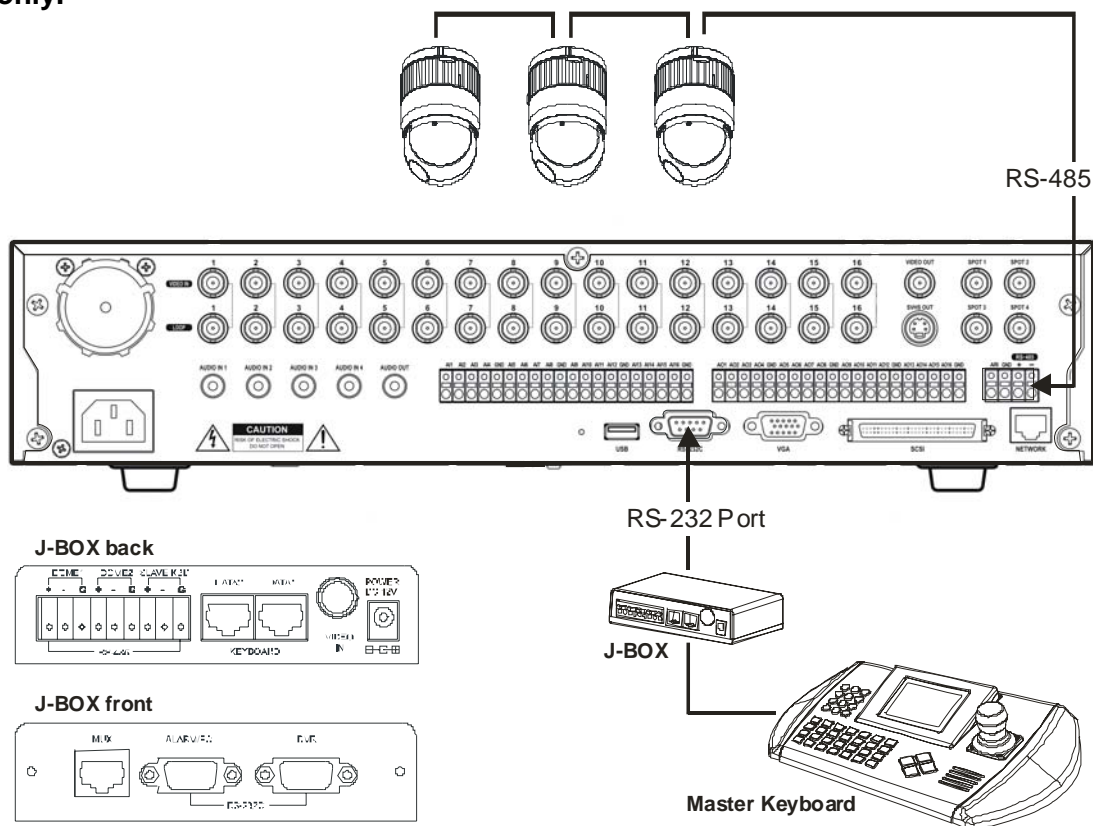


Figure A – DVR Connection Diagram

When you control the PTZ camera by the DVR, follow as below.

1. Connect RS232 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 8pin Multi cable between the data1 port of the KBD and the J-BOX.
3. Connect 8pin Multi cable between the data2 port of the KBD and the J-BOX.
4. Connect wires between the TX(+/-) of DVR and RX(+/-) of PTZ cameras.
5. Switch the KBD controller ON
 - A. Input password (Factory setting is 9999)
 - B. Open the menu of the KBD controller by pressing **CTRL + MENU** Key.
 - C. Set as below in Network menu.

BAUD RATE			PORT DEFINITIONS		
DOME1	:	9600	DOME1	:	NONE
DOME2/DVR	:	9600	DOME2/DVR	:	NONE
MUX/KBD	:	9600	MUX/KBD	:	NONE
DVR/AUX	:	9600	DVR/AUX	:	DVR5
ALARM/AUX	:	9600	ALARM/AUX	:	NONE
SAVE AND EXIT			SAVE AND EXIT		

Note: The baud rate of DVR/AUX should be the same as one of the RS232 of the DVR.

Note: The port of DVR/AUX should be DVR5.

6. How to setup DVR:

- D. Switch the DVR on.
- E. Enter the Menu according to the DVR's instruction manual.
- F. Change the Port to "RS232" of the remote control in the devices menu.
- G. Confirm matching the setup of RS232 with the keyboard.
Ex: Baud Rate:9600,Data Bit:8,Stop Bit:1, Parity:None)
- H. Change the Remote Control to "Remote Control2" in the devices menu.
- I. Change the Port to "RS485" in the PTZ menu of the camera of the devices menu.
- J. Confirm matching the setup of RS485 of the PTZ menu with PTZ cameras.
- K. Set the PTZ menu according to PTZ cameras.

Note: The baud rate of all PTZ cameras should be used one speed type (ex. All 9600 or all 2400)

Note: The product of FASTRAX should be used "FASTRAX2"

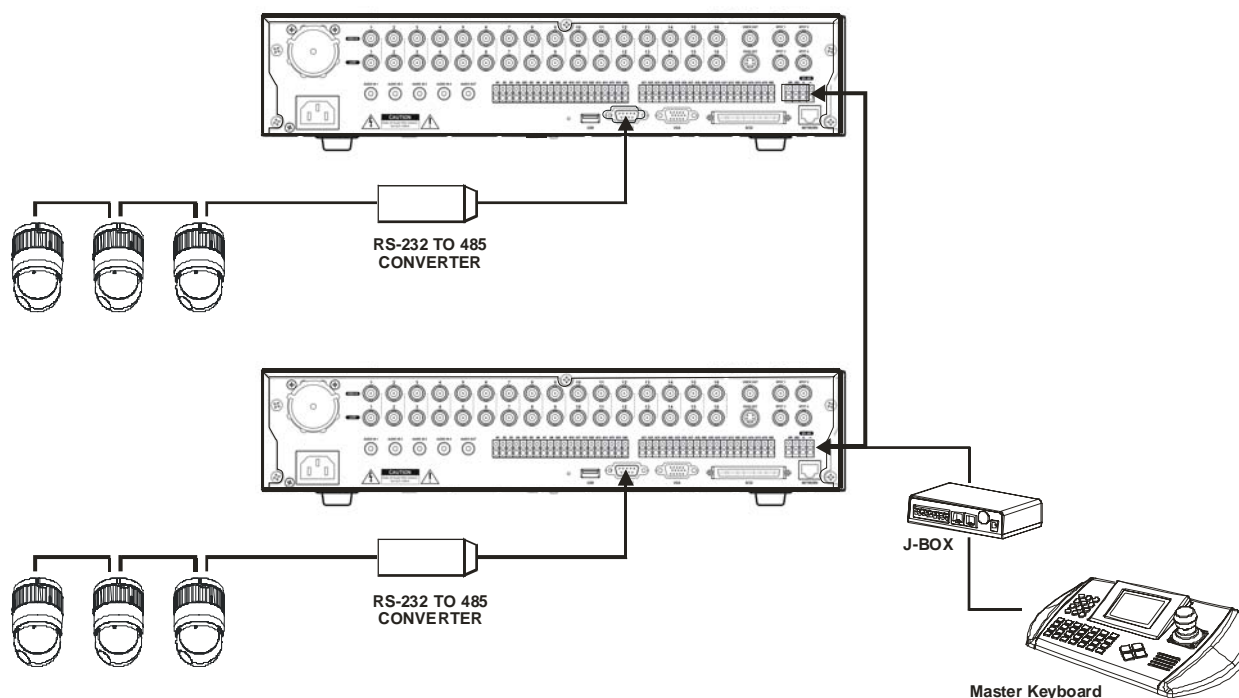
- L. Set the ID number according to PTZ cameras.
- M. Set the system ID number to 1.

Operation of the keyboard

The camera selection and the full-screen selection of the DVR over 17 will change the number of the DVR automatically. The keyboard calculates the DVR's number based on 16 channel. When the PTZ camera is installed on the DVR, you should select the number of the PTZ camera by the number of the input channel not the ID number of the PTZ camera. For example, when the PTZ camera with the 5 ID number is installed the number 1 of the input jack of the DVR, to control the camera, you select **1** + **CAM** not **5** + **CAM**.

Action	Key pressing	Remark / LCD display
DVR selection	1 + DVR	Displays DVR-001 at the bottom line
Camera selection	1 + CAM or 16 + CAM	CAM:0001 at the top line
	17 + CAM	CAM:0001 at the top line DVR-002 at the bottom line
Note: the camera number over 17 will change the DVR number automatically.		
Camera selection of DVR #2	1 + CAM or 16 + CAM	CAM:0001 at the top line DVR-002 at the bottom line
Return to DVR #1	1 + DVR	CAM:0001 at the top line DVR-001 at the bottom line
Full-screen selection	1 + MAIN or 16 + MAIN	CAM:0001 at the top line DVR-001 at the bottom line
	16 + MAIN	CAM:0016 at the top line DVR-001 at the bottom line
Full-screen selection	17 + DVR	CAM:0001 at the top line DVR-002 at the bottom line
Note: the main number over 17 will change the DVR number automatically.		
Return to DVR #1	1 + DVR	CAM:0001 at the top line DVR-001 at the bottom line
Control SPOT output	1 + AUX1	Camera 1 goes to SPOT 1 output
	16 + AUX2	Camera 16 goes to SPOT2 output
	AUX1	Sequence SPOT 1 output
	AUX1	Stop the sequence of SPOT 1 output

Installation of DVR5 protocol when many DVR use.



When you control PTZ cameras on many DVRs, you need RS232 to RS485 converter. PTZ cameras are connected to RS232 to RS485 converter by the RS232 port of the DVR and the keyboard is connected through the RS485 port of the DVR. Follow as below.

1. Connect RS485 cable between RS485 Port of DVR and the DOME1 port of the J-box.
2. Connect RS485 cable to the RS485 Ports of DVRs.
3. Connect RS232 cable between RS-232 Port of DVR and the RS232 Port of the RS232 to RS485 converter.
4. Connect PTZ cameras to the RS485 Port of the RS232 to RS485 converter.
5. Repeat the step 3-4 each DVR.
6. Set the system ID number of each DVR from 1 to the last DVR increasing 1.
7. Set the network menu of the keyboard as below.

BAUD RATE		PORT DEFINITIONS	
DOME1	: 9600	DOME1	: NONE
DOME2/DVR	: 9600	DOME2/DVR	: DVR5
MUX/KBD	: 9600	MUX/KBD	: NONE
DVR/AUX	: 9600	DVR/AUX	: NONE
ALARM/AUX	: 9600	ALARM/AUX	: NONE
SAVE AND EXIT		SAVE AND EXIT	

Note: The baud rate of DOME1 should be the same as one of the RS485 of the DVR.

8. How to setup DVR:







- A. Switch the DVR on.
- B. Enter the Menu according to the DVR's instruction manual.
- C. Change the Port to "RS485" of the remote control in the devices menu.
- D. Confirm matching the setup of RS485 with the keyboard.

Ex: Baud Rate:9600,Data Bit:8,Stop Bit:1, Parity:None)

- E. Change the Remote Control to “Remote Control2” in the devices menu.
- F. Change the Port to “RS232” in the PTZ menu of the camera of the devices menu.
- G. Confirm matching the setup of RS232 of the PTZ menu with PTZ cameras.
- H. Set the PTZ menu according to PTZ cameras.(PRODUCT and ID)















Note: The baud rate of all PTZ cameras should be used one speed type(ex. All 9600 or all 2400)

Keys for Dome camera:

	Key Label	Descriptions
Camera selection	1..16 + CAM	Displays the selected camera number.
Cancel	ESC	Cancels current inputs. Exits from currently running functions or menu, error status, etc.
Alarm	ALRM	No Action
Relay ON	ON	No Action
Relay OFF	OFF	No Action
Previous	PREV	No Action
Next	NEXT	No Action
Home	HOME	Immediately calls Home function. Deletes selected value or function in programming mode
Global	GLBL	No Action
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	CTRL/PGM	No. + CTRL/PGM + PRST will store current view as a preset directly. No. + CTRL/PGM + TOUR will open programming menu No. + CTRL/PGM + SCAN will open programming menu
Control	CTRL/PGM	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 = 380°/sec)
Enter	ENTR/GLBL	Completes entering data for the password or title ENTR+Joystick : Direction key in DVR remote mode.
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 menu Pan control, Cursor Left / Right or Page scroll in the menu.

Note: According to camera type, these functions could be different from the description.

Keys for DVR

	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 from ◀◀ , ◀◀◀ and ◀◀◀◀ .
Fast Forward		Play video forward at high speed. Pressing the button again toggles the playback speed from ▶▶ , ▶▶▶ and ▶▶▶▶ .
Stop		During Playback mode returns the DVR to the Live Monitoring mode.
Record		Set the DVR so that it is ready to record video.
MENU		Enter the menu screen. You will need to enter the administrator password to access the menu if enabled. Press the menu button to see the search menu in the playback mode. Pressing the button also closes the current menu or setup dialog box.
Alarm		Invokes the event log search menu.
Freeze		Freeze the current live screen.
Zoom		Display the digital zoom screen
Sequence		Sequence.
Display Mode		Toggle between different display formats. The available formats are: full, 4x4, 3x3, 2x2 and PIP.
Display Mode	1 , 2 , 3 , 4 +  (QUAD)	PIP(1+Quad), 2x2(2+Quad), 3x3(3+Quad) and 4x4(4+Quad)
Enter		Select a highlighted item or completes an entry that you have made.
Spot Sequence	AUX1 .. AUX4	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 .
Full Screen	No. + MAIN	Displays selected camera in the full-Screen Mode and enter the numbers in the login menu.
Cursor movement	ENTR+Joystick	Up / Down / Left / Right control in the digital zoom. Left / Right control in the quad or 3x3 screen.
Cursor movement	Joystick	Up / Down / Left / Right control in the menu.

* See the DVR's manual to know in detail.

Note: To use other type keyboard to the slave keyboard, you should upgrade the firmware of the keyboard by the version 3.0 and over.

