

The GV-Keyboard V3 is designed to program and operate GV-System / GV-Control Center, and it can also be connected with PTZ cameras directly for PTZ control.

- A Keyboard can control up to 16 GV-Systems / 16 GV-Control Centers.
- Multiple Keyboards can work with up to 8 monitors for Digital Matrix, TV Quad and Spot Monitor applications in GV-System.
- Multiple Keyboards can work with up to 8 monitors for Matrix View and ViewLog applications in GV-Control Center.
- A Keyboard can directly set up and control up to 32 PTZ cameras.

For details, see *GV-Keyboard V3 User's Manual* on the software CD.



Quick Start Guide

GV-Keyboard V3

Important:

1. The GV-Keyboard V3 for **GV-System** and for **GV-Control Center** has a different button design.
2. The GV-Keyboard V3 is protected with a password. When you use the Keyboard for the first time, you will need to enter the default password "0000" to unlock it.

Packing List

- GV-Keyboard x 1
- USB Cable x 1 
- Wall Terminal Block x 1 
- Power Adaptor (DC Output 12V, 1A) x 1
- RJ-11 Cable x 1 
- GV-Keyboard Quick Start Guide x 1
- GV-Keyboard Software CD x 1

System Requirements

OS Supported	32-bit	Windows XP / Vista / 7 / Server 2008
	64-bit	Windows 7 / Server 2008
System Supported	GV-System	Version 8.4 or later
	GV-Control Center	Version 8.5 or later

Thank you for purchasing GV-Keyboard. This guide is designed to assist the new user in getting immediate results from the GV-Keyboard. For advanced information on how to use the GV-Keyboard, please refer to *GV-Keyboard V3 User's Manual* on the Software CD.



Optional devices can expand the GV-Keyboard V3's capabilities and versatility. Contact your dealer for more information.

Device	Description
GV-Joystick	GV-Joystick facilitates the PTZ camera control. It can be either plugged into the GV-System for independent use or connected to GV-Keyboard V3 to empower the operation.

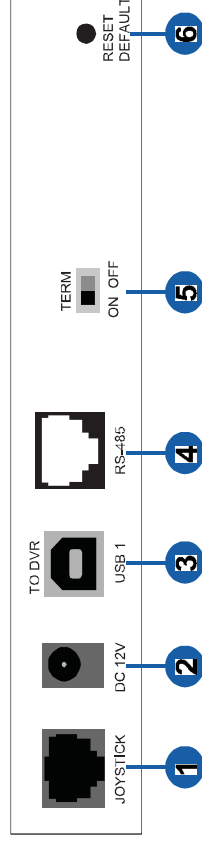


GV-NET Card
A RS-485/RS-232 interface converter for connecting multiple units of GV-Systems / GV-Control Centers. The Card connects to the RS-232 port or USB port on your computer and allows RS-485 devices, such as the GV-Keyboard V3, to be connected through the Card.

GV-NET/IO Card
A RS-485/RS-232 interface converter for connecting multiple units of GV-Systems / GV-Control Centers. It also provides 4 inputs and 4 relay outputs for I/O functions.

GV-Hub V2
A RS-485/RS-232 interface converter for connecting multiple units of GV-Systems / GV-Control Centers. An easy way for serial port extension. This hub can add 4 RS-232/RS-485 serial ports through the GV-System's USB port.

GV-COM V2
A RS-485/RS-232 interface converter for connecting multiple units of GV-Systems / GV-Control Centers. This unit can add 1 RS-232/RS-485 serial port through the GV-System's USB port.



No	Name	Function
1	Joystick	Connects to GV-Joystick for PTZ control.
2	DC 12V	Connects to the power adaptor.
3	USB1 Port	Connects to one GV-System / GV-Control Center.
4	RS-485 Port (RJ-11)	Through the supplied Wall Terminal Block, the RS-485 port can connect to: <ul style="list-style-type: none"> up to 16 GV-Systems / 16 GV-Control Centers by using the assigned RS-485 pins. up to 32 PTZ cameras by using the assigned RS-485 or RS-422 pins.
5	Terminal Resistance	Used in the last daisy-chained GV-System / GV-Control Center.
6	Reset	Resets the Keyboard when it does not respond to commands.

When connecting the Keyboard, please note:

1. You can only connect the Keyboard using either USB port or RS-485 port on the Keyboard.
2. To use RS-485 connection, the 485 communication has distance limitation of 600 meters (1968.5 feet).

Connecting to One GV-System / GV-Control Center

To use the Keyboard to control one GV-System / GV-Control Center, connect the PC and the Keyboard through USB ports.

Item required for connection:

- Supplied USB Cable



Note: When you use the USB port on the Keyboard for connection, it is not required to connect the Keyboard to a power supply.

Connecting to Multiple GV-Systems / GV-Control Centers

To use the Keyboard to control up to 16 GV-Systems / 16 GV-Control Centers, build the connection through the Keyboard's RS-485 port.

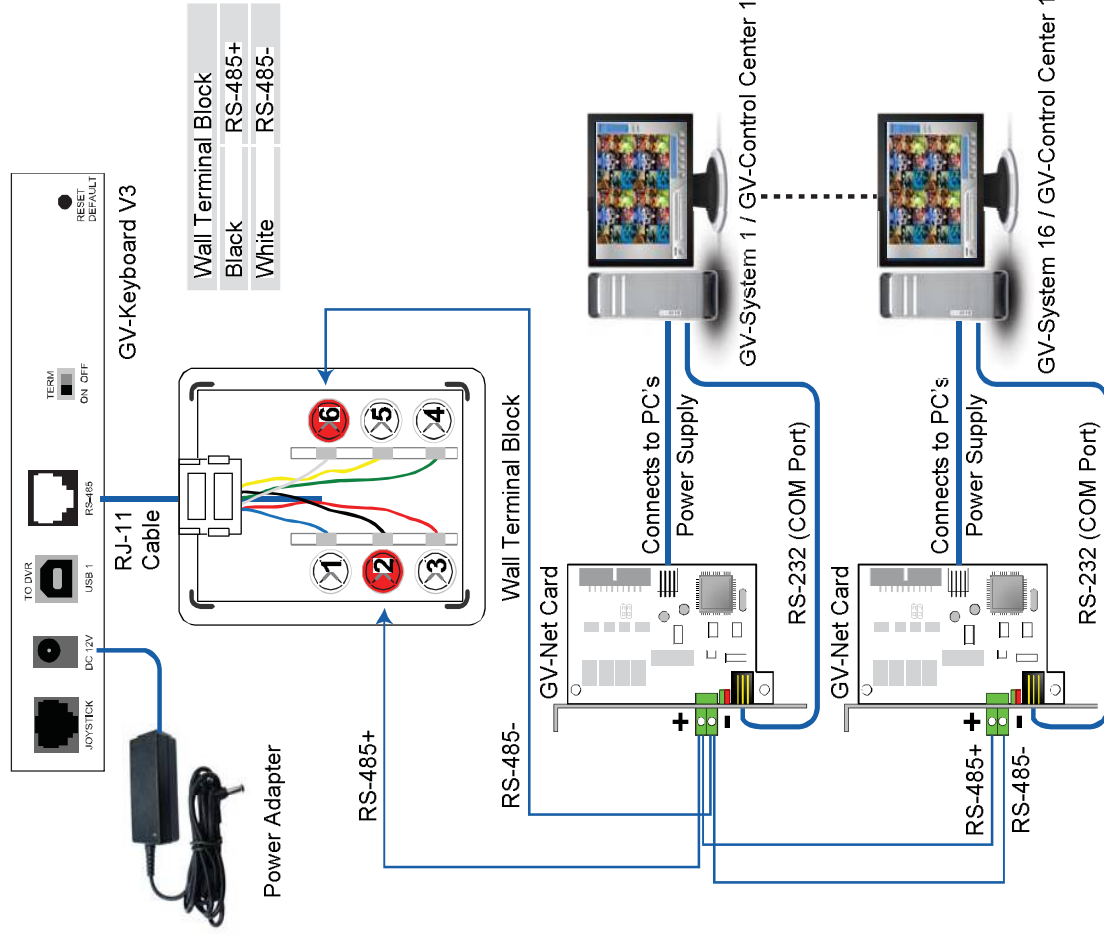
Items required for connection:

- Supplied RJ-11 Cable
- Supplied Wall Terminal Block
- Supplied Power Adaptor
- RS-485/RS-232 interface converter, e.g. GV-NET Card, GV-NET/IO Card, GV-Hub V2 and GV-COM V2.

Use the RJ-11 cable to connect between the RS-485 port on the Keyboard and the Wall Terminal Block. Then connect the **Pin-2** (Black wire) and **Pin-6** (White wire) of the Wall Terminal Block to the RS-485/RS-232 interface converter, which then connects to the GV-System / GV-Control Center.

To set up the Keyboard to control multiple GV-Systems / GV-Control Centers and switch control among these servers, see *Setting a Keyboard for Multiple GV-Systems / GV-Control Centers* later in the *Quick Start Guide*.

The diagram below illustrates the wiring to multiple GV-Systems / GV-Control Centers and uses GV-NET Card as RS-485/RS232 interface converter as example.



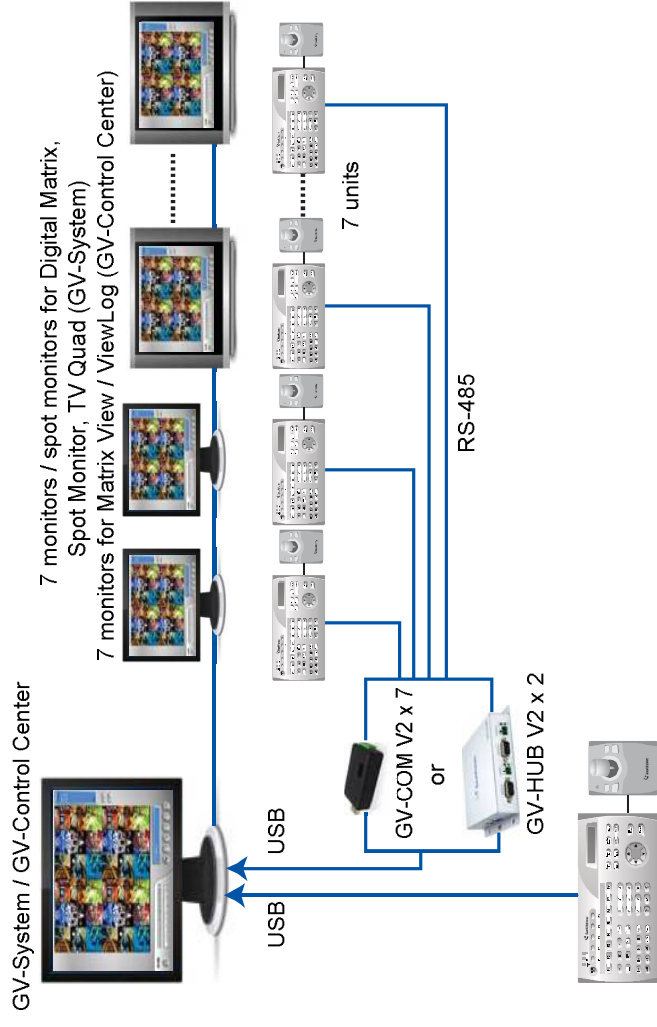
Connecting Multiple Keyboards for Different Monitors

To use multiple Keyboards to control assigned monitors, you need to use RS-485 cables to connect additional Keyboards to RS-485/RS-232 interface converters, and then connect these RS-485/RS-232 interface converters to the GV-System / GV-Control Center through USB ports.

A total of 8 Keyboards can be connected to control 8 assigned monitors.

Items required for connection:

- Supplied USB Cable
- RS-485/RS-232 interface converter, e.g. GV-Hub V2 and GV-COM V2.



To assign a Keyboard for a specific monitor control, see *Assigning Keyboards for Different Monitors* later in the *Quick Start Guide*.

5

Installing USB Drivers

It is required to install the USB driver for the USB connection. When the Windows Found New Hardware Wizard pops up, ignore the Wizard and follow the steps below to install the driver:

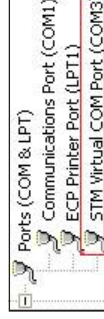
1. Insert the Software CD. This window pops up.



2. Select **Install Geovision USB Devices Driver**. This dialog box appears.



3. Click **Install** to install the driver. When the installation is complete, this message will appear: *Install done!*
4. Click **Exit** to close the dialog box.
5. To verify that the driver is installed correctly, go to Windows Device Manager. In the Ports (COM & LPT) field, you should see the entry for **STM Virtual COM Port**. Remember the COM port number, which is used by the Keyboard.

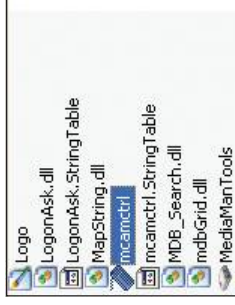


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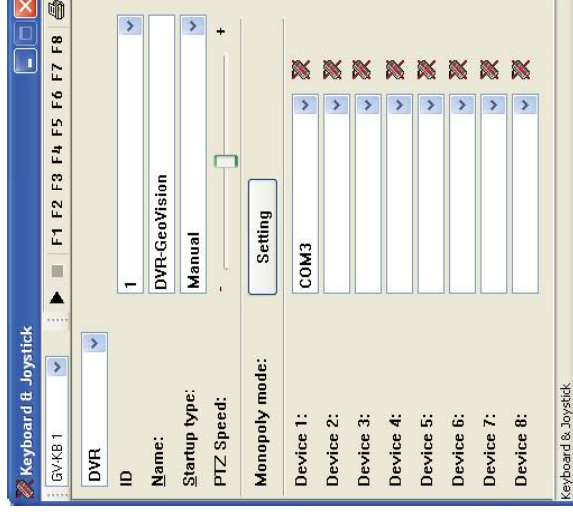
Running the Keyboard Controller

To control the Keyboard, you need to run the **mcamctrl.exe** program always at the background.

1. Run **mcamctrl.exe** from the GV folder / GV-Control Center folder.



2. The Keyboard & Joystick dialog box appears.



3. Configure the Keyboard & Joystick dialog box.

- A. At the top left, select **DVR** for GV-System or **CMS** for GV-Control Center.
- B. Choose an ID number.
- C. Name the GV-System / GV-Control Center. The name will be displayed on the Keyboard.
- D. Select the COM port that the Keyboard is connected to. For the COM port information, see step 5 in 5. *Installing USB Drivers*.

- Click ► to start the service. The Keyboard is now enabled to control GV-System / GV-Control Center.

The fields on the Keyboard & Joystick Controller dialog box:

Name	Description
GV-KB 1	Select the Keyboard to define F1-F8 functions.
DVR	Select the type of system connected, either DVR (GV-System) or CMS (GV-Control Center).
ID	Select an ID number for the GV-System / GV-Control Center. The default is 1.
Name	Give the GV-System / GV-Control Center a descriptive name.
Startup type	Select Manual or Automatic to choose whether to run the controller at next startup or not.
PTZ Speed	Adjust PTZ speed.
Monopoly Mode	Assign the Keyboard to control a specific monitor and set up the control mode.
Device 1-8	Select the COM port connecting to the Keyboard. Find the COM port number the Keyboard is using in the Ports field of Windows Device Manager.
►	Start the service.
■	Stop the service.
F1 - F8	Define eight function keys on the Keyboard to control output modules, display layout, PTZs, cameras and etc.
🖨	Print out a label for the eight function keys.

Note:

- To use the Keyboard to control multiple GV-Systems / GV-Control Centers, see **Setting a Keyboard for Multiple GV-Systems / GV-Control Centers** below for further setup and operation.
- To use more than one Keyboard to control assigned monitors, see **Assigning Keyboards for Different Monitors** below for further setup.
- To use function keys (F1-F8) on the Keyboard for instant access to many functions, see **Setting Function Keys** below.

Setting Function Keys

You can set up hot keys for instant access to many functions.

- Click a function key (F1-F8) to be configured. If multiple Keyboards are connected, first select one from drop-down list.

For GV-System:



For GV-Control Center:



- Select a desired function.
- Click **OK** to finish configuring the function key.

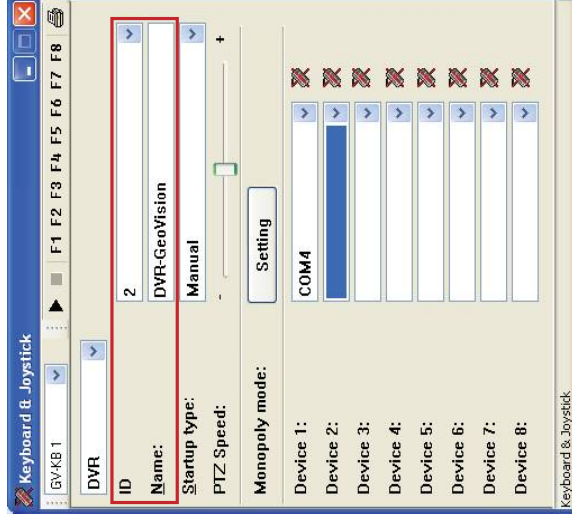
When the Keyboard service starts and you press a defined function key, the camera view will be displayed or the output device will act based on the function you assigned to the function key.


To print the function key labels, see *GV-Keyboard V3 User's Manual*.

Setting a Keyboard for Multiple GV-Systems / GV-Control Centers

To set up a Keyboard to control multiple GV-Systems / GV-Control Centers, follow the steps below. For details on how to connect one Keyboard to multiple GV-Systems / GV-Control Centers, see *Connecting to Multiple GV-Systems / GV-Control Centers* earlier in the *Quick Start Guide*.

1. You need to run **mcamctrl.exe** in each GV-System / GV-Control Center.
2. Set up the Keyboard Controller by following step 3 in 6. *Running the Keyboard Controller*. And you must define a different ID and name on each GV-System / GV-Control Center.



3. You can also set up hot keys for instant access to many functions. See the *Setting Function Keys* section above.
4. Click ► to start the service. The Keyboard is now enabled to control GV-System / GV-Control Center.
5. To switch control among GV-Systems / GV-Control Centers, press **P1** on the Keyboard, enter a two-digit ID and press .

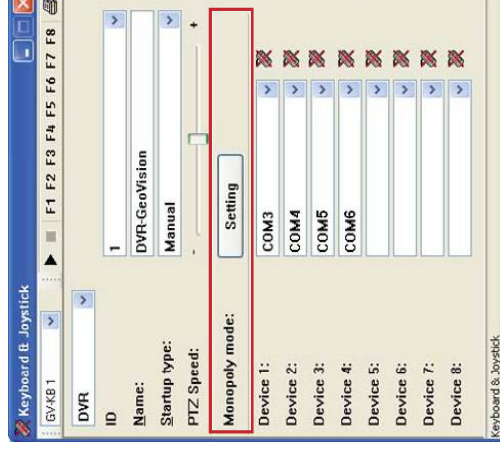
Assigning Keyboards for Different Monitors

You can connect up to 8 Keyboards to one GV-System for Digital Matrix, Spot Monitor and/or TV Quad applications, or 8 Keyboards to one GV-Control Center for Matrix and/or ViewLog applications. To assign a Keyboard for a specific monitor control, follow the steps below. For details on connecting multiple Keyboards, see *Connecting Multiple Keyboards for Different Monitors* earlier in the *Quick Start Guide*.

1. Run **mcamctrl.exe** from the GV folder / GV-Control Center folder.
2. Set up the Keyboard Controller by following step 3 in 6. *Running the Keyboard Controller*. And you must select all the COM ports that Keyboards are connecting with.

Note: Be sure to verify the driver installation of each Keyboard in the Ports field of Windows Device Manager. If the driver of any Keyboard is not installed properly, select **Install or Remove GeoVision GV-Series Driver** on the Software CD to re-install it.

3. Assign a Keyboard to a specific monitor.
 - A. Click the **Setting** button of Monopoly Mode.



- B. For GV-System, select a **Device** tab to define the Keyboard, select **Used for a specific monitor**, select among **Digital Matrix**, **Spot Monitor** and **TV Quad**, and select its monitor number using the drop-down list.



- C. For GV-Control Center, select a **Device** tab to define the Keyboard, select **Used for a specific Matrix monitor** and select a matrix to be controlled using the drop-down list.



4. Click each **Device** tab to define every Keyboard.
5. You can also set up hot keys for instant access to many functions. See the *Setting Function Keys* section above.
6. Click ► to start the service. Every Keyboard is now enabled to control the designated monitor.

You can connect up to 32 PTZ cameras to the GV-Keyboard V3 directly for PTZ control. For the supported PTZ protocols and brands, see *Supported PTZ Protocols and Brands*, Appendix, *GV-Keyboard V3 User's Manual* on the software CD.

Note: A mix of different camera brands together for control is not allowed.



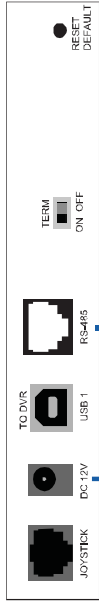
Installing PTZ Cameras

The PTZ cameras can be connected to the Keyboard through RS485 or RS422 wiring.

Items required for connection:

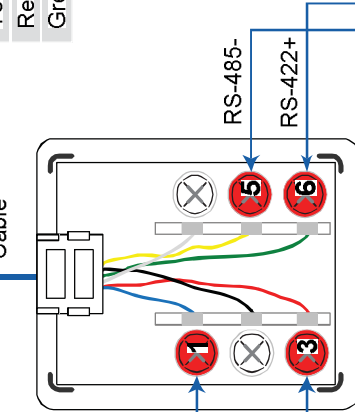
- Supplied RJ-11 Cable
- Supplied Wall Terminal Block
- Supplied Power Adaptor

GV-Keyboard V3

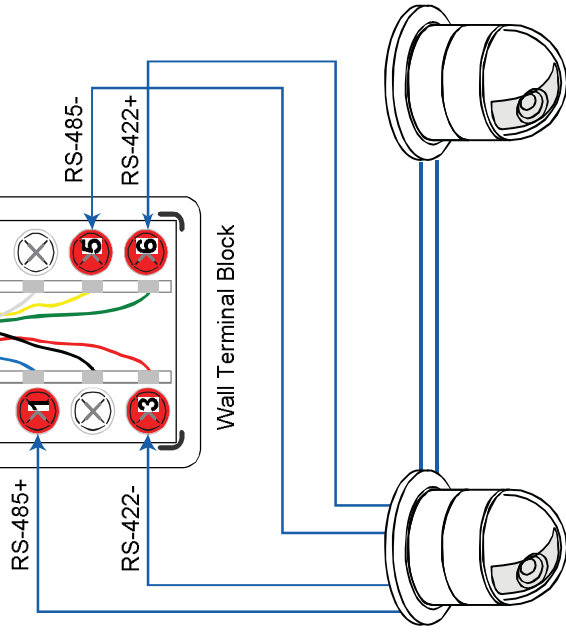


Wall Terminal Block	
Blue	RS-485+
Yellow	RS-485-
Red	RS-422-
Green	RS-422+

RJ-11 Cable



Wall Terminal Block



PTZ Camera 1 PTZ Camera 32

Setting up PTZ Cameras

After installing PTZ cameras, follow the steps below to set up the camera's number, type, baud rate and PTZ ID through the Keyboard.



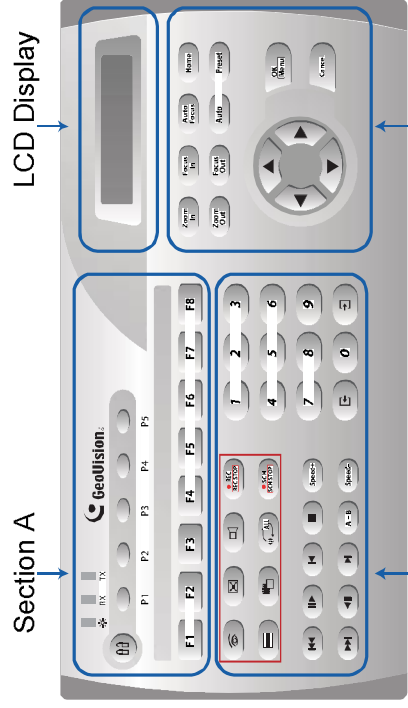
LCD Display

1. Press , and type the default password "0000" to unlock the Keyboard.
2. Press **P4**, and press , , or numeric buttons to select a PTZ camera, and press .
3. Press or to set up a **PTZ Type**, and press .
4. Press or to set up **Baud Rate**, and press .
5. Press , or numeric buttons to set up **PTZ ID**, and press .
6. After the above settings, you can press **P2** and press or to select a PTZ camera that you want to control. Alternatively, you can press **P2**, enter a two-digit number and press **OK** to select a PTZ camera.

For details, see *Direct Connection to PTZ Cameras, Chapter 3, GV-Keyboard V3 User's Manual* on the software CD.

Note: Because RS-485 communication has distance limitation, the distance between the Keyboard and PTZ cameras must be within 600 meters (1968.5 feet).

GV-System



Section A



Yellow POWER LED.

RX

Red RX LED (Receive).

TX

Green TX LED (Transmit).

P1

Changes DVR ID.

P2

Select a PTZ camera to control.

P3

Configures the Keyboard parameters, including password, key beep and auto-lock period.

P4

Sets up the PTZ camera settings.

P5

Displays the firmware version.

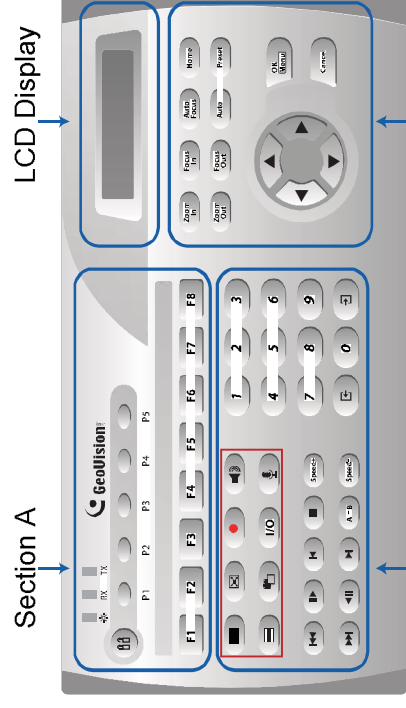


Locks the Keyboard.

F1~8

Function keys.

GV-Control Center



Section A

LCD Display


Section B


Section C


Section B


Section C


Section B


 Goes to the previous event.

 Goes to the next event.

 Plays/Pauses a video event.

 Rewinds/Pauses a video event.

 Moves one frame back.


 Moves one frame forward.


 Stops a video event.

A - B Sets the starting and ending frames for auto playing.

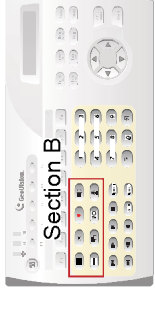
Speed+ Increases playback speed.

Speed- Decreases playback speed.


 Switches to the previous screen or camera.


 Switches to the next screen or camera.


Numeric buttons Enters the login password; Selects a specific camera; Changes the Time Setting in ViewLog.





GV-System


 Launches Multicam Surveillance System (GV-System).

 Turns full screen view on/off.


 Turns the sound on/off.

 Starts/Stops recording.


 Launches ViewLog.


 Switches the screen divisions.


 Plays next events automatically.

 Starts/Stops the scheduled recording.

GV-Control Center


 Switches Matrix Views in GV-Control Center.

 Turns full screen view on/off.


 Starts/Stops recording.

 Turns the sound on/off on single view.

 Switches ViewLog players. For this function, you must have opened and connected to 5 ViewLog players.

 Switches the screen divisions.

I/O Force all output devices in Advanced I/O List of I/O Central Panel to be triggered.

 Turns the microphone on/off on single view.

9

Upgrading the Firmware

Section C



Zooms in the display image of PTZ camera in GV-System / Matrix View; Zooms in the display image in ViewLog.



Zooms out the display image of PTZ camera in GV-System / Matrix View; Zooms out the display image in ViewLog.



Focus In: Press the **Auto Focus** button to select Auto Focus, and press this button to increase the focus on the camera.

Open Iris: Press the **Auto Focus** button to select Auto Iris, and press this button to increase the aperture on the camera.



Focus Out: Press the **Auto Focus** button to select Auto Focus, and press this button to decrease the focus on the camera.

Close Iris: Press the **Auto Focus** button to select Auto Iris, and press this button to decrease the aperture on the camera.



Press the button for 2 sec. to switch between Auto Focus and Auto Iris.

Auto Focus: Switch to Auto Focus and press the button again to enable Auto Focus.

Auto Iris: Switch to Auto Iris and press the button again to enable Auto Iris.



Sets the PTZ camera for auto mode.



Moves the PTZ camera to the default position.



Moves the PTZ camera to a preset location.



Calls up the Login dialog box; Enters the settings; Opens the OSD menu.



Closes the OSD menu; Returns to the previous menu; Calls up the menu to exit GV-System, Matrix View or ViewLog.



PTZ control; Navigates the display image in ViewLog; Navigates the OSD menu; Changes the Time Setting in ViewLog.

You can use the Keyboard to open the OSD (on-screen-display) menu for more control. For details on OSD menu, see *GV-Keyboard V3 User's Manual*.

GeoVision will periodically release the updated firmware on the website. The new firmware can be simply loaded into the Keyboard by following the steps below.

Note: The firmware upgrade is only supported by GV-Keyboard V3.

WARNING: While the firmware is being updated, the USB cable must not be removed. The interruption of power supply during updating causes not only update failures but also damages to the device. In this case, please contact your sales representative and send your device back to GeoVision for repair.

1. Using the supplied USB cable, connect the keyboard to the local computer.
2. Insert the Software CD, and select **Run Firmware Update Utility**.



3. Select the COM port that the keyboard is connected.
4. Click the **Browse** button to locate the firmware file (.img) saved at your local computer.
5. Click **Update** to start firmware upgrading.

To check whether the firmware has been upgraded successfully, press **P5** on the keyboard. The new firmware version should be displayed on the LCD, as illustrated below.



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