

A large, bold, black icon of a square with a smaller square inside, representing the TVK-600 device.

TVK-600 Configuration Manual

Copyright © 2022 Carrier. All rights reserved. Specifications subject to change without prior notice.

This document may not be copied in whole or in part or otherwise reproduced without prior written consent from Carrier, except where specifically permitted under US and international copyright law.

Trademarks and patents TruVision names and logos are a product brand of Aritech, a part of Carrier. Other trade names used in this document may be trademarks or registered trademarks of the manufacturers or vendors of the respective products.

Manufacturer PLACED ON THE MARKET BY:
Carrier Fire & Security Americas Corporation Inc.
13995 Pasteur Blvd, Palm Beach Gardens, FL 33418, USA
AUTHORIZED EU REPRESENTATIVE:
Carrier Fire & Security B.V.
Kelvinstraat 7, 6003 DH Weert, Netherlands

FCC compliance **Class A:** 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.

FCC conditions This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This Device must accept any interference received, including interference that may cause undesired operation.

ACMA compliance **Notice!** 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.

Product warnings and disclaimers



THESE PRODUCTS ARE INTENDED FOR SALE TO AND INSTALLATION BY QUALIFIED PROFESSIONALS. CARRIER FIRE & SECURITY CANNOT PROVIDE ANY ASSURANCE THAT ANY PERSON OR ENTITY BUYING ITS PRODUCTS, INCLUDING ANY "AUTHORIZED DEALER" OR "AUTHORIZED RESELLER", IS PROPERLY TRAINED OR EXPERIENCED TO CORRECTLY INSTALL FIRE AND SECURITY RELATED PRODUCTS.

For more information on warranty disclaimers and product safety information, please check <https://firesecurityproducts.com/policy/product-warning/> or scan the following code:

Certification



EU directives

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2013/56/EU & 2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Contact information

EMEA: <https://firesecurityproducts.com>

Australian/New Zealand: <https://firesecurityproducts.com.au/>

Product documentation

Please consult the following web link to retrieve the electronic version of the product documentation. The manuals are available in several languages.



Content

Important information 3

- Limitation of liability 3
- Product Warnings 3
- Warranty Disclaimers 4
- Intended Use 5
- Advisory messages 5

Introduction 6

- Product overview 6
- Installation environment 6
- Package contents 6
- Contact information, firmware and manuals 7

Keypad description 8

- Keypad connections 8
- Joystick operation 8
- Function keys 9
- Enter alphanumeric values 9

Getting started 10

- Checking your web browser security level 10
- Activate the admin password 11
- Access the keypad functions using the browser 12
- Access the keypad functions using the keypad 14

Device management using the browser 15

- Add, edit, or delete a device 15
- Search for devices and add to the keypad 17
- Import/export an input device list 18
- Camera groups 20
- Manage an output channel for keyboard mode 21

System management using the browser 24

- Version information 24
- User management 24
- Maintenance 26

Network management using the browser 28

Serial port settings using the browser 29

System menu of the keypad 30

- Version menu 30
- Network menu 30
- User management 30

Serial port 31
Hardware 31
Time 31
Maintenance 31

Keypad operation 33

Keypad modes to control a device 33
How to use device and camera IDs 34
Multiscreen options 36
Information to provide to the operator 37
Control a camera using Keyboard mode 38
Control a recorder using DVR by IP mode 41
Control a recorder using DVR by RS-485 mode 44
Control a dome camera using Dome by RS-485 mode 47

Appendix A: List of supported devices by keypad mode 49

Important information

Limitation of liability

To the maximum extent permitted by applicable law, in no event will Carrier be liable for any lost profits or business opportunities, loss of use, business interruption, loss of data, or any other indirect, special, incidental, or consequential damages under any theory of liability, whether based in contract, tort, negligence, product liability, or otherwise. Because some jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damages the preceding limitation may not apply to you. In any event the total liability of Carrier shall not exceed the purchase price of the product. The foregoing limitation will apply to the maximum extent permitted by applicable law, regardless of whether Carrier has been advised of the possibility of such damages and regardless of whether any remedy fails of its essential purpose.

Installation in accordance with this manual, applicable codes, and the instructions of the authority having jurisdiction is mandatory.

While every precaution has been taken during the preparation of this manual to ensure the accuracy of its contents, Carrier assumes no responsibility for errors or omissions.

Product Warnings

YOU UNDERSTAND THAT A PROPERLY INSTALLED AND MAINTAINED ALARM/SECURITY SYSTEM MAY ONLY REDUCE THE RISK OF EVENTS SUCH AS BURGLARY, ROBBERY, FIRE, OR SIMILAR EVENTS WITHOUT WARNING, BUT IT IS NOT INSURANCE OR A GUARANTEE THAT SUCH EVENTS WILL NOT OCCUR OR THAT THERE WILL BE NO DEATH, PERSONAL INJURY, AND/OR PROPERTY DAMAGE AS A RESULT.

THE ABILITY OF CARRIER PRODUCTS, SOFTWARE OR SERVICES TO WORK PROPERLY DEPENDS ON A NUMBER OF PRODUCTS AND SERVICES MADE AVAILABLE BY THIRD PARTIES OVER WHICH CARRIER HAS NO CONTROL AND FOR WHICH CARRIER SHALL NOT BE RESPONSIBLE INCLUDING, BUT NOT LIMITED TO, INTERNET, CELLULAR AND LANDLINE CONNECTIVITY; MOBILE DEVICE AND OPERATING SYSTEM COMPATIBILITY; MONITORING SERVICES; ELECTROMAGNETIC OR OTHER INTERFERENCE, AND PROPER INSTALLATION AND MAINTENANCE OF AUTHORIZED PRODUCTS (INCLUDING ALARM OR OTHER CONTROL PANEL AND SENSORS).

ANY PRODUCT, SOFTWARE, SERVICE OR OTHER OFFERING MANUFACTURED, SOLD OR LICENSED BY CARRIER, MAY BE HACKED, COMPROMISED AND/OR CIRCUMVENTED AND CARRIER MAKES NO REPRESENTATION, WARRANTY, COVENANT OR PROMISE THAT ITS PRODUCTS (INCLUDING SECURITY PRODUCTS), SOFTWARE, SERVICES OR OTHER OFFERINGS WILL NOT BE HACKED, COMPROMISED AND/OR CIRCUMVENTED.

CARRIER DOES NOT ENCRYPT COMMUNICATIONS BETWEEN ITS ALARM OR OTHER CONTROL PANELS AND THEIR WIRELESS OUTPUTS/INPUTS INCLUDING

BUT NOT LIMITED TO, SENSORS OR DETECTORS UNLESS REQUIRED BY APPLICABLE LAW. AS A RESULT THESE COMMUNICATIONS MAY BE INTERCEPTED AND COULD BE USED TO CIRCUMVENT YOUR ALARM/SECURITY SYSTEM.

THE EQUIPMENT SHOULD ONLY BE OPERATED WITH AN APPROVED POWER ADAPTER WITH INSULATED LIVE PINS.

DO NOT CONNECT TO A RECEPTACLE CONTROLLED BY A SWITCH.

THIS UNIT INCLUDES AN ALARM VERIFICATION FEATURE THAT WILL RESULT IN A DELAY OF THE SYSTEM ALARM SIGNAL FROM THE INDICATED CIRCUITS. THE TOTAL DELAY (CONTROL UNIT PLUS SMOKE DETECTORS) SHALL NOT EXCEED 60 SECONDS. NO OTHER SMOKE DETECTOR SHALL BE CONNECTED TO THESE CIRCUITS UNLESS APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

WARNING! The equipment should only be operated with an approved power adapter with insulated live pins.

Caution: Risk of explosion if battery is replaced by an incorrect type. Dispose of batteries according to the instructions. Contact your supplier for replacement batteries.

Warranty Disclaimers

CARRIER HEREBY DISCLAIMS ALL WARRANTIES AND REPRESENTATIONS, WHETHER EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING ANY IMPLIED WARRANTIES, THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(USA only) SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. YOU MAY ALSO HAVE OTHER LEGAL RIGHTS THAT VARY FROM STATE TO STATE.

CARRIER DOES NOT MAKE ANY CLAIMS OR WARRANTIES TO YOU OF ANY KIND REGARDING ANY PRODUCT, SOFTWARE OR SERVICE'S POTENTIAL, ABILITY, OR EFFECTIVENESS TO DETECT, MINIMIZE, OR IN ANYWAY PREVENT DEATH, PERSONAL INJURY, PROPERTY DAMAGE, OR LOSS OF ANY KIND WHATSOEVER.

CARRIER DOES NOT REPRESENT TO YOU THAT ANY PRODUCT (INCLUDING SECURITY PRODUCTS), SOFTWARE, SERVICE OR OTHER OFFERING MAY NOT BE HACKED, COMPROMISED AND/OR CIRCUMVENTED.

CARRIER DOES NOT WARRANT THAT ANY PRODUCT (INCLUDING SECURITY PRODUCTS), SOFTWARE OR SERVICE MANUFACTURED, SOLD OR LICENSED BY CARRIER WILL PREVENT, OR IN ALL CASES PROVIDE ADEQUATE WARNING OF OR PROTECTION FROM, BREAK-INS, BURGLARY, ROBBERY, FIRE, OR OTHERWISE.

CARRIER DOES NOT WARRANT TO YOU THAT ITS SOFTWARE OR PRODUCTS WILL WORK PROPERLY IN ALL ENVIRONMENTS AND APPLICATIONS AND DOES NOT WARRANT ANY PRODUCTS AGAINST HARMFUL ELECTROMAGNETIC INTERFERENCE INDUCTION OR RADIATION (EMI, RFI, ETC.) EMITTED FROM EXTERNAL SOURCES

CARRIER DOES NOT PROVIDE MONITORING SERVICES FOR YOUR ALARM/SECURITY SYSTEM (“MONITORING SERVICES”). IF YOU ELECT TO HAVE MONITORING SERVICES YOU MUST OBTAIN SUCH SERVICE FROM A THIRD PARTY AND CARRIER MAKES NO REPRESENTATION OR WARRANTY WITH RESPECT TO SUCH SERVICES INCLUDING WHETHER OR NOT THEY WILL BE COMPATIBLE WITH THE PRODUCTS, SOFTWARE OR SERVICES MANUFACTURED, SOLD OR LICENSED BY CARRIER.

Intended Use

Use this product only for the purpose it was designed for; refer to the data sheet and user documentation. For the latest product information, contact your local supplier or visit us online at firesecurityproducts.com.

The system should be checked by a qualified technician at least every 3 years and the backup battery replaced as required.

Advisory messages

Advisory messages alert you to conditions or practices that can cause unwanted results. The advisory messages used in this document are shown and described below.

WARNING: Warning messages advise you of hazards that could result in injury or loss of life. They tell you which actions to take or to avoid in order to prevent the injury or loss of life.

Caution: Caution messages advise you of possible equipment damage. They tell you which actions to take or to avoid in order to prevent the damage.

Note: Note messages advise you of the possible loss of time or effort. They describe how to avoid the loss. Notes are also used to point out important information that you should read.

Introduction

Product overview

The TruVision TVK-600 keypad lets you communicate using RS-485 or IP with TruVision recorders, decoders, encoders and PTZ domes. You can easily control the devices.

The keypad is easily configured and operated through the web browser.

Installation environment

When installing your product, consider these factors:

Ventilation: Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. Ensure that the location planned for the installation of the unit is well ventilated.

Temperature: Consider the unit's operating temperature (-10 to +55 °C, 14 to 131 °F) and noncondensing humidity specifications (10 to 90%) before choosing an installation location. Extremes of heat or cold beyond the specified operating temperature limits may reduce the life expectancy of the recorder. Do not install the unit on top of other hot equipment. Leave 44 mm (1.75 in.) of space between rack-mounted DVR units.

Moisture: Do not use the unit near water. Moisture can damage the internal components. To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.

Chassis: Equipment weighing less than 15.9 kg (35 lb.) may be placed on top of the unit.

Package contents

When you receive the product, check the package and contents for damage, and verify that all items are included. If any of the items are damaged or missing, please contact your local supplier.

The TVK-600 is shipped with the following items:

- TVE-600 keypad
- Power supply unit (PSU)
- Power supply cords (US, UK and Europe)
- *TruVision TVK-600 Quick Start Guide*

You can download the software and the manual from our web site. Also available from our web site are these guides in several languages:

- *TruVision TVK-600 Configuration Manual*
- *TruVision TVK-600 Operator Guide: Keyboard Mode*
- *TruVision TVK-600 Operator Guide: DVR by IP Mode*

- *TruVision TVK-600 Operator Guide: DVR by RS-485 Mode*
- *TruVision TVK-600 Operator Guide: DOME by RS-485 Mode*

Contact information, firmware and manuals

For contact information and to download the latest manuals, tools, and firmware, go to the web site of your region.

EMEA: <https://firesecurityproducts.com>

Manuals are available in several languages.

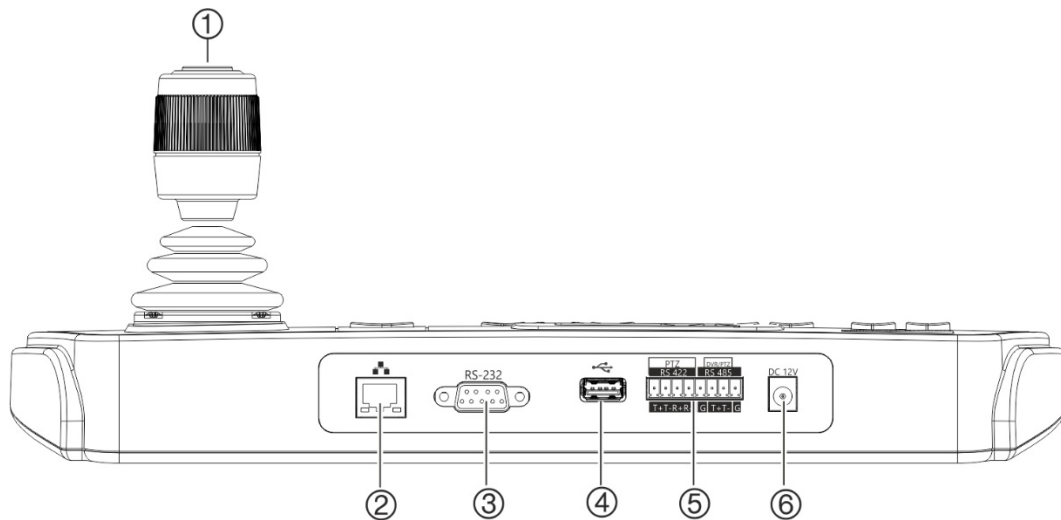
Australia/New Zealand: <https://firesecurityproducts.com.au/>

Keypad description

This chapter describes how to connect the keypad and use the joystick.

Keypad connections

Figure 1: Back panel



1. 4-axis joystick with button on top
2. Network port
10/100 Mbps Ethernet interface
3. RS-232 serial interface
4. USB interface
5. RS-422/RS-485 serial interface (RS-422 not in use)
6. 12 VDC power connector

Joystick operation

In System menu mode:

- Move it up/down to select the desired submenu.
- Move it left/right to modify items in the submenu.
- Press the center button on the joystick to confirm.

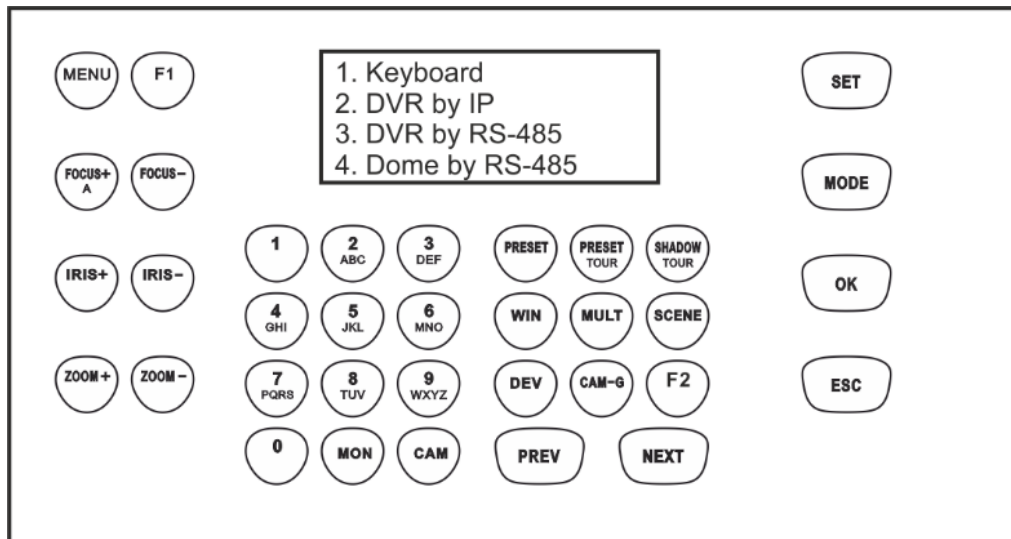
In Shortcut menu mode:

- Move the joystick in one of eight directions to control pan/tilt. Rotate the knob for zoom control.
- Press the center button on the joystick for the Enter function and to capture snapshots. Save the snapshots to a USB flash drive.

Function keys

The keypad function keys allow you to quickly select regularly used functions such as to call up presets or to select a monitor.

Figure 2: Keypad button layout



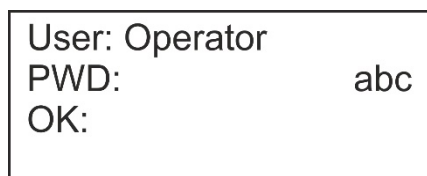
See “Keypad operation” on page 30 for a description of the keypad functions.

Enter alphanumeric values

When using the keypad’s functions, you can enter both numbers and letters in the LCD display using the alphanumeric buttons on the keypad. To toggle between numbers, lower case letters, and All Caps letters, press the *FOCUS + A* button.

The FOCUS+ button by default is set to enter numbers. When pressed once, it then enters lower case letters and “abc” appears on screen. Pressed twice, it enters capital letters and “ABC” appears on screen. When enabled to enter letters, press the numeric button for the desired letter.

Figure 3: Keypad LCD set to enter lower case letters



Getting started

Use the web browser to access and configure the keypad over the network.

Checking your web browser security level

When using the web browser interface, you can install ActiveX controls to connect and view video using Internet Explorer (the keypad is not compatible with Microsoft Edge). However, you may not be able to download data, such as video and images, due to the browser's security settings. Consequently, you should check the security level of your browser so that you are able to interact with the cameras over the web and, if necessary, modify the Active X settings.

Configuring IE ActiveX controls

You should confirm the ActiveX settings of your web browser.

To change the web browser's security level:

1. In Internet Explorer (IE) click **Internet Options** on the **Tools** menu.
2. On the **Security** tab, click the zone to which you want to assign a web site under "Select a zone to view or change security settings".
3. Click **Custom Level**.
4. Change the **ActiveX controls and plug-in** options that are signed or marked as safe to **Enable**. Change the **ActiveX controls and plug-ins** options that are unsigned to **Prompt** or **Disable**. Click **OK**.

- or -

Under **Reset Custom Settings**, click the security level for the whole zone in the **Reset To** box, and select **Medium**. Click **Reset**.

Then click **OK** to open the Internet Options Security tab window.

5. Click **Apply**.

Windows users

Internet Explorer operating systems have increased security measures to protect your PC from any malicious software being installed.

To have complete functionality of the web browser interface with Windows 7, 8 and 10, do the following:

- Run the browser interface as an administrator in your workstation
- Add the keypad's IP address to your browser's list of trusted sites

To add the keypad's IP address to Internet Explorer's list of trusted sites:

1. Open Internet Explorer.
2. Click **Tools**, and then **Internet Options**.

3. Click the **Security** tab, and then select the **Trusted sites** icon.
4. Click the **Sites** button.
5. Clear the “Require server verification (https:) for all sites in this zone box”.
6. Enter the IP address in the “Add this website to the zone” field.
7. Click **Add**, and then click **Close**.
8. Click **OK** in the Internet Options dialog window.
9. Connect to the keypad for full browser functionality.

Activate the admin password

When you first start up the unit, the *Activation* window appears. You must define a high-security admin password before you can access the unit. There is no default password provided.

A message will appear on-screen when the unit has been activated.

Tips on creating a strong password:

- A valid password range must have **up to eight characters**. You can use a combination of numbers, and lower- and upper-case letters. No special characters or spaces are permitted. The password must contain characters from at least two of these groups.
- The password is case-sensitive so use a mixture of upper- and lower-case letters.
- Do not use personal information or common words as a password.

Note: If you should forget your admin password, please contact Technical Support to reactivate the unit with a new password.

Go to “User management” on page 24 for further information on creating extra users.

Default network settings:

The network settings are:

- IP address - 192.168.1.70
- Subnet mask - 255.255.255.0
- Gateway address - 192.168.1.1
- HTTPS port: 443

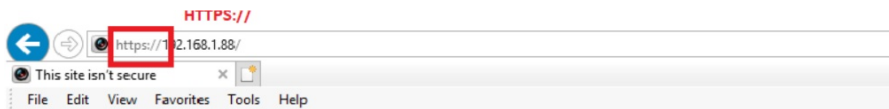
Access the keypad functions using the browser

To access the keypad functions using the browser:

1. Once the keypad has been activated, enter the keypad's IP address (**https://address**) in the web browser. Use the TruVision Device Manager to find the IP address of the keypad and assign it a new address on the local network, if desired.

Note: When using Device Manager, it will list the devices found but they will not be accessible by the keypad as the link is not a secure IP address. You must change the IP address to **https://**.

2. If this is first time you are accessing the keypad, you will see a “This site is not secure” warning. Click **More Information** and then, under the extra information that appears, click **Go on to the webpage**.



This site is not secure

This might mean that someone's trying to fool you or steal any info you send to the server. You should close this site immediately.

- [Close this tab](#)
- [More information](#)

Your PC doesn't trust this website's security certificate.
The hostname in the website's security certificate differs from the website you are trying to visit.

Error Code: DLG_FLAGS_INVALID_CA
DLG_FLAGS_SEC_CERT_CN_INVALID

[Go on to the webpage \(not recommended\)](#)

The Login dialog box appears.



Note: Ensure that the Active X controls are enabled.

3. Select your language. English is default.

Note: The user interface in the browser is available in several languages. However, the display on the keypad screen is only available in English.

4. Enter your user name and password as administrator and click **Login**.

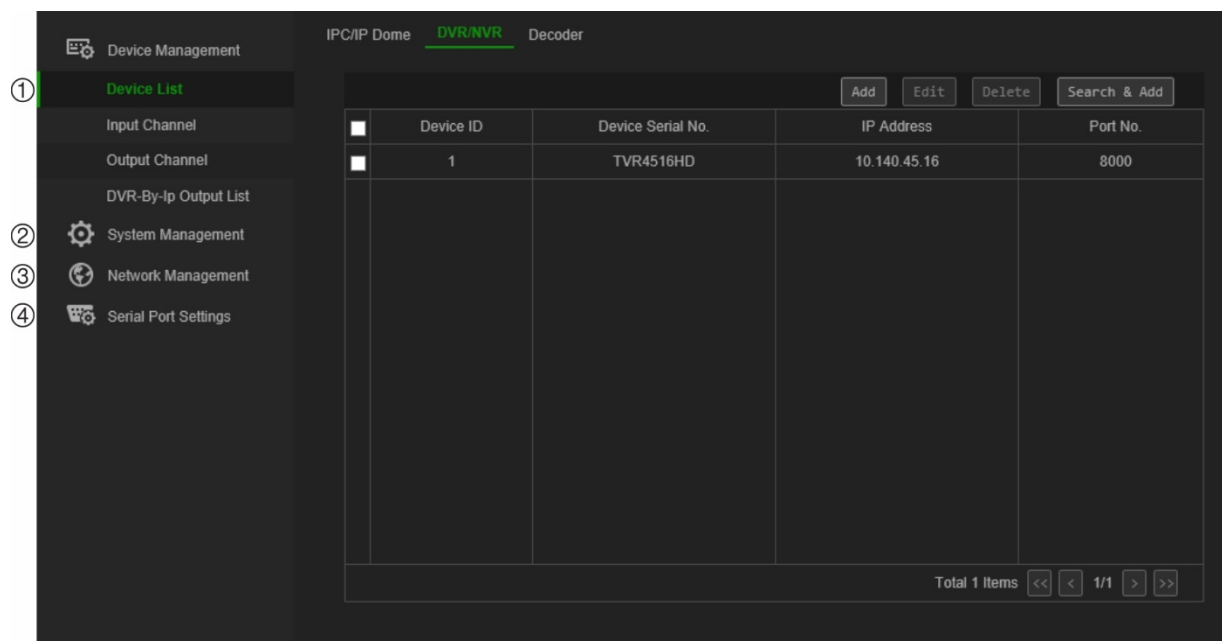
Note: In the Login dialog box, if you enter the wrong password seven times for admin user or five times for operators, the user account will be locked for 30 minutes.

The browser menu appears. By default, the *Device Management* menu appears (see Figure 4 below).

Browser menu overview

You can configure the keypad using the browser. Only the administrator can access this menu.

Figure 4: Browser menu overview (Device Management shown)



Menu function	Description
1. Device Management	<p>There are three submenus to manage devices and channels.</p> <p>Device List: Add, modify, and delete a device: IPC/IP Dome, DVR/NVR, and decoder. “IPC” is an IP camera.</p> <p>Input Channel: Manage the input channel lists and groups.</p> <p>Output Channel (for keyboard mode): Manage output channel information.</p> <p>DVR-By-IP output list: Manage the ID for the recorder's monitor outputs for the mode “DVR-By-IP”.</p> <p>See “Device management using the browser” on page 15 for further information on this menu.</p>
2. System Management	<p>There are three submenus.</p> <p>Version: Display the device version and licenses.</p> <p>User management: Add, edit, and delete a user, add and delete devices associated with a user, and change the password.</p> <p>Maintenance: Remotely reboot, restore factory settings, export the config file, and remotely upgrade the firmware.</p> <p>See “System management using the browser” on page 24 for further information on this menu.</p>

Menu function	Description
3. Network Management	Manage all network related aspects of the device including general network settings, such as IP address, gateway address, and subnet mask. See "Network management using the browser" on page 28 for further information on this menu.
4. Serial Port Settings	Set up the parameters of the RS-485 port. See "Serial port settings" on page 29 for further information on this menu.

Access the keypad functions using the keypad

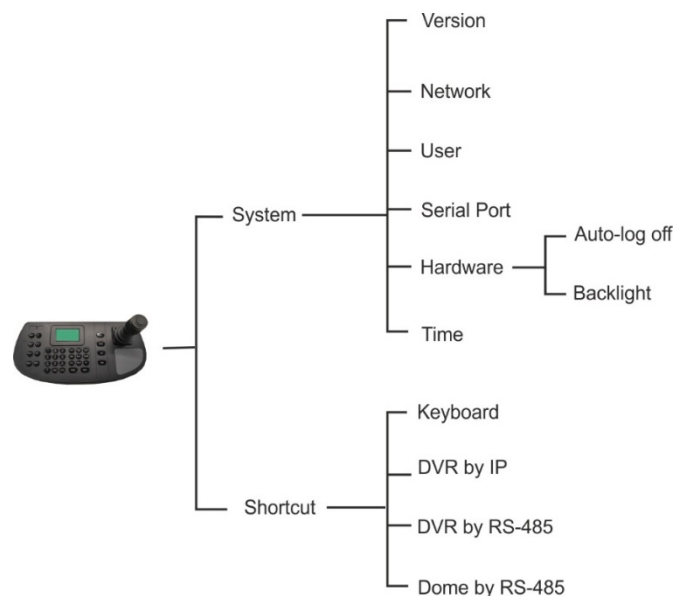
The keypad has two menu modes, System and Shortcut. See Figure 5 below.

The System menu allows you to quickly access the most frequently used settings to configure the keypad. This menu is only available to the administrator.

The Shortcut menu is used to operate the keypad. This menu can be accessed by both the administrator and operators.

Note: The display on the keypad screen is only available in English.

Figure 5: Keypad menu tree



To access the keypad functions using the keypad:

1. Log in to the keypad.
2. As administrator you can access two menus using the LCD display.

Click **System** to configure the keypad. See "System menu of the keypad" on page 30 for further information on using this menu.

- or -

Click **Shortcut** to operate the keypad. See "Keypad operation" on page 33 for more information.

Note: The keypad menus time out after five minutes.

Device management using the browser

The Device Management menu describes how you can add, modify, or delete a device using the browser. You can also search for online devices.

This menu is only available to the administrator.

Add, edit, or delete a device

You can add, edit, and delete IP dome cameras, DVR/NVRs, an encoder, and a decoder. You can also search the network for devices to add.

The devices connected to the keypad do not support all four keypad modes. See Table 7 on page 49 for the list of supported devices by keypad mode.

Before you use the keypad, you must first add the desired devices that you want to control with it. Once you have created the devices under *Device Management > Device List*, you can then go to the Input Channel and Output Channel menus to make any changes to the devices.

Note: It is important that you keep a back up file of the devices you add to the keypad. We recommend that you create a backup file in Excel format after adding a couple of devices and export the file as a template. See “Import/export an input device list” on page 18 for further information.

Channel and device ID

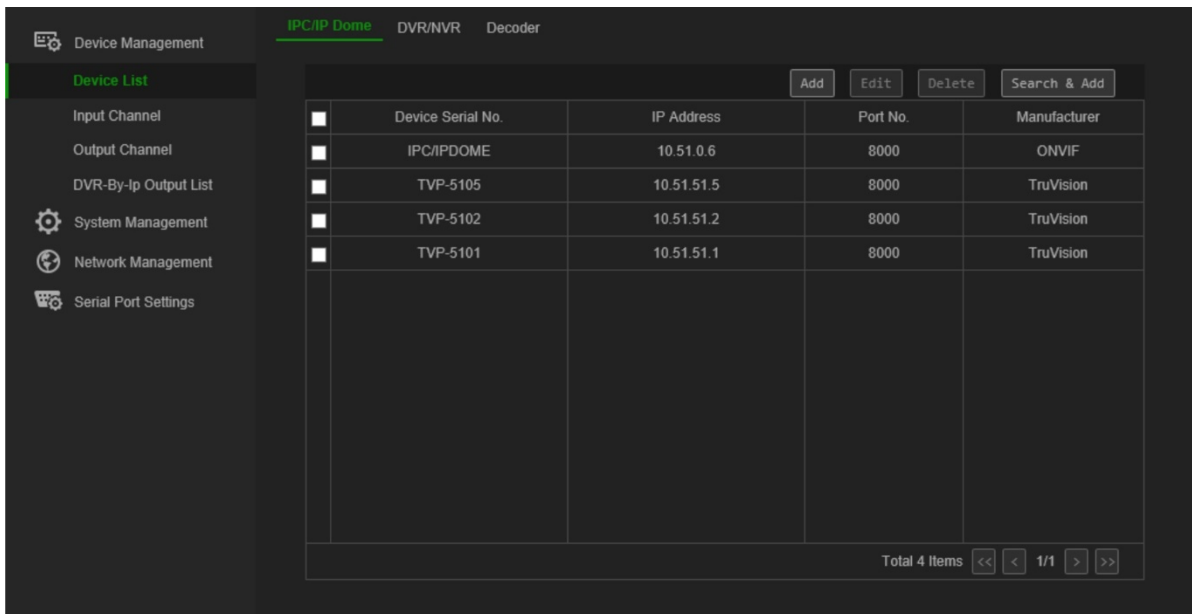
Every device added to the keypad is automatically allocated a unique ID by the system. Cameras get an input channel ID. Recorders and decoders get a device ID. The ID is allocated a number in the order in which the device is added to the keypad, irrespective if it is a camera, recorder or decoder. For example, if you add two recorders to the keypad, they will be allocated the device IDs 1 and 2. If you then add a decoder, it will get device ID 3. If you then add a third recorder, it is device ID 4.

You can easily change the ID number under Edit in the *Device Management* menu. Before changing the ID numbers of devices, you should first export to an Excel file the list of devices configured in the keypad so that you can see what camera has been allocated which ID number. It is not possible to export a list of the recorders, decoders or monitor IDs. To find their IDs, you need to look at the *Device Management* screens for these devices.

For further information on channel and device IDs and how they are used, see “How to use device and camera IDs” on page 34.

To add, edit or delete devices:

1. Log in to the keypad. Go to **Device Management > Device List**.



2. In the **Device Management > Device List** window, select the tab for the desired device type: IPC/IP Dome, DVR/NVR, or Decoder. “IPC” is an IP camera.
3. Click **Add**. The *Add Device* window pops up.
4. Select how you want to add the device: by **IP** or **IP segment**. An *IP Segment* is the range of IP addresses to be used.

Note: The server port is 8000 by default.



5. Enter the network parameters and click **OK**.

The device is then added to the device window (IPC/IP Dome, DVR/NVR, or Decoder).

Example of the cameras added under *IPC/IP Dome* is shown below:

Device Serial No.	IP Address	Port No.	Manufacturer
IPC/IPDOME	10.51.0.6	8000	ONVIF
TVP-5105	10.51.51.5	8000	TruVision
TVP-5102	10.51.51.2	8000	TruVision
TVP-5101	10.51.51.1	8000	TruVision

6. If desired, select a device and click **Edit** to change the information it.

IPC/IP Dome: You can change the user name and enter the camera or encoder password. You cannot change the camera or encoder password from the keypad. To change the input channel ID of a camera/encoder, go to **Input Channel > Input List**.

DVR/NVR: You can change the recorder user name, password, and device ID.

Decoder: You can change the decoder user name, password, and device ID.

7. If desired, select a device and click **Delete** to delete it.

Search for devices and add to the keypad

You can search for the cameras, recorders, encoders, and decoders configured to the keypad.

To search and add devices:

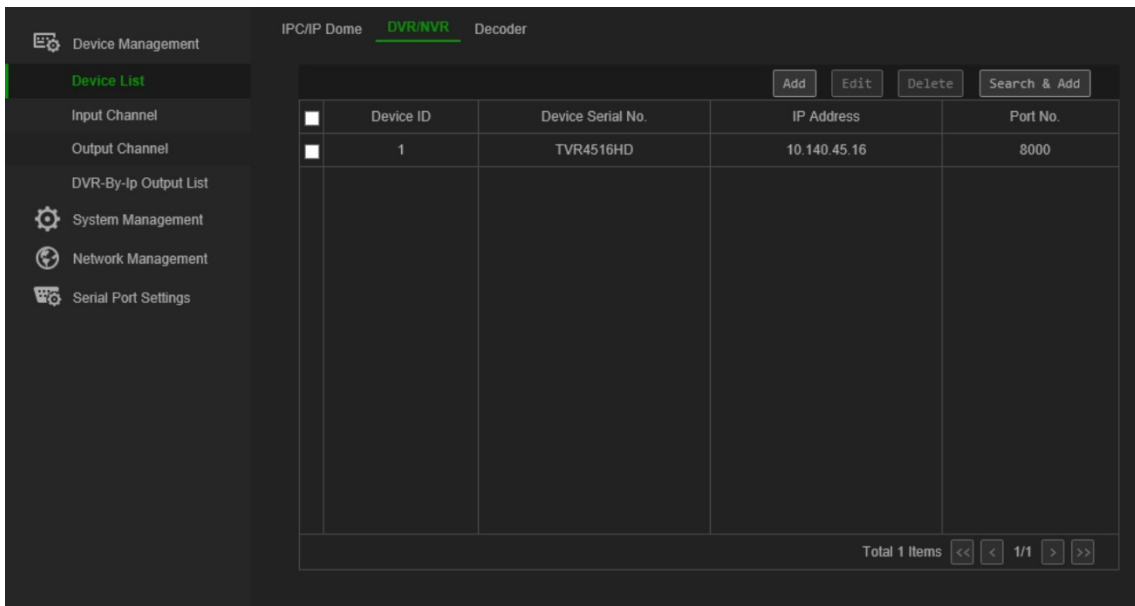
1. Log in to the keypad. Go to **Device Management > Device List**.
2. In the **Device Management > Device List** window, select the tab for the desired device type: IPC/IP Dome, DVR/NVR, or Decoder. "IPC" is an IP camera.

Note: Encoder channels are added as input channels.

3. Click the button **Search & Add**.

In the window that appears, enter the admin name and password.

The list of the devices linked to the keypad is shown for the selected device type.



4. Select the desired devices to add to the keypad and click **OK**.

The devices are added to the keypad.

Import/export an input device list

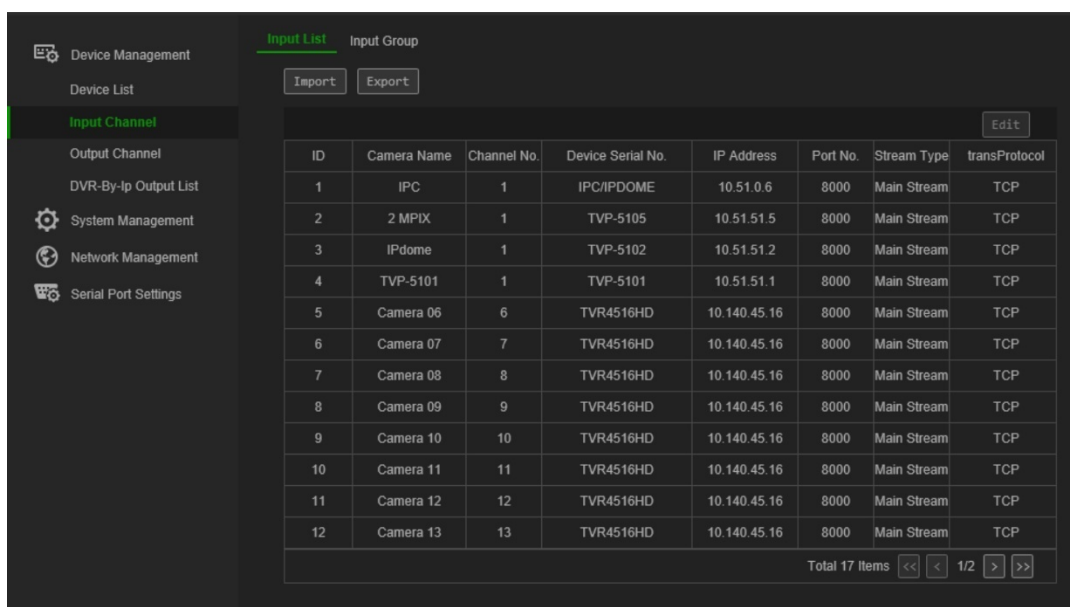
From this menu you can export and import the device list as well as modify the camera parameters. The camera parameters can be modified from this menu or directly in the exported device list Excel file, which can then be imported into the keypad.

The channel ID of the cameras is automatically allocated in this menu.

Important: Keep the outputted list of devices secure as it displays sensitive information on how your system has been set up as well as admin passwords.

To export an input channel list:

1. Go to **Device Management > Input Channel > Input List**.



- To change the camera or encoder parameters, select a device and click **Edit**. Change the desired parameters: Input Channel ID, Camera Name, Stream Type, and Protocol Type.
- Click **Export** to export the channel list in an Excel file to the local directory. Enter the admin password and the keypad password for access authentication and click **OK**.
- Enter the file name.
- Click **Browse** to locate where you want the file saved. Click **OK**. The export file appears. This file overwrites the existing device list file in the directory. See Figure 6 below to see of an example of an exported Excel list of devices.

Figure 6: Example of an Excel file listing the cameras configured in the keypad

Note:

- The table content for importing must be in text format.
- The specification data must be entered correctly.
- Each item of a column must be in the correct place.
- The ChanId list must be entered with the unique number from 1 to 999999.
- The streammode column must be entered as MAIN(main stream)or SUB(sub-stream).
- The DVR/IPC/DECODER column must be entered as DVR, IPC, or DECODER.
- The Manufacturer must be entered in TruVision or ONVIF.
- The protocol must be entered in TCP,UDP and MCAST.
- The ChannelType column must be entered as either of the following channel types:NORMAL,LOCAL,JOINT,VSCREEN,FUSION.

Tips:You can add the information of a few channels and export the exl file as the template.

ChanId	ChanName	ChanNo.	IP	Port	UserName	Password	StreamMode	DVR/IPC/DECODER	Manufacturer	StreamProtocolMode	ChannelType
1	IPCamera 04	1	10.51.51.2	8000	admin	admin1234	MAIN	IPC	TruVision	TCP	NORMAL
2	IPCamera 02	1	10.11.53.3	8000	admin	admin1234	MAIN	IPC	TruVision	TCP	NORMAL
3	IPCamera 07	1	10.11.53.5	8000	admin	admin1234	MAIN	IPC	TruVision	TCP	NORMAL
4	IPCamera 01	33	10.120.22.8	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
5	IPCamera 02	34	10.120.22.8	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
6	IPCamera 03	35	10.120.22.8	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
7	IPCamera 04	36	10.120.22.8	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
8	Camera 01	1	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
9	Camera 02	2	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
10	Camera 03	3	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
11	Camera 04	4	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
12	Camera 05	5	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
13	Camera 06	6	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
14	Camera 07	7	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
15	Camera 08	8	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
16	Camera 09	9	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
17	Camera 10	10	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
18	Camera 11	11	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
19	IPCamera 04	33	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL
20	IPCamera 01	34	10.140.46.32	8000	admin	admin1234	MAIN	DVR	TruVision	TCP	NORMAL

Before the export file is displayed, a message appears to tell you to keep the file secure as it contains user security information.

To import an input channel list:

- Before importing the Excel file of a channel list, make any changes required to the camera data, such as changing the channel ID and name.
- Go to **Device Management > Input Channel > Input List**.
- Click **Import** to import the channel list to the keypad and locate the file in the local directory. Enter the admin password and the keypad password for access authentication and click **OK**.

This file immediately overwrites the existing channel list in the keypad.

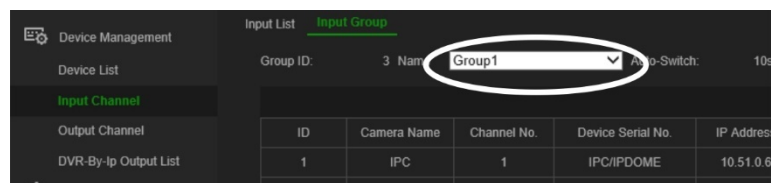
Camera groups

Cameras can be grouped together so that they can be called up to appear together on a specific monitor. For example, one group can be cameras viewing the car park and another group can be cameras viewing the entrances of a building.

Every camera group is automatically given a group ID (which cannot be changed). This ID is used when using the CAM-G button on the keypad to select a camera group (see Figure 7 below). The drop-down list for the group names will show you list of groups created. Selecting one, will show its group number.

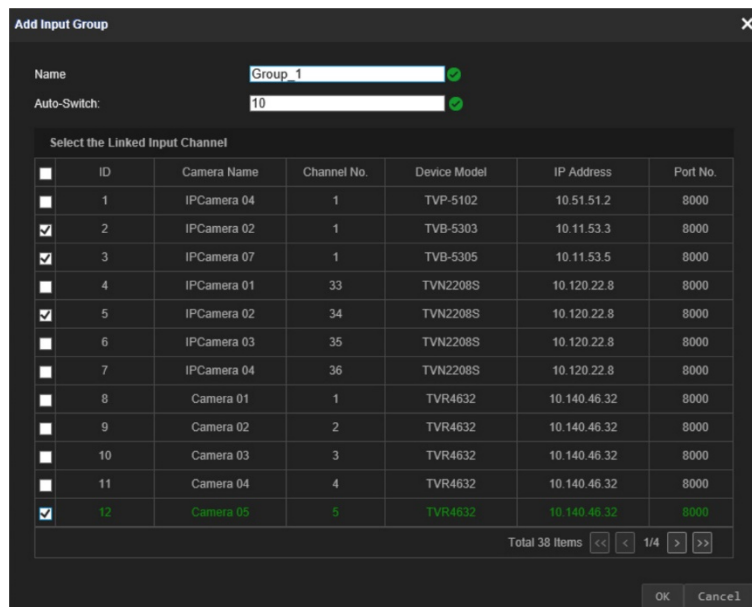
Note: The keypad needs to be connected to a decoder to be able to control camera groups via the keypad. You cannot control camera groups directly from a recorder.

Figure 7: Location of the camera group ID on screen



To create camera groups:

1. Go to **Device Management > Input Channel > Input Group**.
2. Select **Add Group**. The *Add Input Group* window appears.



3. Enter a name for the input group and under *Auto-Switch* select the desired dwell time, which can be between 10 and 10,000 seconds. Select the channels from the list to include in the group. Click **OK**. The *Input Group* window for the selected group appears.

ID	Camera Name	Channel No.	Device Serial No.	IP Address	Port No.	Stream Type
1	IPC	1	IPC/IPDOME	10.51.0.6	8000	Main Stream
4	TVP-5101	1	TVP-5101	10.51.51.1	8000	Main Stream
9	Camera 10	10	TVR4516HD	10.140.45.16	8000	Main Stream
12	Camera 13	13	TVR4516HD	10.140.45.16	8000	Main Stream

4. To edit a group, click **Modify Group**. You can change the selected cameras and the name of the group.

To delete a group, click **Delete Group**.

5. To add another camera group, click **Add** again. You can add up to 16 camera groups.

Manage an output channel for keyboard mode

This menu lets you check the channel information of monitors and the decoders, DVRs, and NVRs to which they are connected.

There are up to three different video outputs for monitors: VGA, HDMI, and BNC. They can be main or event monitors. By default, the main monitor of a recorder always has ID number 1, and the next monitor has ID number 2. If there is a third monitor, it has ID number 3. You can change the output channel ID.

It is not possible to export a list of the output channels.

Output List

To manage output channels:

1. Go to **Device Management > Output Channel > Output List**.

ID	Type	Device Serial No.	IP Address	Port No.
1	HDMI	TVR4516HD	10.140.45.16	8000
2	VGA	TVR4516HD	10.140.45.16	8000
3	Main CVBS	TVR4516HD	10.140.45.16	8000

2. If you want to change the ID of an output channel, select the channel from the list and click **Edit**.

Enter the new ID of the selected output channel and click **OK**.

DVR-By-IP Output List

Only use this menu for the DVR-By-IP mode. It allows you to check the IDs for the monitor output of the connected recorders.

It also possible to change the ID for monitor output. The recorders support only ID 1 and 2.

To manage the output channels:

1. Go to **Device Management > DVR-By-IP Output List**.

ID	Type	Device Serial No.	IP Address	Port No.
1	HDMI	TVR4516HD	10.140.45.16	8000
2	VGA	TVR4516HD	10.140.45.16	8000

2. If you want to change the ID of an output channel, select the channel from the list and click **Edit**.

Enter the new ID of the selected output channel and click **OK**.

System management using the browser

The System Management menu lets you via the browser check the keypad version, manage users, and restore factory default settings, upgrade firmware, reboot the device, and import/export the device's configuration settings.

This menu is only available to the administrator.

Version information

You can quickly see the firmware, core, panel, hardware, and web versions used by the keypad under the **System Management > Version** menu.

You can also see the keypad's license agreement under **System Management > Version > About** and click **View Licenses**.

User management

You can add and delete a user, add, and delete devices associated with a user, and change the user password. You can have a maximum of 1 administrator and 15 operators.

Passwords can have a maximum of eight characters and can only consist of numbers and letters. No special characters or spaces are permitted.

To add a new user:

1. In the keypad browser, go to **System Management > User Management**.
2. Click **Add** to a new user. The *Add User* window appears.

Add User

User Name: OPERATOR ✓

User Type: Operator

Password: [masked] ✓ Strong

8 characters allowed. You can use a combination of numbers, lowercase and uppercase letters for your password, which must contain characters from at least two of these groups

Confirm Password: [masked] ✓

Select The Linked Device [Select All]

<input type="checkbox"/>	ID	Device Type	IP Address	Port No.	Device Model
<input checked="" type="checkbox"/>	1	IPC/IP Dome	10.51.51.2	8000	TVP-5102
<input type="checkbox"/>	2	IPC/IP Dome	10.11.53.3	8000	TVB-5303
<input checked="" type="checkbox"/>	3	IPC/IP Dome	10.11.53.5	8000	TVB-5305
<input type="checkbox"/>	4	DVR/NVR	10.120.22.8	8000	TVN2208S
<input type="checkbox"/>	5	DVR/NVR	10.140.46.32	8000	TVR4632
<input checked="" type="checkbox"/>	6	DVR/NVR	10.120.22.64	8000	TVN2264P
<input type="checkbox"/>	7	Decoder	10.100.200.120	8000	TVE-DEC12

Selected 3 Total 7 Items << < 1/1 > >>

OK Cancel

3. Enter the new user name and password. All new users are operators only. Only the administrator can change the operator name and password. Operators cannot change their keypad password.

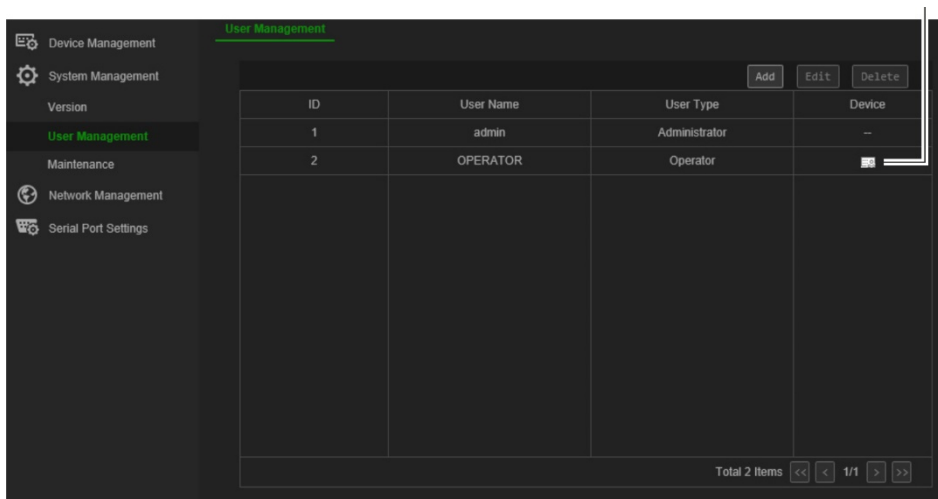
Note: It is highly recommended that you use a strong password. See 11 page for more information on how to create a strong password.

4. Select the linked devices that the user can access using the keypad.
5. Click **OK** to save the settings.

A window pops up confirming the linked devices that this user can access.

6. Click **OK** to confirm. The user is added to the list on the User Management window.

Click this icon to see all the linked devices accessible by this user.



To edit user parameters:

1. In the keypad browser, go to **System Management > User Management**.
2. From the list of users select the desired user and click **Edit**. The *Edit User* window displays the user's parameters.
3. Enter admin password.
4. Change the desired parameters, which can be the user password, and linked devices. You can not change the user name or type.

Note: If you change the password, it is highly recommended that you use a strong password. See page 11 for more information on how to create a strong password.

5. Click **OK** to save the settings.

To delete a user:

1. In the keypad browser, go to **System Management > User Management**.
2. From the list of users select the desired user and click **Delete**.
3. Click **OK** in the pop-up window to confirm deletion. The user is immediately deleted.

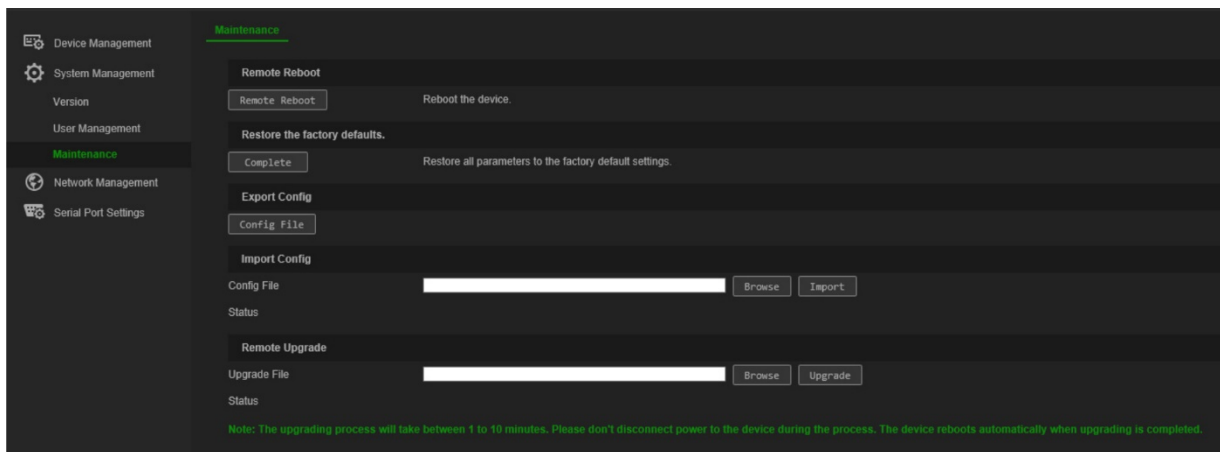
Maintenance

Use this menu to:

- **Reboot the keypad:** The administrator can reboot the keypad.
- **Restore the default settings:** The administrator can reset the keypad to the factory default settings. Network information such as IP address, subnet mask, and gateway are not restored to factory default settings.
- **Import/export configuration settings:** The administrator can also export and import configuration settings to and from the keypad. This is useful if you want to copy the configuration settings to another device, or if you want to make a backup of the settings.
- **Update the keypad firmware:** The administrator can update the decoder firmware using the decoder web browser. The firmware can also be updated using TruVision Device Manager (version 8.0 SP2). For further information, refer to the TruVision Navigator user manual. The firmware upgrade file is labeled *tvk600.dav*.

Note: Only the administrator can access and modify maintenance functions.

Figure 8: Maintenance window



To reboot the keypad:

1. In the keypad browser, go to **Device Management > System Management > Maintenance**.
2. Under *Remote Reboot*, click the **Remote Reboot** button.
3. In the pop-up window, enter your admin password and click **OK**.

The system reboots.

To restore parameters to default factory settings:

1. In the keypad browser, go to **Device Management > System Management > Maintenance**.
2. Under *Restore the factory defaults*, click **Complete**.

The changes appear immediately.

To import and export files to and from the keypad:

1. In the keypad browser, go to **Device Management > System Management > Maintenance**.
2. To export the keypad's configuration parameters to the PC, click the **Export** button.
To import configuration parameters from the PC, click the **Browse** button to locate the file on the PC and select it. Click **Import**.

To update the system firmware using the browser:

1. Download the latest firmware from our web site at:
<https://firesecurityproducts.com>
2. In the keypad browser, go to **Device Management > System Management > Maintenance**. Under *Restore the factory defaults*, click **Complete**.
3. Click the **Browse** button to locate the file on the PC and select it. Click **Upgrade**. Click **Yes** to begin the upgrade process.
4. When the upgrade process is completed, the keypad will reboot automatically.

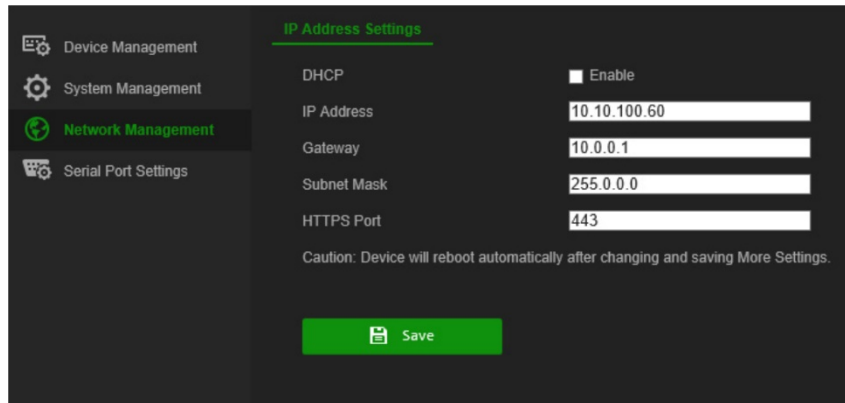
Network management using the browser

The Network Management menu allows you using the browser to manage the keypad's network settings.

This menu is only available to the administrator.

To set up the IP settings:

1. In the keypad browser, go to **Network Management > IP Address Settings**. The window appears.



2. If required, select **DHCP**.

DHCP (Dynamic Host Configuration Protocol) is a protocol for assigning an IP address dynamically to a device each time it connects to a network.

Select this check box if you have a DHCP server running and want your recorder to automatically obtain an IP address and other network settings from that server. The DHCP server is typically available in your router.

Default value is Disable.

3. Enter the IP address, gateway, and subnet mask as well as the HTTPS port value.
4. Click **Save** to save the settings.

Note: The keypad will automatically reboot when network settings are changed and saved.

Serial port settings using the browser

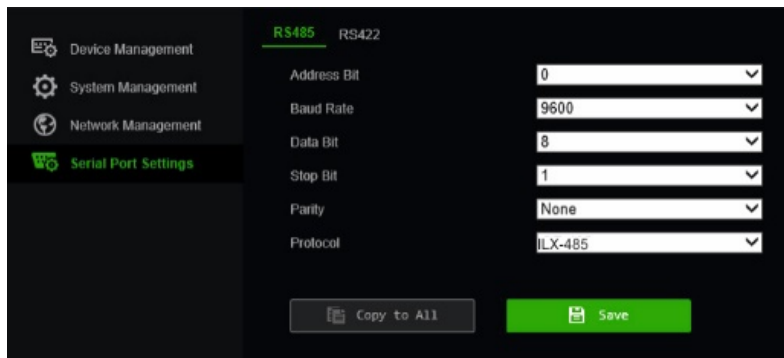
The Serial Port Settings menu allows you to set the parameters of the keypad's RS-485 serial port.

This menu is only available to the administrator.

To set up the RS-485 parameters:

1. In the keypad browser, go to **Serial Port Settings** and click the **RS-485** tab.

Select the desired parameters for the RS-485: address bit, baud rate, data bit, stop bit, parity, and protocol. The protocol options are PELCO-P, PELCO-D, and ILX-485.



The screenshot shows a web interface for configuring serial port settings. On the left is a navigation menu with options: Device Management, System Management, Network Management, and Serial Port Settings (highlighted). The main area is titled 'RS485 RS422' and contains a list of settings, each with a dropdown menu:

Parameter	Value
Address Bit	0
Baud Rate	9600
Data Bit	8
Stop Bit	1
Parity	None
Protocol	ILX-485

At the bottom of the settings area are two buttons: 'Copy to All' and 'Save'.

2. Click **Save** to save the settings.

System menu of the keypad

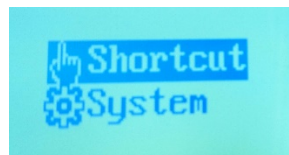
The System menu on the keypad lets you check the current version of the keypad and network settings as well as access frequently used functions such as user management, RS-485, hardware, time and date, and maintenance.

It is only accessible by the administrator. Operators cannot access it.

The menus are only available in English.

To access the system menu of the keypad:

1. Log in to the keypad. The Shortcut/System menu screen appears:



2. Using the joystick, or the **PREV** or **NEXT** buttons, to scroll up/down the list, select **System**. Press the button on top of the joy stick or press the **OK** button to access it. The following LCD screens appear.

1. Version
2. Network
3. User
4. Serial Port

5. Hardware
6. Time
7. Maintenance

3. Select the desired menu and press the button on top of the joy stick or press the **OK** button to access it.

Note: The keypad menus time out after five minutes.

Version menu

Use this menu to see the version information of the keypad. It displays the firmware, panel, hardware, software versions.

Network menu

Use this menu to see the network information of the keypad. It displays the DHCP, IP Address, Gateway, and Subnet Mask values.

User management

This menu lets you change the admin password as well as add, edit and delete users. Only the administrator can make these changes.

Figure 9: User menu

- 1. Change PWD
- 2. Add User
- 3. Edit User
- 4. Delete User

Serial port

This menu lets connect to an analog dome camera or a recorder using the RS-485 port. When you select “Copy All”, the RS-485 settings are copied to all other RS-485 devices connected to the keypad.

Figure 10: Serial port menu

- 1. AddrBit: 0
- 2. Baud Rate: 9600
- 3. Data Bit: 8
- 4. PROT: PELCO-P

- 5. Stop Bit: 1
- 6. Parity: None
- 7. Copy All: No

Hardware

This menu lets you set the auto-logoff and backlight functions.

When auto-logoff is enabled, the keypad automatically logs out if it has not been used for 30 minutes. The backlight can be set to Open (always on), 5 min., 10 min., 30 min., or 60 min.

Time

Use this menu to set time. You can set the year, month, date, time format, hour, minute and second.

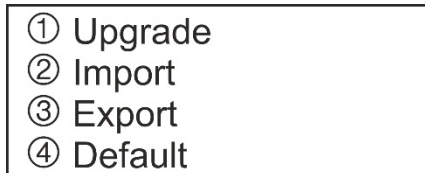
Maintenance

Use this menu to upgrade the device, import and export configuration files, and return the keypad to default settings.

The file format of the firmware update is *tvk600.dav*. The file format of the config file is *kbCfg.bin*.

Connect a USB flash drive to the keypad before upgrading, or importing/exporting files. The upgrade file and config file must be located on the root directory of the USB flash drive.

Figure 11: Maintenance menu



To maintain the keypad:

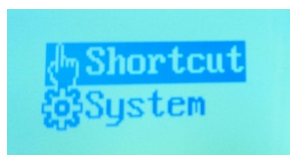
1. Log in to the keypad.
2. Using the joystick or buttons, select **System > Maintenance**.
3. To upgrade the keypad firmware, insert a USB flash drive with the latest firmware file in the keypad. Select button 1 and press **OK**.
4. To import a config file, insert a USB flash drive in the keypad. Select button 2 and press **OK**.
5. To export a config file, insert a USB flash drive in the keypad. The file must be on the root directory. Select button 3 and press **OK**.
6. To return the keypad settings back to factory default, select button 3 and press **OK**.

Keypad operation

This section describes how to control devices, such as cameras, recorders and decoders/encoders, using the keypad.

Once the keypad has been configured, you are then ready to take control of the devices using the Shortcut menu of the keypad. This menu can be accessed by both the administrator and operators.

Figure 12: Shortcut/System menu



Note: The keypad LCD display is only available in English.

Keypad modes to control a device

There are four shortcut keypad modes that let you select which device and function to control using the keypad (see Figure 5 and Table 1 below). Selecting the *Shortcut* function when you log into the keypad gets you direct access to the keypad operational modes.

The keypad modes are independent of each other. If you have selected one and then want to access another, press MODE to return to *Shortcut* and then select the desired keypad mode. See Figure 13 and Table 1 below.

Note: The devices connected to the keypad may not be controlled by all four keypad modes. See Table 7 on page 49 for the list of supported devices by keypad mode.

Figure 13: Shortcut keypad modes.

1. Keyboard
2. DVR by IP
3. DVR by RS-485
4. Dome by RS-485

Table 1: Overview of the shortcut keypad modes to operate the keypad

Number	Shortcut keypad mode	Description
1.	Keyboard	<p>This mode allows you to access the devices using the keypad as if you were using the security system. You can control devices such as IP cameras, IP dome cameras, DVRs, NVRs, decoders, encoders, as well as control multiview. There is usually a decoder linked to the keypad when using multiview.</p> <p>You can add devices to be managed by the keypad using the web browser and give each a unique device ID.</p>

Number	Shortcut keypad mode	Description
		See "Control a camera using Keyboard mode" on page 36 for more information.
2.	DVR by IP	This mode allows you to access the recorders/decoders using the keypad as if you were using the front panel of the recorder. You connect the keypad to a DVR or NVR using IP. You can then call up the recorder menu and control PTZ cameras through a virtual panel. See "Control a recorder using DVR by IP mode" on page 41 for more information.
3.	DVR by RS-485	This mode allows you to access recorders using the keypad with the RS-485 serial port. You can then call up the recorder menu and control PTZ cameras through a virtual panel. You cannot use this mode to directly access cameras (use the <i>Dome by RS-485</i> mode). See " Control a recorder using DVR by RS-485 mode" on page 44 for more information.
4.	Dome by RS-485	This mode allows you to access analog/HD/TVI dome cameras using the keypad with the RS-485 serial port. You can then call up the camera menu and control the video wall and PTZ cameras through a virtual panel. You cannot use this mode to directly access recorders/decoders (use the <i>DVR by RS-485</i> mode). See "Control a dome camera using Dome by RS-485" on page 47 for more information.

How to use device and camera IDs

You need to tell the keypad the specific recorder/decoder, monitor, and camera that you want to control.

When in **Keyboard** mode, you enter the ID of the recorder or decoder (DEV), then that of the monitor (MON), and then that of the camera (CAM) to be controlled. For three of the modes, the KEY function lets you enter both the MON and CAM IDs consecutively. See Figure 14 below.

Figure 14: Device ID screen. Keyboard mode shown

DEV :
MON : []
CAM :

You can also enter in this screen the desired multiscreen format and select which camera is displayed in which window.

DEV button

Enter the unique ID of the recorder or decoder and press the **DEV** button.

You can see the list of recorders and decoders configured in the keypad under the *Device Management > Device List* menu with their IDs, model numbers and IP addresses. Figure 15 on page 36 for an example of a system and its device IDs. In the example shown, there are two recorders and one decoder linked to the keypad, each with a different device ID. They are numbered in the order in which they were added to the keypad.

It is not possible to output the list of recorder/decoder IDs to an Excel file for later reference.

MON button

This appears on screen when you are in **Keyboard** mode (see Figure 14). Enter the unique ID of the monitor and press the **MON** button. “1 MON” is the main monitor.

For information of the monitor ID, go to **Device Management > Output Channel > Output List** menu (see “Manage an output channel” on page 21 for an example).

It is not possible to output the list of monitor IDs to an Excel file for later reference.

CAM button

This appears when you are in Keyboard mode. Enter the unique ID of the camera and press the **CAM** button.

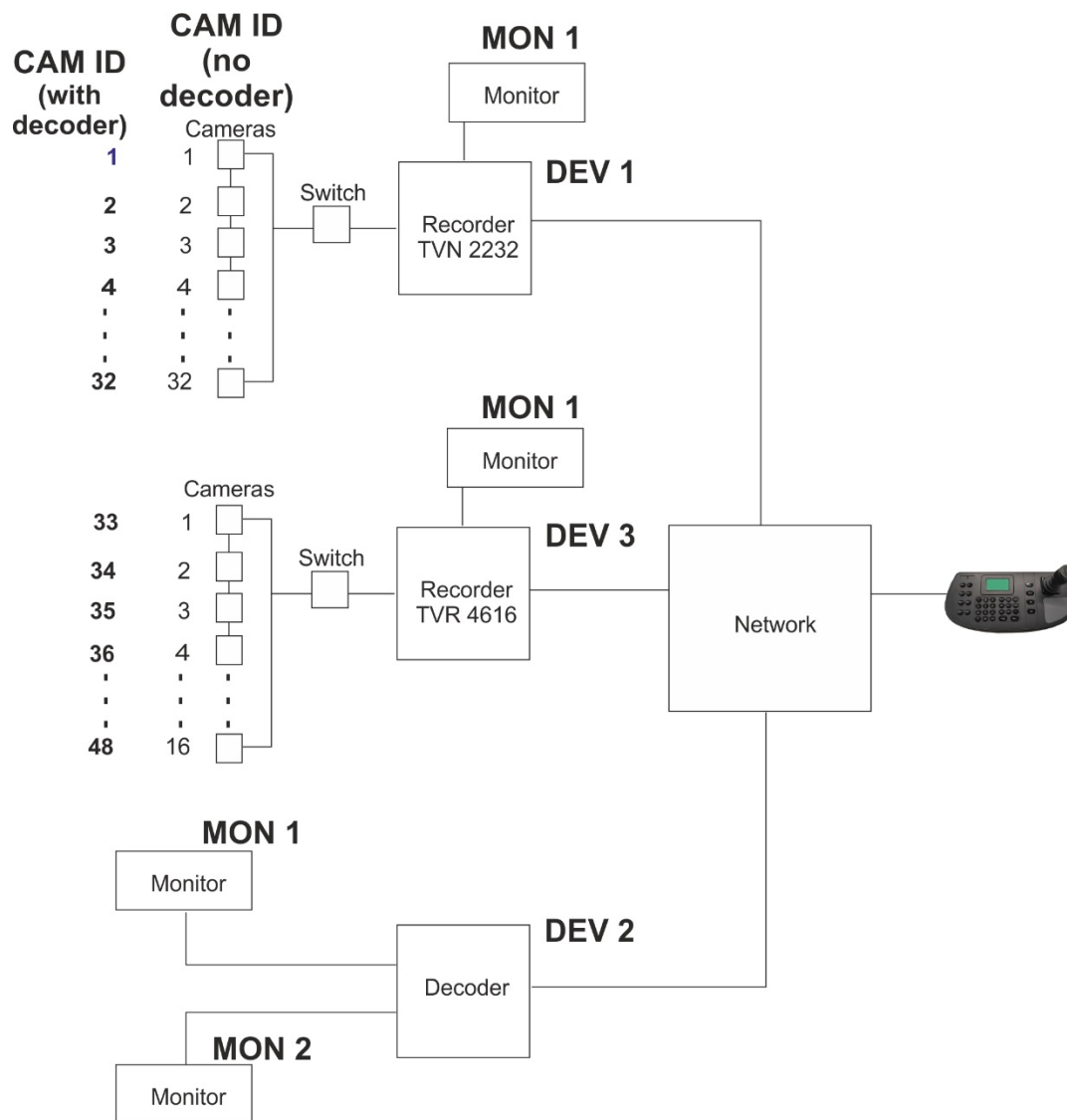
The camera ID depends on whether you want to control the recorder directly or through a decoder. When you work directly with a recorder via the keypad, the recorder’s cameras are treated independently of any cameras connected to other recorders linked to the keypad. However, when you use a decoder, all the cameras are grouped together consecutively in their CAM IDs, their ID number depending on the sequence in which the recorders and decoders were added to the keypad.

Control the recorder directly: Enter the camera ID as the CAM ID of the camera for the recorder. For example, in Figure 15 on page 36 to control camera 4 of the TVR 4616 recorder (DEV 2), the CAM ID is “4”.

Control a recorder via a decoder: Enter the camera ID as the CAM ID of the camera for the recorder. For example, in Figure 15 on page 36 to control camera 4 of the TVR 4616 recorder (DEV 2), the CAM ID is “36”.

You can see on-screen the camera IDs linked to the keypad from the **Device Management > Input Channel > Input List** menu, or from the exported list. See “Import/export an input device list” on page 18.

Figure 15: Example of a system controlled by a keypad



KEY

When you are in **DVR by IP** mode, you will see the LCD screen shown in Figure 16 below. There is no **KEY** button on the keypad. This text stands for “Keyboard buttons”. You need to enter both the monitor and camera IDs here.

Figure 16: Device ID screen. DVR by IP mode shown

DEV :
 KEY:









Multiscreen options

You can quickly and easily select which multiscreen format you want to see on the monitor screen as well as select which camera is displayed in which window of the multiscreen.

MULT button

Press the numeric button(s) for the desired multiview display mode and the MULT button to select the recorder's multiview. For example, if you enter 4 and MULT, you will get a 2*2 multiview. The multiview display settings available depends on the recorder. Therefore not all those listed below in Table 2 may be available.

Table 2: List of MULT settings available (depending on the recorder)

Full screen display = 1 and 	3*3 multiview display = 9 and 
2*2 multiview display = 4 and 	4*4 multiview display = 16 and 
1+5 multiview display = 6 and 	5*5 multiview display = 25 and 
1+7 multiview display = 8 and 	6*6 multiview display = 32 and 

The multiview setting selected is not displayed on the LCD screen. It is seen on the monitor.

WIN button

Once you have selected the multiview display (MULT), you can then allocate which camera appears in which video tile (WIN). For the selected camera displayed in the LCD screen, press the desired video tile number on the monitor and then the WIN button.

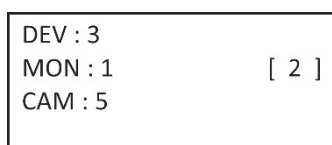
This option is only for Keyboard mode.

Figure 17: Example of the video tile (WIN) layout in 2*2 multiview



In the example below, Camera 5 is video tile 2. You would enter "2 WIN" for Camera 5.

Figure 18: Example of WIN selection



Information to provide to the operator

You must provide the Operators who will be using the keypad with the list of device IDs (e.g., DEV, MON, CAM if using Keyboard mode) or RS-485 address (if using DVR by RS-485 or Dome by RS-485) that they will need to use as they do not have access to the browser menus. You also need to consider whether they will be controlling devices

directly via a recorder or via a decoder. They also need information on the multiscreen formats available for the recorders/decoders.

Control a camera using Keyboard mode

This mode allows you to take control cameras, recorders, and decoders/encoders using the keypad. It is normally used when there is a decoder linked to the keypad, but it also can be used to directly access a recorder.

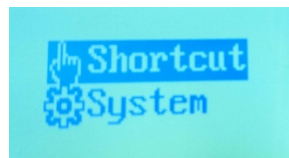
Note: Before you set up the keypad to control a device, ensure that you have the information on hand for recorder, decoder/encoder and monitor IDs to be used as well as the list of camera IDs.

Once you have selected the devices, you can then use the keypad to control them.

Note: For the list of supported devices that can be controlled by this keypad mode, see Table 7 on page 49.

To control a device using keyboard mode:

1. Power-up the keypad and press the button on top of the joystick to get the login screen. Enter your name and password to log in to the keypad. The Shortcut/System menu screen appears.

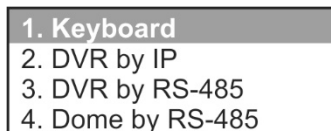


Note: In the Login dialog box, if you enter the wrong password seven times as administrator or five times as an operator, the user account will be locked for 30 minutes.

2. Select **Shortcut**.

Note: When operators access the keypad, they can only access the *Shortcut* menu.

3. Press the **MODE** button on the keypad. The list of the four keypad operation modes to control devices is shown in the LCD display.



4. Press the numeric button **1** (one), or press **PREV/NEXT** to scroll up/down the list, to select **Keyboard** mode and press **OK**. The *Device ID* screen appears.



5. To select your device, enter the ID number of the recorder or decoder to control and then press the **DEV** button. The number appears beside DEV.

- To select your monitor, enter the ID of the monitor controlled by the selected recorder/decoder and then press the **MON** button.

Note: 1 **MON** is the main monitor.

- To select your camera, enter the ID of the desired camera or camera group to be controlled by the selected recorder/decoder and then press the **CAM** or **CAM-G** button. You can only press **CAM-G** if using a decoder.

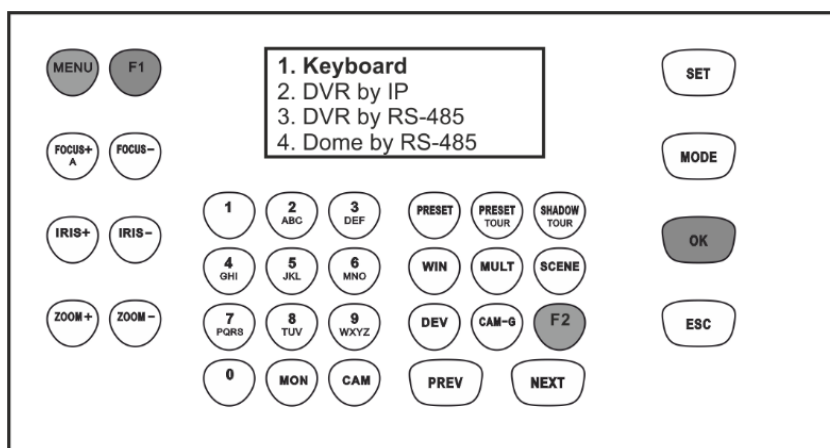
Note: See the section “CAM button” on page 35 for information on the camera ID depending on whether you are controlling it with a decoder or recorder.

- Select the desired multiview format. Enter the multiview number and then press the **MULT** button. See Table 3 below for the list of multiview options.
- Select which camera will appear in the video tiles of the multiview (WIN). For the selected camera displayed in the LCD screen, press the desired video tile number on the monitor and then the **WIN** button.

Press the **PREV** or **NEXT** buttons to scroll to the previous or next camera to select another camera.

- The keypad can now be used to control the selected camera. See Figure 19 and Table 3 below for information on the buttons to use for controlling the selected devices and carrying out functions, such as presets or zoom in/out.





















Figure 19: Keypad buttons to use in Keyboard mode









Note: Buttons shown in white can be used in this mode.

Table 3: How to control a camera using Keyboard mode

Numeric button	Keypad button	Action
N		Press the numeric button(s) of the desired recorder ID and this function button to select the recorder.
N		Press the numeric button for the desired monitor and this function button to select the monitor.
N		Press the numeric button for the ID of the desired camera or encoder and this function button to select the device.

Numeric button	Keypad button	Action
N		<p>Press the numeric button(s) for the desired multiview display mode and this function button to select the multiview of the video wall. For example, if you enter 4 and MULT, you will get a 2*2 multiview. The multiview and video tile formats available depends on the recorder and how it has been set up. Therefore, not all the multiviews listed below may be available.</p> <p>Full screen display = 1 and </p> <p>2*2 multiview display = 4 and </p> <p>1+5 multiview display = 6 and </p> <p>1+7 multiview display = 8 and </p> <p>3*3 multiview display = 9 and </p> <p>4*4 multiview display = 16 and </p> <p>5*5 multiview display = 25 and </p> <p>6*6 multiview display = 32 and </p>
N		<p>Press the numeric button(s) and this function button to select the desired video wall window.</p>
		<p>Press this button to focus far.</p> <p>This button is also used to enter alphanumeric values in the LCD display. Press the button to toggle between numbers, lower case letters, and capital letters. See “Enter alphanumeric values” on page 9 for more information.</p>
		<p>Press this button to focus near.</p>
		<p>Press this button to open the iris.</p>
		<p>Press this button to close the iris.</p>
		<p>Press this button to zoom in.</p>
		<p>Press this button to zoom out.</p>
	Numeric buttons	<p>Press a numeric button to enter a specific number.</p>
N		<p>Press the numeric button(s) for a desired preset and this function button to call up the preset.</p>
N		<p>Press the numeric button(s) for a desired preset tour and this function button to call up the preset tour.</p>
N		<p>Press the numeric button(s) for a desired shadow tour and this function button to call up the shadow tour.</p>
N		<p>Press the numeric button(s) for a desired scene and this function button to select the decoder scene.</p> <p>A scene is a custom view of the decoder. This feature allows you to store predefined layouts with streams so that it is easy to call them up when needed. For more information on scenes, refer to the TruVision decoder user manual.</p> <p>Note: This option is only available when using a decoder.</p>

Numeric button	Keypad button	Action
N		Press the numeric buttons for a desired camera group and this function button to select the camera group. Note: This option is only available when using a decoder.
		Press this button to move to the previous camera or camera group. Note: Camera groups are only available when using a decoder.
		Press this button to move to the next camera or camera group. Note: Camera groups are only available when using a decoder.
		Press this button to enter the Shortcut/System menu LCD screen.
		Press this button to enter the keypad mode menu. Select another mode from the list.
		Press this button to delete the number entered.

Control a recorder using DVR by IP mode

This mode allows you to simulate the functionality of the recorder's front panel. It cannot be used with a decoder.

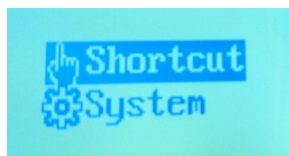
Before you set up the keypad to control a device, ensure that you have the information on recorder and monitor IDs available as well the list of camera IDs. You must provide Operators with the list of device IDs that they will be using as they do not have access to the browser menus.

Once you have selected the recorder, you can then use the keypad to control it.

Note: For the list of supported devices that can be controlled by this keypad mode, see Table 7 on page 49.

To control a recorder using *DVR by IP mode*:

1. Power-up the keypad and press the button on top of the joystick to get the login screen. Enter your name and password to log in to the keypad. The Shortcut/System menu LCD screen appears.



Note: In the Login dialog box, if you enter the wrong password seven times as administrator or five times as an operator, the user account will be locked for 30 minutes.

2. Select **Shortcut**.

Note: When operators access the keypad, they can only access the *Shortcut* menu.

3. Press the **MODE** button on the keypad. The list of the four keypad operation modes to control devices is shown in the LCD display.

- | |
|-------------------|
| 1. Keyboard |
| 2. DVR by IP |
| 3. DVR by RS-485 |
| 4. Dome by RS-485 |

4. Press the numeric button **2**, or press **PREV/NEXT** to scroll up/down the list, to select **DVR by IP** mode and press **OK**. The *Device ID* screen appears.

DEV :
KEY:

5. To select your device, enter the ID number of the recorder to control and then press the **DEV** button. The number appears beside **DEV**.
6. There is no **KEY** button on the keypad. This text stands for “Keyboard buttons”. You need to enter both the monitor and camera IDs here.

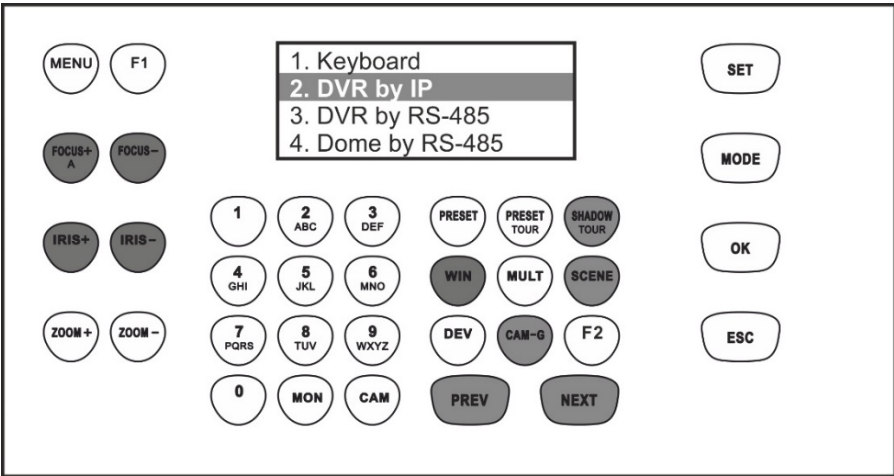
Enter the ID of the desired monitor and press the **MON** button.

Then enter the ID of the desired camera and press the **CAM** button. These two sets of numbers appear alongside **KEY** on screen.

Note: See the section “CAM button” on page 35 for information on the camera ID depending on whether you are controlling it with a recorder.





















7. Select the desired multiview format. Enter the multiview number and then press the **MULT** button. The multiview display settings available depends on the recorder. Your selected multiview setting is seen on the monitor. See the complete list of settings in Table 4 below.
8. The keypad can now be used to control the selected camera. See Figure 20 and Table 4 below for information on the buttons to use for controlling the selected devices and controlling the recorder from the virtual front panel.




Figure 20: Controlling the DVR by IP



Note: Buttons shown in white can be used in this mode.

Table 4: How to control a recorder using DVR by IP mode

Numeric button	Keypad button	Action
N		Press the numeric button(s) of the desired recorder ID and this function button to select the recorder.
N		Press the numeric button for the desired monitor and this function button to select the monitor.
N		Press the numeric button(s) for the ID of the desired camera and this function button to select the camera.
N		<p>Press the numeric button(s) for the desired multiview display mode and this function button to select the multiview of the video wall. For example, if you enter 4 and MULT, you will get a 2*2 multiview. The number of multiview display settings available depends on the recorder. Therefore not all those listed below may be available.</p> <p>Full screen display = 1 and </p> <p>2*2 multiview display = 4 and </p> <p>1+5 multiview display = 6 and </p> <p>1+7 multiview display = 8 and </p> <p>3*3 multiview display = 9 and </p> <p>4*4 multiview display = 16 and </p> <p>5*5 multiview display = 25 and </p> <p>6*6 multiview display = 32 and </p>
		<p>Press this button to have the same function as the F1 button on the recorder.</p> <p>In Playback mode, click to start and stop video clipping. For audio, press F1 and a numerical button to play the audio of the specified camera in live view.</p>
		<p>Press this button to have the same function as the F2 button on the recorder.</p> <p>In live view mode, 24-hour playback, and playback modes press to display or hide the time or control bar.</p> <p>In PTZ mode, stop all ongoing operations. Select or deselect an item. Enter a selected folder of the external storage device, such as a USB flash drive used for archiving.</p>
		Press this button to enter or exit the recorder's menu on the monitor.
		Press this button to enter the Shortcut/System menu LCD screen.
		Press this button or the top of the joystick to enter or exit the PTZ control mode.
		Press this button to enter the keypad mode menu. Select one of the four modes from the list.
N		Press the numeric buttons for a desired preset and this button to call up the preset.
N		Press the numeric buttons for a desired preset tour and this button to call up the preset tour.

Numeric button	Keypad button	Action
		Press this button to zoom in.
		Press this button to zoom out.
	Numeric buttons	Press a numeric button to enter a specific number.
		Press this button to delete the number entered.

Control a recorder using DVR by RS-485 mode

This guide explains how to control a recorder, which can be connected to a single analog/HD-TVI PTZ dome, using the RS-485 port of the TVK-600 keypad. It cannot be used with a decoder.

Connect the T+ and T- terminals of the keypad's RS-485 serial port to the recorder's KB port on its back panel.

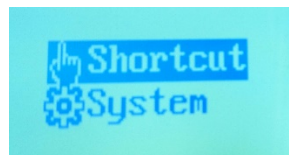
Before you set up the keypad to control a device, ensure that you have the RS-485 address information for the recorder to be controlled available.

Once you have selected the recorder and camera via the keypad, you can then use the keypad to control them.

Note: For the list of supported devices that can be controlled by this keypad mode, see Table 7 on page 49.

To control a recorder using *DVR by RS-485 mode*:

1. Power-up the keypad and press the button on top of the joystick to get the login screen. Enter your name and password to log in to the keypad. The Shortcut/System menu LCD screen appears.



Note: In the Login dialog box, if you enter the wrong password seven times as administrator or five times as an operator, the user account will be locked for 30 minutes.

2. Select **Shortcut**.

Note: When operators access the keypad, they only get access to the Shortcut menu. They cannot access the System menu.

3. Press the **MODE** button on the keypad. The list of the four keypad operation modes to control devices is shown in the LCD display.

- | |
|-------------------|
| 1. Keyboard |
| 2. DVR by IP |
| 3. DVR by RS-485 |
| 4. Dome by RS-485 |

4. Press the numeric button **3**, or press **PREV/NEXT** to scroll up/down the list, to select **DVR by RS-485** mode and press **OK**. The *Device ID* screen appears.

DEV :
KEY:

5. To select your device, enter the ID number of the recorder to control and then press the **DEV** button. The number appears beside **DEV**.
6. There is no **KEY** button on the keypad. This text stands for “Keyboard buttons”. You need to enter both the monitor and camera IDs here.

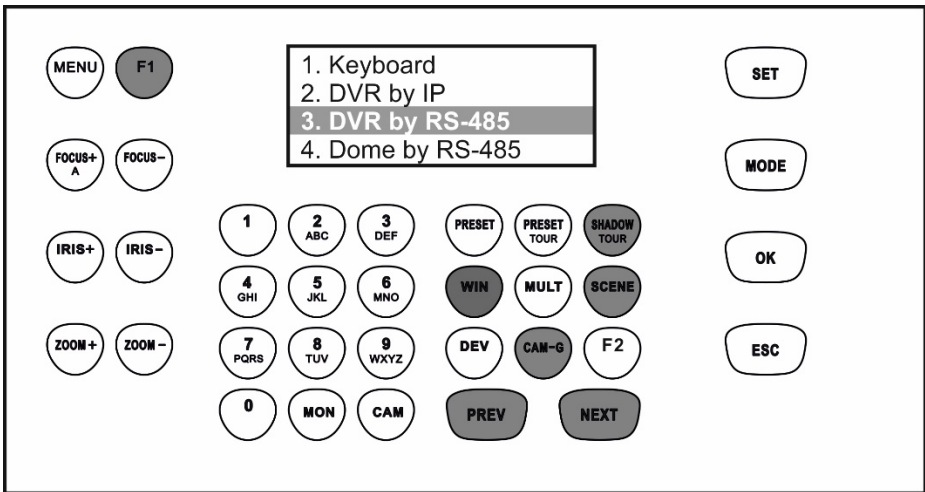
Enter the ID of the desired monitor and press the **MON** button.

Note: 1 MON is the main monitor.

Then enter the camera ID to be controlled and press the **CAM** button. These numbers appear alongside **KEY** on screen.

























7. Select the desired multiview format. Enter the multiview number and then press the **MULT** button. The multiview display settings available depends on the recorder. Your selected multiview setting is seen on the monitor. See the complete list of settings in Table 5 below.
8. You can now start to control the PTZ dome camera and recorder with the keypad. See Figure 21 and Table 5 below for the description of how to use the keypad buttons.

Figure 21: Controlling the DVR using the RS-485 serial port



Note: Buttons shown in white can be used in this mode.

Table 5: How to control a device using *DVR by RS-485* mode

N		Press the numeric button of the desired recorder ID and this function button to select the recorder.
N		Press the numeric button of the desired monitor ID and this function button to select the monitor.
N		Press the numeric button of the desired camera ID and this function button to select the camera.
N		<p>Press the numeric button for the desired multiview display mode and this function button to select the multiview of the video wall. For example, if you enter 4 and MULT, you will get a 2*2 multiview. The number of multiview display settings available depends on the recorder. Therefore not all those listed below may be available.</p> <p>Full screen display = 1 and </p> <p>2*2 multiview display = 4 and </p> <p>1+5 multiview display = 6 and </p> <p>1+7 multiview display = 8 and </p> <p>3*3 multiview display = 9 and </p> <p>4*4 multiview display = 16 and </p> <p>5*5 multiview display = 25 and </p> <p>6*6 multiview display = 32 and </p>
		Press the numeric buttons for the desired AUX1, AUX2, AUX3 and AUX4 on the keypad and this button to select the desired auxiliary function.
		Press this button to enter or exit the recorder's menu on the monitor.
		Press this button to enter the main menu on the LCD display.
		Press this button or the top of the joystick to enter or exit the PTZ control mode.
		Press this button to enter the keypad mode menu. Select one of the four modes from the list.
N		Press the numeric buttons for a desired preset and this button to call up the preset.
N		Press the numeric buttons for a desired preset tour and this button to call up the preset tour.
		Press this button to open the iris.
		Press this button to close the iris.
		Press this button to zoom in.
		Press this button to zoom out.
	Numeric buttons	Press a numeric button to enter a specific number.
		Press this button to delete the number entered.

Control a dome camera using Dome by RS-485 mode

This mode lets you control a single analog/HD-TVI PTZ dome using the RS-485 port of the TVK-600 keypad. It cannot be used with a decoder.

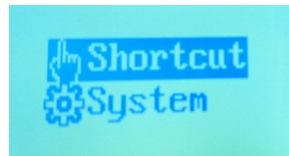
Connect the T+ and T- terminals of the keypad's RS-485 serial port to the dome camera's RS485+ and RS485- terminals.

Note: The keypad RS-485 settings must be the same as those for the analog dome camera.

Note: For the list of supported devices that can be controlled by this keypad mode, see Table 7 on page 49.

To control a device using Dome by RS-485:

1. Power-up the keypad and press the button on top of the joystick to get the login screen. Enter your name and password to log in to the keypad. The Shortcut/System menu LCD screen appears.

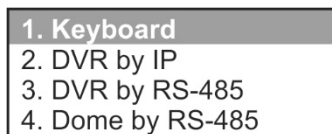


Note: In the Login dialog box, if you enter the wrong password seven times as administrator or five times as an operator, the user account will be locked for 30 minutes.

2. Select **Shortcut**.

Note: When operators access the keypad, they only get access to the Shortcut menu. They cannot access the System menu.

3. Press the **MODE** button on the keypad. The list of the four keypad operation modes to control devices is shown in the LCD display.

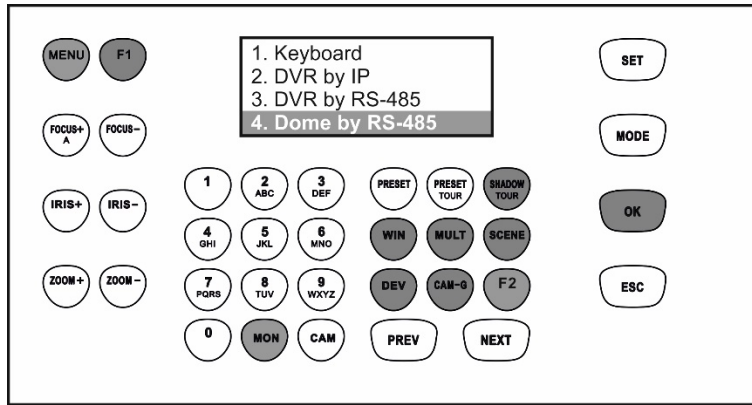


4. Press the numeric button **4**, or press **PREV/NEXT** to scroll up/down the list, for *Dome by RS-485* mode and press **OK**.
5. **SITE** appears on the LCD screen. Enter the RS-485 address of the dome camera to control and then press **OK**.



6. The keypad can now be used to control the selected dome camera. See Figure 22 and Table 6 below for information on the buttons to use for controlling the selected camera.

Figure 22: Controlling dome cameras by the RS-485 serial port



Note: Buttons shown in white can be used in this mode.

Table 6: How to control a device using *Dome by RS-485* mode

Numeric button	Keypad button	Action
N		Press the numeric button for the desired camera ID (RS-485 address) and press the CAM button to select the camera.
		Press this button or the top of the joystick to enter or exit the PTZ control mode.
		Press this button to enter the keypad mode menu. Select another mode from the list.
		Press this button to enter the Shortcut/System menu LCD screen.
N		Press the numeric buttons for a desired preset and this button to call up the preset.
N		Press the numeric buttons for a desired preset tour and this button to call up the preset tour.
		Press this button to focus far.
		Press this button to focus near.
		Press this button to open the iris.
		Press this button to close the iris.
		Press this button to zoom in.
		Press this button to zoom out.
	Numeric buttons	Press a numeric button to enter a specific number.
		Press this button to switch to the previous camera.
		Press this button to switch to the next camera.
		Press this button to delete the number entered.

Appendix A: List of supported devices by keypad mode

The devices connected to the keypad do not support all four keypad modes. See Table 7 below for the list of supported devices for each keypad mode.

Table 7: List of supported devices by keypad mode

Device	Keypad mode
TruVision PTZ cameras:	
TruVision IP Compact PTZ cameras	Keyboard
TruVision IP Full Size PTZ cameras	Keyboard
TruVision Stainless Steel IP PTZ cameras	Keyboard
TruVision TVI PTZ cameras	Keyboard, Dome by RS-485
TruVision recorders:	
TVN 12	Keyboard, DVR by IP, DVR by RS-485
TVN 21	Keyboard, DVR by IP, DVR by RS-485
TVN 22	Keyboard, DVR by IP, DVR by RS-485
TVR 15HD	Keyboard, DVR by IP, DVR by RS-485
TVR 16	Keyboard, DVR by IP, DVR by RS-485
TVR 45HD	Keyboard, DVR by IP, DVR by RS-485
TVR 46	Keyboard, DVR by IP, DVR by RS-485
TruVision decoders:	
TVE-DEC11	
TVE-DEC12	
TruVision encoders and non-PTZ IP cameras:	None (only as an input)