

# Quick Start Guide

## *GV-Keyboard V3*



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.



**© 2016 GeoVision, Inc. All rights reserved.**

Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of GeoVision.

Every effort has been made to ensure that the information in this manual is accurate. GeoVision, Inc. makes no expressed or implied warranty of any kind and assumes no responsibility for errors or omissions. No liability is assumed for incidental or consequential damages arising from the use of the information or products contained herein. Features and specifications are subject to change without notice.

GeoVision, Inc.  
9F, No. 246, Sec. 1, Neihu Rd.,  
Neihu District, Taipei, Taiwan  
Tel: +886-2-8797-8377  
Fax: +886-2-8797-8335  
<http://www.geovision.com.tw>

Trademarks used in this manual: *GeoVision*, the *GeoVision* logo and GV series products are trademarks of GeoVision, Inc. *Windows* and *Windows 7* are registered trademarks of Microsoft Corporation.

April 2016

# Contents

<b>Contents.....</b>	<b>i</b>
<b>1. Introduction .....</b>	<b>1</b>
1.1    Packing List.....	1
1.2    System Requirements .....	1
<b>2. Options.....</b>	<b>2</b>
<b>3. Rear Panel Overview .....</b>	<b>3</b>
<b>4. Hardware Installation .....</b>	<b>4</b>
4.1    Connecting to One GV-System / GV-VMS / GV-Control Center .....	4
4.2    Connecting to Multiple GV-System / GV-VMS / GV-Control Center.....	5
4.3    Connecting Multiple Keyboards for Different Monitors .....	7
<b>5. Installing USB Drivers .....</b>	<b>8</b>
<b>6. Running the Keyboard Controller .....</b>	<b>9</b>
6.1    Setting Function Keys .....	11
6.2    Setting a Keyboard for Multiple GV-System / GV-VMS / GV-Control Centers.....	12
6.3    Assigning Keyboards for Different Monitors.....	13
<b>7. Connecting PTZ Cameras .....</b>	<b>16</b>
7.1    Installing PTZ Cameras.....	17
7.2    Setting up PTZ Cameras .....	18
<b>8. Overview .....</b>	<b>19</b>
<b>9. Upgrading the Firmware .....</b>	<b>23</b>

# 1. Introduction

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

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

## Important:

1. The GV-Keyboard V3 for **GV-System / GV-VMS / 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.

## 1.1 Packing List

- GV-Keyboard x 1
- USB Cable x 1
- Power Adaptor (DC Output 12V, 1A) x 1
- RJ-11 Cable x 1



- Wall Terminal Block x 1



- GV-Keyboard Quick Start Guide x 1
- GV-Keyboard Software CD x 1

## 1.2 System Requirements


		GV-System	GV-VMS	GV-Control Center
OS Supported	32-bit	Windows XP / Vista / 7 / 8 / Server 2008	N/A	N/A
	64-bit	Windows 7 / 8 / Server 2008 R2 / Server 2012	Windows 7 / 8 / 8.1 / 10 / Server 2008 R2 / Server 2012 R2	Windows 7 / 8 / 8.1 / Server 2008 R2 / Server 2012
System Supported		V8.4 or later	V14.10 or later	V8.5 or later

## Note:

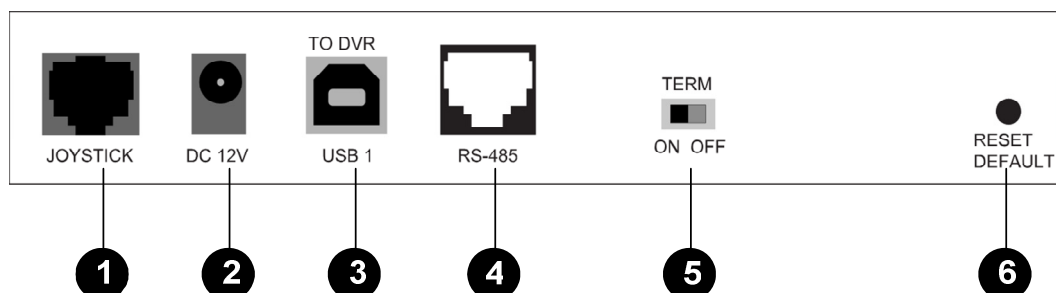
1. Currently, GV-Keyboard V3 does not support embedded operating systems.
2. GV-Control Center is only supported on 64-bit OS system.
3. Control of GV-Video Wall using GV-Keyboard V3 is supported by GV-Control Center V3.1.2 or later.

## 2. Options

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

Device	Description
GV-Joystick	<p>GV-Joystick facilitates the PTZ camera control. It can be either plugged into the GV-System / GV-VMS for independent use or connected to GV-Keyboard V3 to empower the operation.</p> 
GV-NET Card	<p>A RS-485 / RS-232 interface converter for connecting multiple units of GV-Systems / GV-VMS / GV-Control Centers.</p> <p>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.</p>
GV-NET/IO Card	<p>A RS-485 / RS-232 interface converter for connecting multiple units of GV-Systems / GV-VMS / GV-Control Centers. It also provides 4 inputs and 4 relay outputs for I/O functions.</p>
GV-Hub V2	<p>A RS-485/RS-232 interface converter for connecting multiple units of GV-Systems / GV-VMS / 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.</p>
GV-COM V2	<p>A RS-485 / RS-232 interface converter for connecting multiple units of GV-Systems / GV-VMS / GV-Control Centers. This unit can add 1 RS-232 / RS-485 serial port through the GV-System's USB port.</p>

### 3. Rear Panel Overview



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-VMS / 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"> <li>up to 36 GV-Systems / 36 GV-VMS / 36 GV-Control Centers by using the assigned RS-485 pins.</li> <li>up to 32 PTZ cameras by using the assigned RS-485 or RS-422 pins.</li> </ul>
5	Terminal Resistance	Used in the last daisy-chained GV-System / GV-VMS / GV-Control Center.
6	Reset	Resets the Keyboard when it does not respond to commands.
<b>Note:</b> There is no such function of loading default in the Rest button.		

## 4. Hardware Installation

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).

### 4.1 Connecting to One GV-System / GV-VMS / GV-Control Center

To use the Keyboard to control one GV-System / GV-VMS / 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.

## 4.2 Connecting to Multiple GV-System / GV-VMS / GV-Control Center

To use the Keyboard to control up to 36 GV-System / GV-VMS / GV-Control Center, build the connection through the Keyboard's RS-485 port.

### Item required for connection:

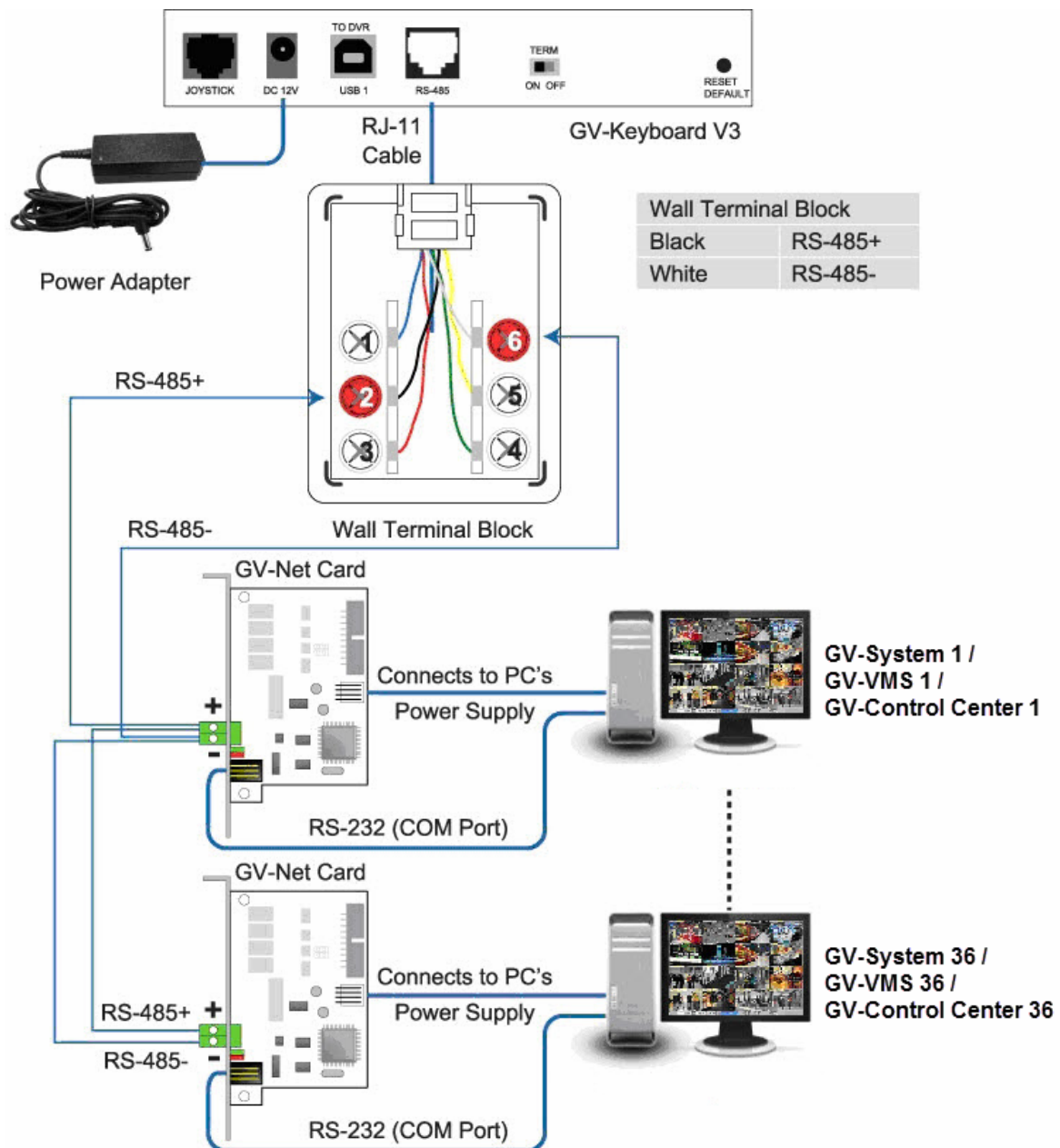
- Supplied RJ-11 Cable
- Supplied Wall Terminal Block
- Supplied Power Adaptor
- RS-485 / RS-232 interface converter, e.g. GV-NET Card, GV-NET/IO Card, GV-Hub V2 and GV-COM V2.

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-VMS / GV-Control Center.

To set up the Keyboard to control multiple GV-Systems / GV-VMS / GV-Control Centers and switch control among these servers, see *6.2 Setting a Keyboard for Multiple GV-Systems / GV-VMS / GV-Control Centers* later in the *Quick Start Guide*.



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



## 4.3 Connecting Multiple Keyboards for Different Monitors

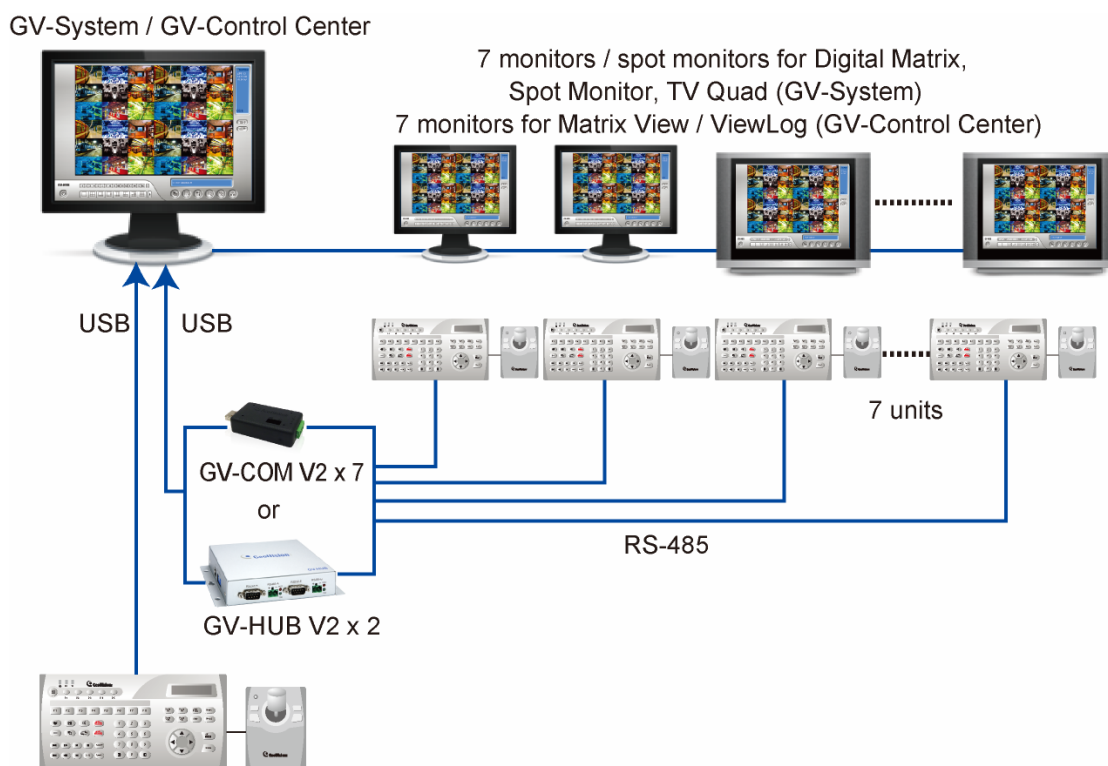
To use multiple Keyboards to control assigned monitors, you need to use RS-485 cables to connect additional Keyboards to RS-485 / RS-232 interface converters, and then connect these RS-485 / RS-232 interface converters to the GV-System / GV-VMS / GV-Control Center through USB ports.

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

- **GV-System:** for Digital Matrix, Spot Monitor and/or TV Quad applications.
- **GV-VMS:** for different live view displays.
- **GV-Control Center:** for Matrix View and /or ViewLog applications.

### Item required for connection:

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

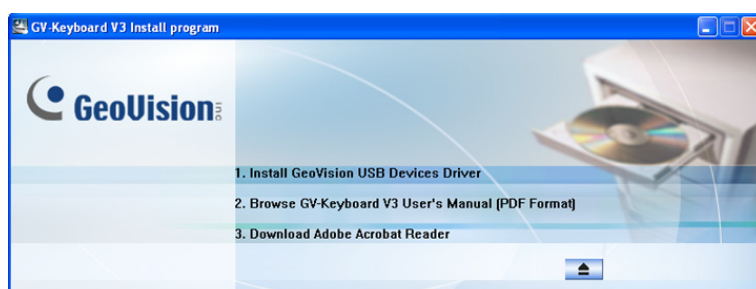


To assign a Keyboard for a specific monitor control, see *6.3 Assigning Keyboards for Different Monitors* later in the *Quick Start Guide*.

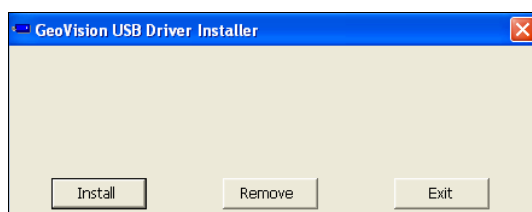
## 5. Installing USB Drivers

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:

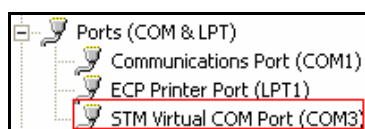
1. Insert the Software CD. This window pops up.



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.



## 6. Running the Keyboard Controller

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

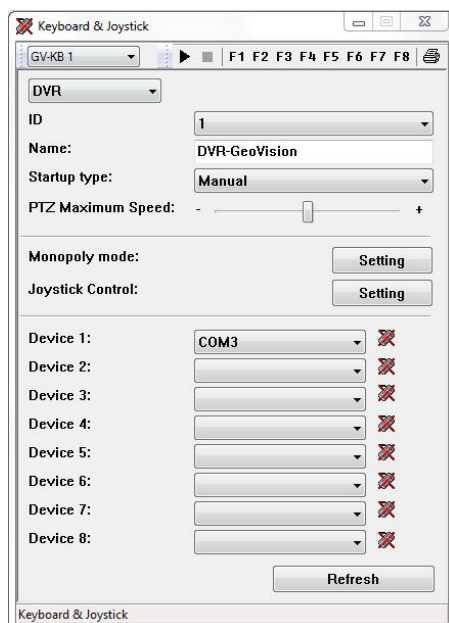
1. Run **mcamctrl.exe** from the GV folder / GV-Control Center folder.



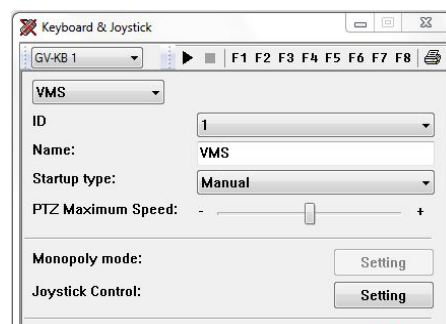
**Note:** For GV-VMS, you can also start the program from Windows Start menu, selecting GV-VMS folder and select Keyboard & Joystick.

2. The Keyboard & Joystick dialog box appears.

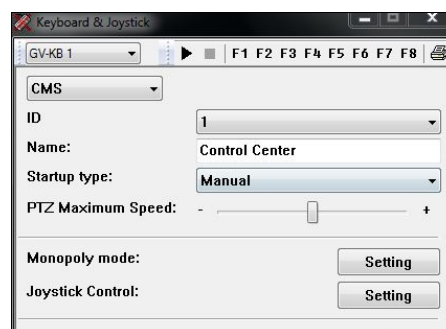
### [GV-System]



### [GV-VMS]



### [GV-Control Center]



3. Configure the Keyboard & Joystick dialog box.
  - A. At the top left, select **DVR** for the connected GV-System, select **VMS** for the connected GV-VMS, or select **CMS** for GV-Control Center.
  - B. Choose an ID number to match that on the keyboard. By default the ID is 1.
  - C. Name the GV-System / GV-VMS / 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*.
4. Click ► to start the service. The Keyboard is now enabled to control GV-System / GV-VMS / GV-Control Center.

For details on the Keyboard & Joystick Controller dialog box, see *Running the Keyboard Controller in GV-Keyboard V3 User's Manual*.

**Note:**

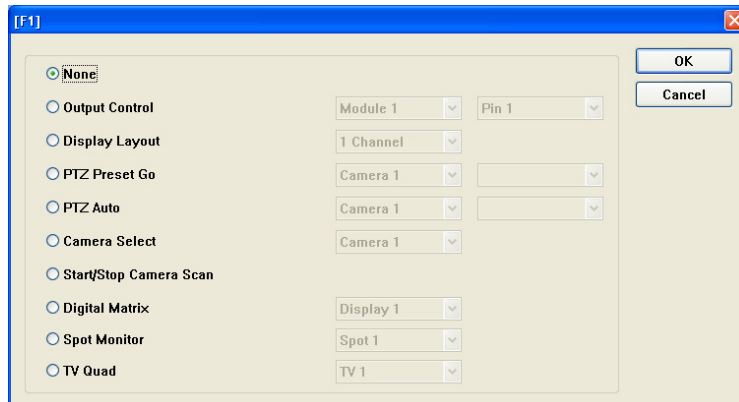
1. To use the Keyboard to control multiple GV-Systems / GV-VMS / GV-Control Centers, see **6.2 Setting a Keyboard for Multiple GV-Systems / GV-VMS / GV-Control Centers** below for further setup and operation.
2. To use more than one Keyboard to control assigned monitors, see **6.3 Assigning Keyboards for Different Monitors** below for further setup.
3. To use the function keys (F1-F8) on the Keyboard for instant access to many functions, see **6.1 Setting Function Keys** below.

## 6.1 Setting Function Keys

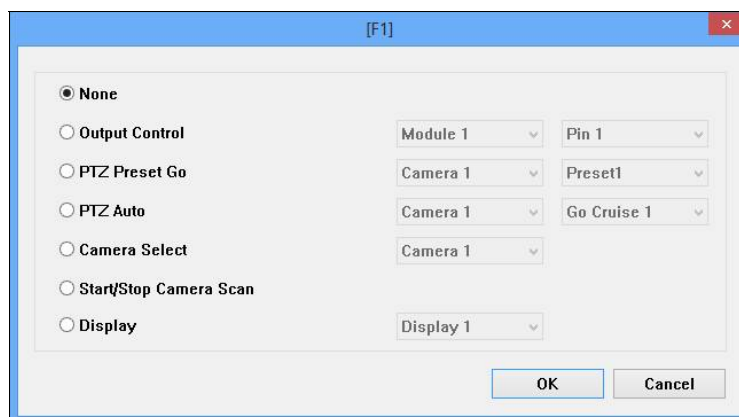
You can set up hot keys for instant access to many functions.

1. Click a function key (F1-F8) to be configured. If multiple Keyboards are connected, first select one from GV-KB 1 drop-down list.

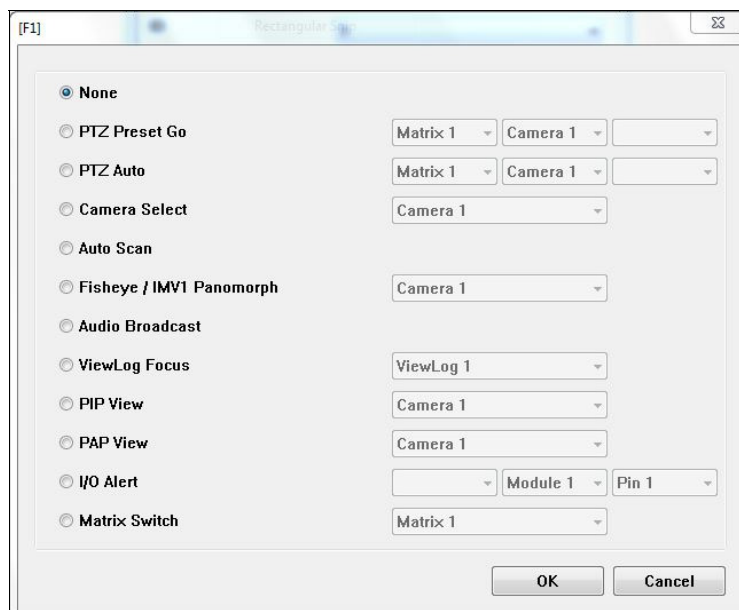
### [GV-System]



### [GV-VMS]



### [GV-Control Center]



2. Select a desired function.
3. 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.

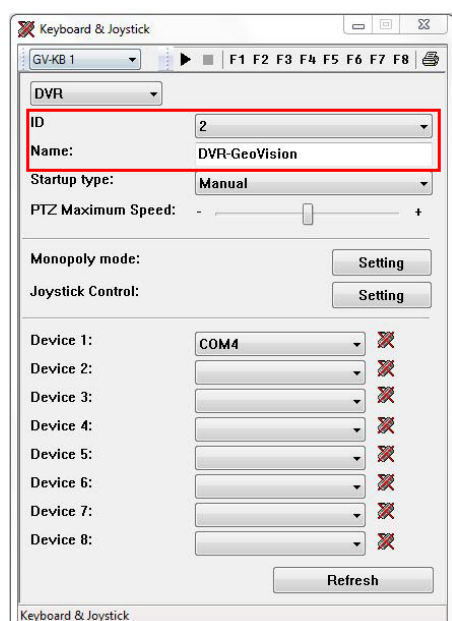
To print the function key labels, see *GV-Keyboard V3 User's Manual*.

## 6.2 Setting a Keyboard for Multiple GV-System / GV-VMS / GV-Control Centers

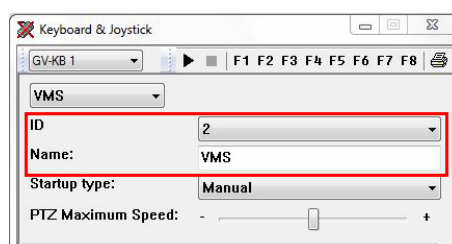
To set up a Keyboard to control multiple GV-System / GV-VMS / GV-Control Center, follow the steps below. For details on how to connect one Keyboard to multiple GV-System / GV-VMS / GV-Control Center, see *4.2 Connecting to Multiple GV-System / GV-VMS / GV-Control Center* earlier in the *Quick Start Guide*.

1. You need to run **mcamctrl.exe** in each GV-System / GV-VMS / 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-VMS / GV-Control Center.

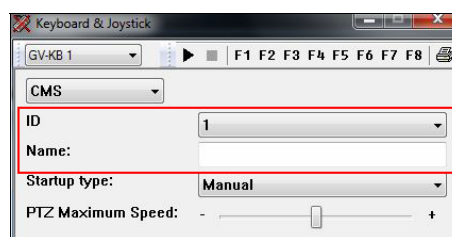
### [GV-System]




### [GV-VMS]



### [GV-Control Center]



3. You can also set up hot keys for instant access to many functions. See *6-1 Setting Function Keys* section above.
4. Click ► to start the service. The Keyboard is now enabled to control GV-System / GV-VMS / GV-Control Center.
5. To switch control among GV-Systems / GV-VMS / GV-Control Centers, press **P1** on the Keyboard, enter a two-digit ID and press  .

## 6.3 Assigning Keyboards for Different Monitors

You can connect up to 8 Keyboards to one GV-System / GV-VMS for different live view displays on multiple monitors, 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 *4.3 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.

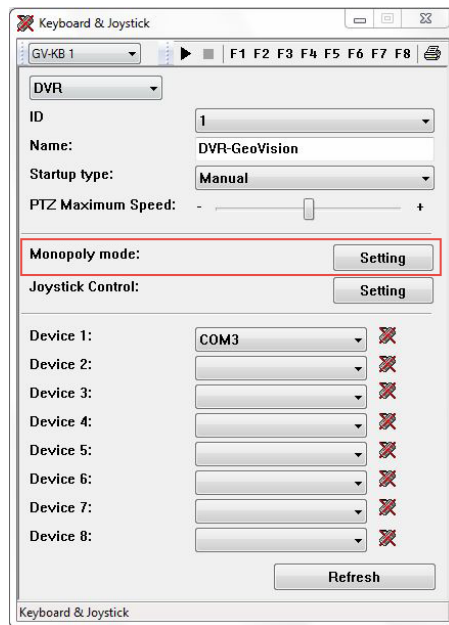


### 3. Assign a Keyboard to a specific monitor.

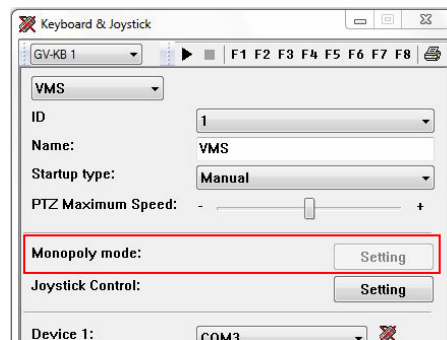
#### A. Use the **Monopoly Mode**.

- For GV-System, click the **Setting** button of Monopoly Mode.
- For GV-VMS, **Monopoly Mode** is not available. Instead, go to GV-VMS main screen, click **Toolbar** , select **Accessories**, and select **GV-KB** and **GV-Joystick Configuration**, you can see the dialog box like figure 1-16.

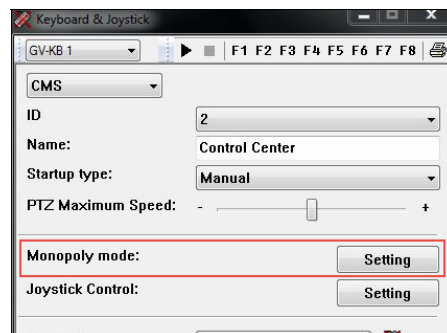
#### [GV-System]



#### [GV-VMS]



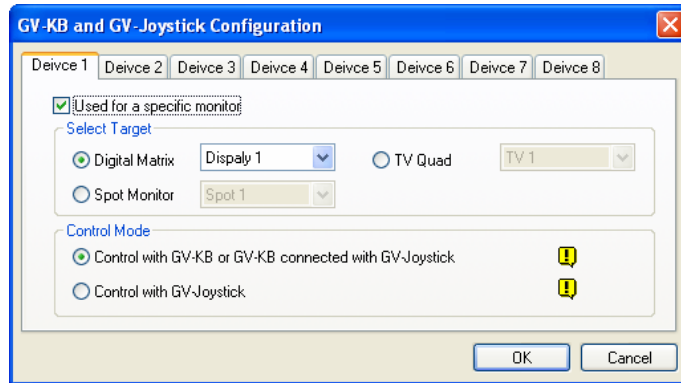
#### [GV-Control Center]



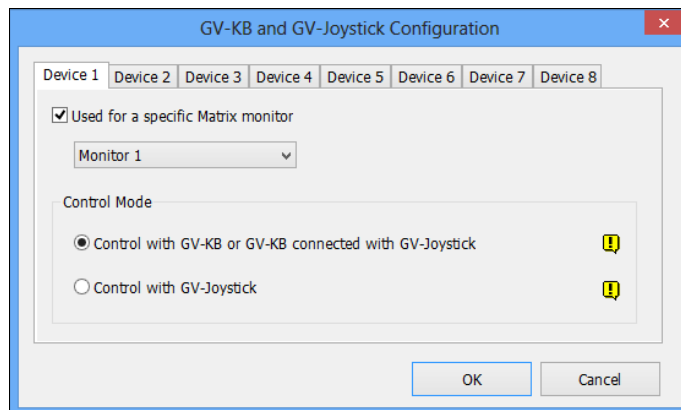
#### B. Select a **Device** tab to define the Keyboard.

- For GV-System, select **Used for a specific monitor**, select among **Digital Matrix**, **Spot Monitor** and **TV Quad**, and select the monitor number using the drop-down list.
- For GV-VMS, select **Used for a specific Matrix monitor**, and select among **Digital Matrix**, **Spot Monitor** and **TV Quad** the monitor number using the drop-down list.
- 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.

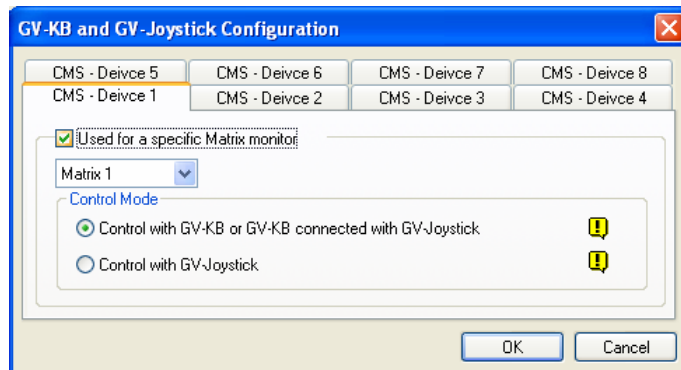
### [GV-System]



### [GV-VMS]



### [GV-Control Center]



4. Click each **Device** tab to define every Keyboard.
5. You can also set up hot keys for instant access to many functions. See *6-1 Setting Function Keys* section above.
6. Click ► to start the service. Every Keyboard is now enabled to control the designated monitor.

## 7. Connecting PTZ Cameras

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.



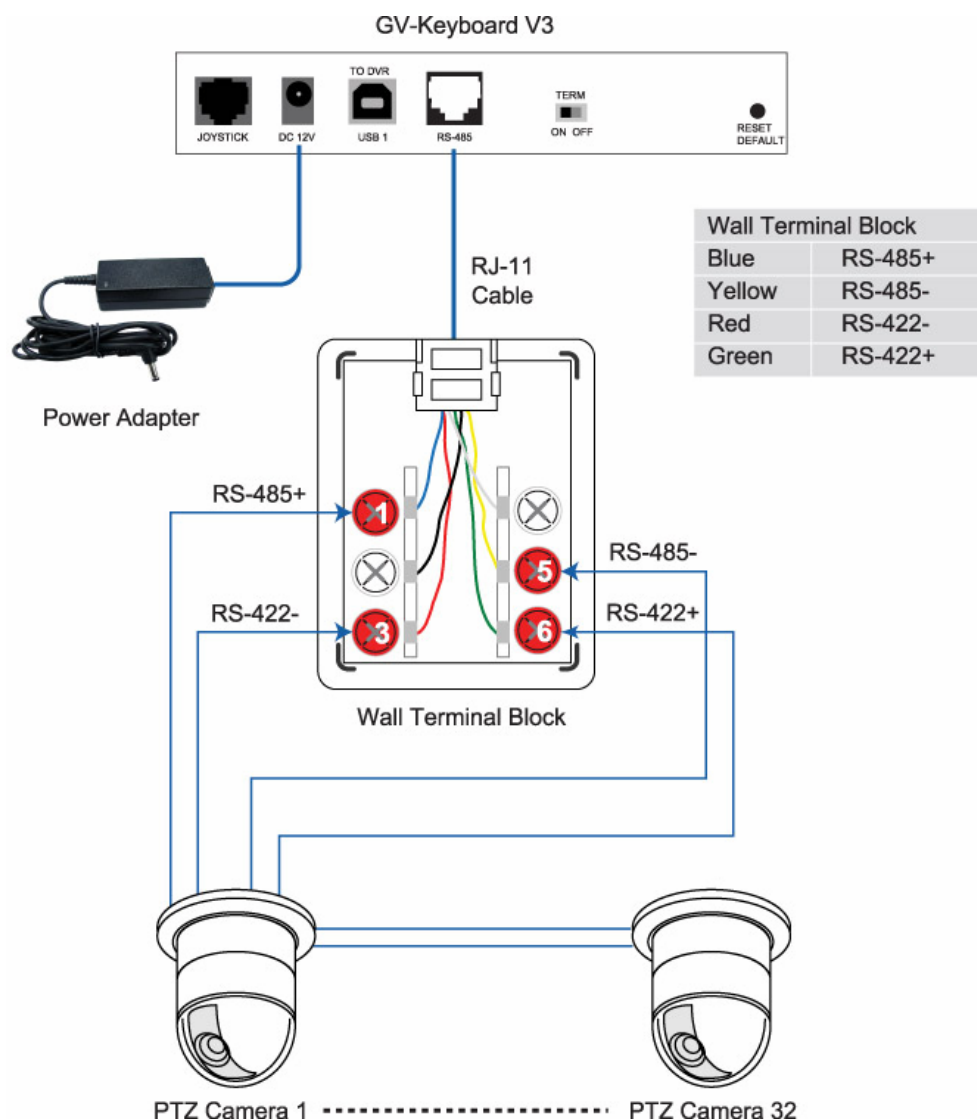
**Note:** A mix of different camera brands together for control is not allowed.

## 7.1 Installing PTZ Cameras

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

### Items required for connection:

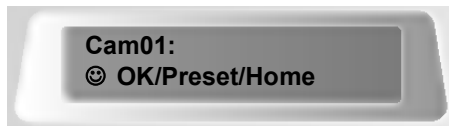
- Supplied RJ-11 Cable
- Supplied Wall Terminal Block
- Supplied Power Adaptor


















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

## 7.2 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.



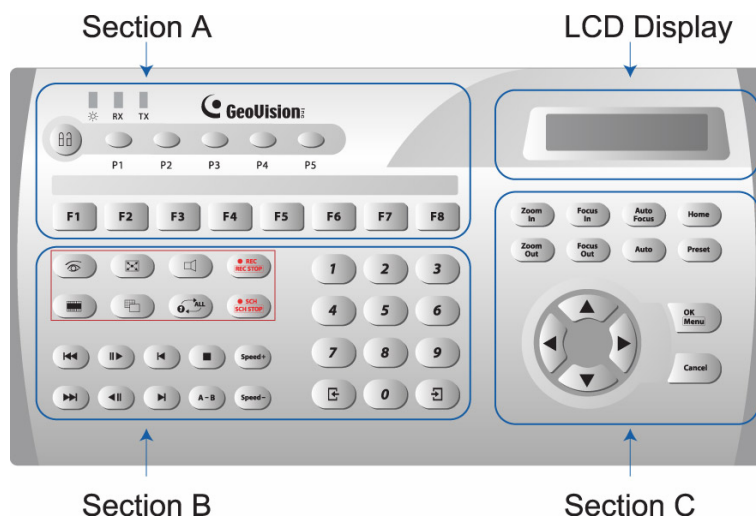
LCD Display

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.

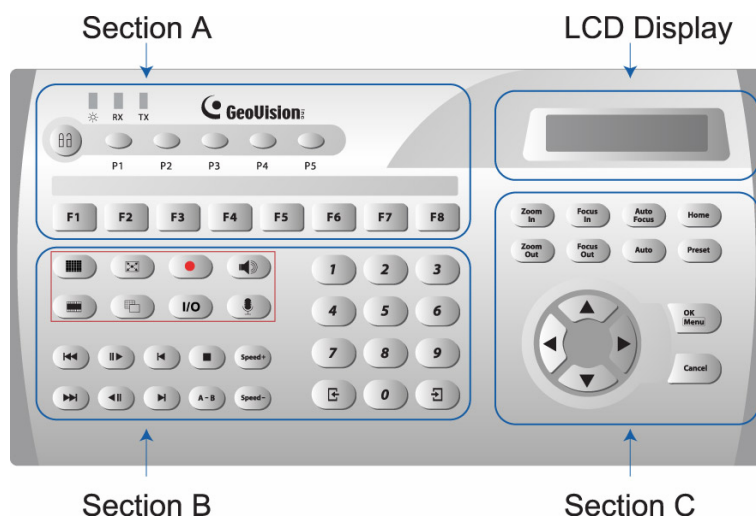
For details, see *Direct Connection to PTZ Cameras, Chapter 3, GV-Keyboard V3 User's Manual* on the software CD.

## 8. Overview



### GV-System / GV-VMS



### GV-Control Center





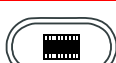

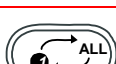



- Section A





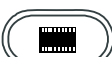

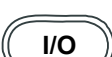

	Yellow POWER LED.
RX	Red RX LED (Receive).
TX	Green TX LED (Transmit).
P1	Changes GV-System / GV-VMS server ID.
P2	Select a PTZ camera to control.
P3	Configures the Keyboard parameters, including password, key beep and auto-lock period.
P4	Sets up the PTZ camera settings.
P5	Displays the firmware version.
	Locks the Keyboard.
F1-8	Function keys.









- Section B

#### GV-System / GV-VMS:


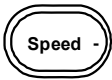


	Launches GV-System / GV-VMS Surveillance System.
	Turns full screen view on/off for GV-System. <b>Note:</b> The function is not available for GV-VMS.
	Turns the sound on/off.
	Starts/Stops recording.
	GV-System: Launches ViewLog. <b>Note:</b> Switches between live view and playback for GV-VMS.
	Switches the screen divisions.
	Plays next events automatically for GV-System. <b>Note:</b> The function is not available for GV-VMS.
	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.
	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.

	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.
	Sets the starting and ending frames for auto playing.



	Increases playback speed.
	Decreases playback speed.
	Switches to the previous screen or camera.
	Switches to the next screen or camera.
<b>Numeric buttons</b>	Enters the login password; Selects a specific camera; Changes the Time Setting in ViewLog.

- **Section C**

	Zooms in the display image of PTZ camera in GV-System / GV-VMS; Zooms in the display image in ViewLog.
	Zooms out the display image of PTZ camera in GV-System / GV-VMS; Zooms out the display image in ViewLog.
	<b>Focus In:</b> Press this button to increase the focus on the camera. <b>Open Iris:</b> Press the <b>Auto Focus</b> button for 2 sec. and the Open Iris function will be enabled. Press the button to increase the aperture on the camera. (Note: This function is only for analog PTZ cameras.)
	<b>Focus Out:</b> Press this button to decrease the focus on the camera. <b>Close Iris:</b> Press the <b>Auto Focus</b> button for 2 sec. and the Close Iris function will be enabled. Press the button to decrease the aperture on the camera. (Note: This function is only for analog PTZ cameras.)
	<b>Auto Focus:</b> Press the button to enable Auto Focus. <b>Auto Iris:</b> Press the <b>Auto Focus</b> button for 2 sec. and the Auto Iris function will be enabled. (Note: This function is only for Analog PTZ cameras.)
	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, GV-VMS or ViewLog.
	PTZ control; Navigates the display image in ViewLog; Navigates the OSD menu; Changes the Time Setting in ViewLog.

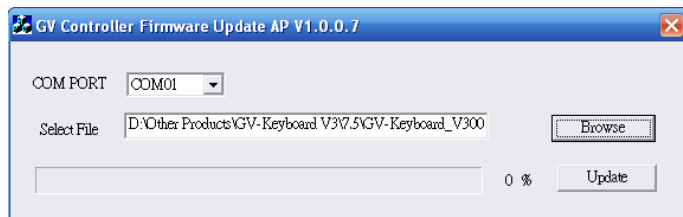
## 9. Upgrading the Firmware

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 (.bin) 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.

