TruVision DVR 10 User Manual
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Chapter 1
Product introduction

Product overview

This is the TruVision DVR 10 User Manual for models:

- TVR-1004-250
- TVR-1004-500
- TVR-1004-1T

The TruVision DVR 10 (TVR 10) is a network digital video recorder developed for digital surveillance. The TVR 10 uses an embedded microcontroller unit with the Linux operating system, combining the most advanced technology in video and audio encoding/decoding, hard drive recording, and TCP/IP communication. The TVR 10’s firmware is stored directly into the memory, making it more stable and reliable.

The TVR 10 includes the features of both a digital video recorder (DVR) and digital video server (DVS). The device can be used as a standalone system or to build a surveillance network such as those widely used in the retail, education, banking, telecommunications, transportation, manufacturing, warehouse, and irrigation industries.

Features

This section describes the available TruVision DVR 10 features.

Compression

The TVR 10 supports the following video features:
• H.264 video compression algorithm and each channel can be CIF real-time (PAL: 25FPS, NTSC: 30FPS), 4CIF, DCIF, 2CIF, QCIF
• Multiple area motion detection
• Privacy masking
• Tampering alarm view
• Video signal loss alarm
• Changeable OSD position
• Both variable and constant bit rate
• Dual-stream, and the substream can support CIF/QCIF resolution

Storage
The TVR 10 supports the following storage features:
• One SATA interface and HDD up to 1 TB memory
• HDD S.M.A.R.T. technology
• FAT32 file system
• Multiple record modes: schedule record, motion detection record, external alarm record, motion and alarm record, motion or alarm record, manual record
• Overwrite and nonoverwrite record mode
• USB flash drive, USB hard drive, and USB CD-RW/DVD-RW to backup

Preview and playback
The TVR 10 supports the following preview and playback features:
• One main composite video output (for monitor A) and an additional composite video output (for monitor B)
• One VGA output with 1024 x 768 resolution
  
  Note: VGA has precedence over the main composite video output and both cannot be used at the same time.
• Play forward, backward, pause, frame-by-frame, etc.
• User-defined preview layout
• One playback channel

Network
The TVR 10 supports the following network features:
• TCP, UDP, Multicast, DHCP, etc.
• RTP
• ADSL (PPPoE) dialup function
• Programming and setup through browser interface
• Remote download and playback the recorded files
• Remote upgrade of TVR 10 firmware
• PTZ control using Web browser
• IE for network control
• Remote access to log file

Other features
The TVR 10 supports the following additional features:
• Bidirectional audio
• Watermarks
• Local and remote PTZ control
• Multilevel user management
• Local and remote log searching function
Chapter 1: Product introduction
Chapter 2
Installation

Installation environment

When installing your product, consider these factors:

- Ventilation
- Temperature
- Moisture
- Chassis load

**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 TVR 10's operating temperature (14 to 122°F, −10 to 50°C) 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 TVR 10. Do not install the TVR 10 on top of other hot equipment. Leave 1.75 in. (44 mm) of space between rack mounted TVR 10 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 35 lb. (15.9 kg) may be placed on top of the TVR 10.
Unpacking the TVR 10 and its accessories

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

Items shipped with the product include:

- IR (infrared) remote control
- Two AAA batteries for the remote control
- USB mouse
- Power supply
- AC power cord
- *TruVision DVR 10 Quick Start Guide*
- *TruVision DVR 10 User Manual* (on CD)

HDD capacity

Storage capacity for the TruVision DVR 10 varies depending on the model. Refer to Table 1 below for more information.

<table>
<thead>
<tr>
<th>Model number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TVR-1004-250</td>
<td>TruVision DVR Model 10, 4 ch, 250 GB</td>
</tr>
<tr>
<td>TVR-1004-500</td>
<td>TruVision DVR Model 10, 4 ch, 500 GB</td>
</tr>
<tr>
<td>TVR-1004-1T</td>
<td>TruVision DVR Model 10, 4 ch, 1 TB</td>
</tr>
</tbody>
</table>
Back panel overview

Figure 1 below shows the back panel controls and connectors on a typical TruVision series network digital video recorder. Details may vary for specific models.

**Figure 1: Back panel**

1. Video in
2. Video out
3. VGA interface
4. Alarm out
5. RS-485 T+ T− R+ R−
6. Power switch
7. USB interface
8. Audio in
9. Audio out
10. Ethernet port
11. Alarm in
12. +12 VDC power supply input
Chapter 2: Installation

Connection diagram

Use Figure 2 below as a visual guide to connect the various peripherals to the TVR 10.

Figure 2: Rear panel connection diagram

1. Connect up to four cameras
2. Connect up to two CCTV monitors (one for main, two for spot)
3. Connect to a VGA monitor
4. Alarm output
5. Connect to a PTZ control
6. Connect to a USB mouse
7. Connect to audio input
8. Connect to speakers
9. Connect to network devices
10. Connect to alarm input cables
11. Connect to the power supply
Chapter 3
Operating instructions

Control interfaces

The TVR 10 has three control interfaces:

• Built-in interface
• Display interface
• Web browser interface

**Built-in interface.** The built-in interface is displayed on the VBA monitor. It consists of a main menu and several dialog screens that let you configure and control the device. You can invoke the built-in interface using the front panel, remote control, or mouse.

**Display interface.** The display interface consists of various toolboxes that appear on top of the VBA monitor image. These let you control live or playback video while in PTZ or playback mode. You can invoke the display interface from the built-in interface screens or from the mouse menu. The controls in any toolbox can be operated using the front panel, remote control, and mouse.

**Web browser.** The Web browser interface uses Internet Explorer to simulate the display and control functions of the VGA monitor on a remote PC. The Web browser interface can only be invoked by a PC with Internet access.
Controlling the TVR 10

You can control the TVR 10 using:

- Front panel control
- IR remote control
- Mouse control

**Front panel control.** Use the directional arrow buttons to select a command, option, or button on a screen. Use the ENTER button to confirm a selection.

**IR remote control.** Use the directional arrow buttons to select a command, option, or button on a screen. Use the OK button to confirm a selection.

**Mouse.** Move the pointer to a command, option, or button on a screen. Click (with the left mouse button) to confirm a selection.

You can use your preferred control method for any procedure, but in most cases we describe procedures using mouse terminology. Optional control methods are given only when they differ substantially from mouse control methods.

Front panel overview

The buttons on the front panel control all DVR functions. The LED indicators light up or flash to alert you of various conditions. See Table 2 below for more information.

---

**Table 2: Front panel legend**

<table>
<thead>
<tr>
<th>Item</th>
<th>Type</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Status</td>
<td>Power</td>
<td>Green indicates the DVR is working. No light indicates the DVR is powered off.</td>
</tr>
</tbody>
</table>
Chapter 3: Operating instructions

### Item Type Name Description

<table>
<thead>
<tr>
<th>Item</th>
<th>Type</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDD</td>
<td></td>
<td>Blinking red</td>
<td>Blinking red indicates that video is being recorded. Solid red indicates that the hard drive has an error.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solid red</td>
<td></td>
</tr>
<tr>
<td>Tx/Rx</td>
<td></td>
<td>Solid green</td>
<td>Solid green indicates that the DVR is being accessed by Internet Explorer or Client Software. Blinking green indicates that data is being transferred between the DVR and Internet Explorer or Client Software.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blinking green</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Numeric</td>
<td>1 to 4</td>
<td>Enter numbers from 1 to 4.</td>
</tr>
<tr>
<td></td>
<td>buttons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MENU</td>
<td></td>
<td>Switches out</td>
<td>Switches out of display mode to display the main menu.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of display</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>mode to display</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>the main menu</td>
<td></td>
</tr>
<tr>
<td>Function buttons</td>
<td>ESC</td>
<td>Cancels the current changes and returns to the previous screen or main menu.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SRCH</td>
<td>Displays the</td>
<td>Displays the Search screen to search for and play back recorded video.</td>
</tr>
<tr>
<td></td>
<td>REC</td>
<td></td>
<td>Displays the Manual Record screen and options.</td>
</tr>
<tr>
<td></td>
<td>PTZ</td>
<td>Enters PTZ</td>
<td>Enters PTZ control mode.</td>
</tr>
<tr>
<td></td>
<td>DISP</td>
<td>control mode.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multiple</td>
<td>Multiple screens display.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>screens display</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch from</td>
<td>Switch from the main menu to live mode.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the main menu</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>to live mode.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Directional controls</td>
<td>↑, ↓, ←, →</td>
<td>In menu mode, use the Left or Right Arrow buttons to select and the Up or Down Arrow buttons to edit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(arrow buttons)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PTZ direction</td>
<td>PTZ direction control.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>control.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Playback speed</td>
<td>Playback speed control.</td>
</tr>
<tr>
<td></td>
<td>ENTER</td>
<td>Confirms menu</td>
<td>Confirms menu selections.</td>
</tr>
<tr>
<td></td>
<td>(central button)</td>
<td>selections.</td>
<td>Enters ✓ or × to enable or disable options.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enters ✓ or</td>
<td>Pauses playback.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>× to enable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>or disable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>options.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pauses</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>playback.</td>
<td></td>
</tr>
</tbody>
</table>

### Using the mouse

Use the USB mouse provided with the TVR 10 to carry out the same operations as the front panel and remote control. The USB mouse lets you navigate and make changes to settings in the user interface.

Connect the mouse to the TVR 10 by plugging the mouse USB connector into the USB port on the back panel. The mouse is immediately operational. You can replace the standard mouse with a wireless mouse. However, the unit may not support all types of wireless mouse.
To use the mouse in live view:

1. Scroll forward and backward between cameras.
   
   When in full-screen view, use the scroll button on the mouse to scroll forward and backward through the cameras.

2. Double-click to toggle between full-screen and multiview.
   
   When in multiview, double-click a camera to display its image in full-screen view. Double-click again to return to multiview.

Mouse shortcut menu

To display the mouse control menu, right-click while in live view. The commands on this shortcut menu are shown in Figure 4 below. Table 3 below describes the commands.

Figure 4: Mouse shortcut menu

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Menu</td>
<td>Displays the main menu.</td>
</tr>
<tr>
<td>Camera</td>
<td>Selects an individual camera.</td>
</tr>
<tr>
<td>Multi-screen</td>
<td>Selects multiview. The multiview options vary based on the number of cameras connected to the TVR 10. You can choose either a four-screen or single screen display.</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| PTZ Control | Controls a PTZ camera. Right-click to view the following options:  
|             | Channel: Selects the camera to control  
|             | Preset: Selects a preset number to use  
|             | Exit: Returns to display mode |
| Search      | Displays the Play Back screen. Lets you search for recordings using specific criteria such as by camera, type of event, time, and text.  
|             | Right-click to return to display mode |
| Manual Record | Displays the Manual Record screen. |
| Open/Close Status | Toggles the on-screen status bar on and off. |
| Spot Channel | Controls the spot monitor. |
Using the IR remote control

Use the IR remote control to carry out functions similar to the front panel buttons.

Figure 5: Controls on the IR remote

Table 4: IR remote control legend

<table>
<thead>
<tr>
<th>Item</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>POWER</td>
<td>Turns off the device.</td>
</tr>
<tr>
<td>2</td>
<td>TVR 10</td>
<td>Enables the IR remote control to control the TVR 10.</td>
</tr>
<tr>
<td>3</td>
<td>Numeric buttons</td>
<td>Enter numbers, lower case or upper case letters, and symbols in edit mode.</td>
</tr>
<tr>
<td>4</td>
<td>DEL</td>
<td>Deletes an entry in edit mode.</td>
</tr>
<tr>
<td>5</td>
<td>#</td>
<td>Toggles between video inputs or video channels.</td>
</tr>
<tr>
<td>6</td>
<td>INFO</td>
<td>Reserved for future use.</td>
</tr>
<tr>
<td>7</td>
<td>ESC</td>
<td>Cancels and returns to the main menu.</td>
</tr>
<tr>
<td>8</td>
<td>PTZ</td>
<td>Enters PTZ control mode.</td>
</tr>
</tbody>
</table>
Chapter 3: Operating instructions

<table>
<thead>
<tr>
<th>Item</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>MENU</td>
<td>Switches from live mode to menu mode and displays the main menu.</td>
</tr>
<tr>
<td>10</td>
<td>↑, ↓, ←, → (arrow buttons) OK (central button)</td>
<td>In menu mode, the Left or Right Arrow buttons select commands or options; the Up or Down Arrow buttons edit or select values. OK enters the selection or value. PTZ direction control. Playback speed control.</td>
</tr>
<tr>
<td>11</td>
<td>Lens control</td>
<td>FOCUS and ZOOM control for camera lens.</td>
</tr>
<tr>
<td>12</td>
<td>SRCH</td>
<td>Displays the Search screen to search for and play back recorded video.</td>
</tr>
<tr>
<td>13</td>
<td>REC</td>
<td>Displays the Manual Record screen.</td>
</tr>
<tr>
<td>14</td>
<td>DISP</td>
<td>Displays multiscreen. Switches to live mode.</td>
</tr>
<tr>
<td>15</td>
<td>LIVE</td>
<td>Displays Camera 1 in live mode.</td>
</tr>
</tbody>
</table>

To place batteries into the IR remote control:
1. Remove the battery cover.
2. Insert the batteries. Make sure that the positive (+) and negative (−) poles are correctly placed.
3. Replace the battery cover.

To connect the remote control to the TVR 10:
1. Turn on the TVR 10 and wait for the live video to appear.
2. On the remote control, press and release the Power button. The remote control is now operational.

To turn off the IR remote control:
1. Press the TVR 10 button while the IR remote control is still controlling the TVR 10.

To turn the TVR 10 off with the remote control:
1. Press and hold the POWER button for several seconds. A power off prompt displays.
2. Enter a password, if required.
3. Select Confirm then switch off the manual power located on the back panel.

Troubleshooting the remote control
If the IR remote control is not functioning properly, perform the following tests:
Chapter 3: Operating instructions

- Check the battery polarity.
- Check the remaining charge in the batteries.
- Check that the IR remote control sensor is not masked.

If the problem still exists, please contact your administrator.

Using the Web browser

The TVR 10 Web browser lets you view, record, and play back videos as well as manage all aspects of the TVR 10 from any PC connected to your network. The browser’s easy-to-use controls give you quick access to all TVR 10 functions.

Figure 6: TVR 10 Web browser

<table>
<thead>
<tr>
<th>Item</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Viewer</td>
<td>View live or playback video.</td>
</tr>
<tr>
<td>2</td>
<td>Navigation bar</td>
<td>Logs you out of the interface. Accesses live or playback video. Displays the TVR 10 logs. Configures the unit remotely.</td>
</tr>
<tr>
<td>3</td>
<td>PTZ control</td>
<td>Controls the PTZ functions of camera in live mode.</td>
</tr>
</tbody>
</table>
### Chapter 3: Operating instructions

<table>
<thead>
<tr>
<th>Item</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Navigator</td>
<td>View video of the selected camera. Right-click the camera to set the viewing stream type (main stream or sub-stream).</td>
</tr>
<tr>
<td>5</td>
<td>Taskbar</td>
<td>Displays single or four-screen views. Selects multiscreen. Captures screen. Archives video. Lets you talk through a microphone to a speaker connected to the TVR 10 (bidirectional audio).</td>
</tr>
<tr>
<td>6</td>
<td>Video adjust</td>
<td>Adjusts video image such as brightness, saturation, hue, and audio volume. Restores default settings.</td>
</tr>
</tbody>
</table>

To access the TVR 10, open a Web browser and enter the IP address assigned to the TVR 10 as a Web address. In the login screen, enter the default user ID and password.

- **User ID:** admin
- **Password:** 1234

The Web browser uses the following ports:

- Video Port: 8000
- HTTP Port: 80

### Searching recorded video for playback

To search for recorded video for playback, click the Playback button on the navigation bar. The Search screen displays. Select a play type and a file type in the appropriate boxes and specify a time range. Click the Search button (displayed as a magnifying glass) to start your search.

Search results display below your specified search criteria and are arranged by start time. Double-click a result item to play back video.

### Playing back recorded video

Use the playback control bar, shown in Figure 7 below, to control playback video. The playback control bar lets you do the following:

- Control playback speed (fast forward, slow forward, and stop)
- Capture a screen image of the playback video
- Save a video segment onto your desktop
- Download recorded video to your hard drive

**Figure 7: Playback control bar**
To quickly archive a segment of a video you are playing back, click the Save button to begin archiving and click again to stop archiving. The resulting video file is saved on your desktop.

Click the Download button to download that video file into your hard drive.

**Viewing logs**

To view logs using the Web browser interface, click the Log button on the navigation bar. The Log screen displays. Use the filter boxes, located on the right of the screen, to narrow the list of logs by defining the event type and date range. Click the Search button (displayed as a magnifying glass) to begin your search.

Use the Save button, located at the bottom right of the screen, to save the log files on your hard drive.

**Using the Web browser to configure the device**

The Web browser lets you to configure the TVR 10 remotely using your PC. Click the Configure button to display the Remote Configuration screen. This screen lets you configure the server, network, cameras, alarms, and upgrade the firmware.

**Setting the stream type**

Video stream refers to the flow of network data between the device and the Web browser interface. The higher the stream type specified in the Web browser, the higher the video quality being viewed and recorded. When viewing video in a four-screen layout, data is being transferred into four different streams, which can overload a system with low bandwidth. We strongly recommend that you set your stream type to Sub-stream to avoid overloading your network.

**To configure the stream type to sub-stream:**

1. Click Configure on the navigation bar to display the Remote Configuration screen.
2. Click the Channel Configuration tab.
3. Select Sub-stream in the Type box.
4. Change the appropriate video quality settings.
   - **Note:** We recommend that you do not change the frame type and iframe.
5. Click Save to save your changes.
Viewing video in sub-stream

To view video in sub-stream, right-click a camera in the Navigator and select Sub-stream. The camera displays video in sub-stream.

Main menu overview

The built-in interface includes a main menu with eight command buttons. Each command displays a screen that lets you edit a group of TVR 10 settings. The main menu is shown in Figure 8 below. Access to different option screens varies depending on your access privileges. Most screens are available only to system administrators.

The white frame surrounding a command button or option shows that the item is currently selected.

Figure 8: Main menu

Main menu commands options

Table 6 on page 20 provides a list of controls and options available on each screen that you can access from the main menu.
## Table 6: Menu commands and screen options

<table>
<thead>
<tr>
<th>Main menu command</th>
<th>Dialog screen options</th>
<th>Main menu command</th>
<th>Dialog screen options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td>Device ID</td>
<td><strong>Camera</strong></td>
<td>Camera title position</td>
</tr>
<tr>
<td></td>
<td>Require password</td>
<td></td>
<td>Adjust video</td>
</tr>
<tr>
<td></td>
<td>Menu timeout</td>
<td></td>
<td>Time and date display</td>
</tr>
<tr>
<td></td>
<td>Video standard</td>
<td></td>
<td>Motion detection</td>
</tr>
<tr>
<td></td>
<td>Enable scaler</td>
<td></td>
<td>Advanced settings</td>
</tr>
<tr>
<td></td>
<td>Menu transparency</td>
<td></td>
<td>Copy to camera</td>
</tr>
<tr>
<td></td>
<td>Date and Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multi-Screen</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recording</strong></td>
<td>Record mode</td>
<td><strong>Network</strong></td>
<td>IP address</td>
</tr>
<tr>
<td></td>
<td>Camera</td>
<td></td>
<td>Subnet mask</td>
</tr>
<tr>
<td></td>
<td>Stream type</td>
<td></td>
<td>Gateway</td>
</tr>
<tr>
<td></td>
<td>Resolution</td>
<td></td>
<td>Port</td>
</tr>
<tr>
<td></td>
<td>Frame rate</td>
<td></td>
<td>HTTP port</td>
</tr>
<tr>
<td></td>
<td>Bit rate</td>
<td></td>
<td>Advanced settings</td>
</tr>
<tr>
<td></td>
<td>Record schedule</td>
<td></td>
<td>PPPoE</td>
</tr>
<tr>
<td></td>
<td>Pre-event time</td>
<td></td>
<td>DDNS</td>
</tr>
<tr>
<td></td>
<td>Post-event time</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Copy to camera</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Alarms</strong></td>
<td>Alarm input</td>
<td><strong>PTZ</strong></td>
<td>Camera</td>
</tr>
<tr>
<td></td>
<td>Input type</td>
<td></td>
<td>Baud rate</td>
</tr>
<tr>
<td></td>
<td>Alarm handling, policy, and PTZ linkage</td>
<td></td>
<td>Data bits</td>
</tr>
<tr>
<td></td>
<td>Alarm rules / PTZ</td>
<td></td>
<td>Stop bits</td>
</tr>
<tr>
<td></td>
<td>Copy to alarm in</td>
<td></td>
<td>Parity</td>
</tr>
<tr>
<td></td>
<td>Alarm out</td>
<td></td>
<td>Flow control</td>
</tr>
<tr>
<td></td>
<td>Duration</td>
<td></td>
<td>Protocol</td>
</tr>
<tr>
<td></td>
<td>Alarm out time</td>
<td></td>
<td>PTZ address</td>
</tr>
<tr>
<td></td>
<td>Copy to alarm out</td>
<td></td>
<td>Preset</td>
</tr>
<tr>
<td></td>
<td>Notifications</td>
<td></td>
<td>Shadow tour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Copy to camera</td>
</tr>
<tr>
<td><strong>User</strong></td>
<td>Add/Delete</td>
<td><strong>Utilities</strong></td>
<td>System information</td>
</tr>
<tr>
<td></td>
<td>Password/Verify</td>
<td></td>
<td>View log</td>
</tr>
<tr>
<td></td>
<td>Default privileges</td>
<td></td>
<td>Alarm output</td>
</tr>
<tr>
<td></td>
<td>Set Privileges</td>
<td></td>
<td>Hard disk</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Firmware upgrade</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Factory defaults</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reboot</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Power off</td>
</tr>
</tbody>
</table>

### Using the main menu

Click a command on the main menu to display the related screen. Alternatively, you can use the Up or Down Arrow buttons to select a menu command or screen option, and then press the ENTER or OK button to confirm the selection.
Table 7 below shows the front panel buttons you can use to display the main menu or various dialog screens.

Table 7: Main menu display

<table>
<thead>
<tr>
<th>Button</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU</td>
<td>Display the TVR 10 main menu</td>
</tr>
<tr>
<td>SRCH</td>
<td>Display the Play Back screen</td>
</tr>
<tr>
<td>REC</td>
<td>Display the Manual Record screen</td>
</tr>
<tr>
<td>PTZ</td>
<td>Display the PTZ interface</td>
</tr>
</tbody>
</table>

**Note:** You must enter a user name and password to display the main menu. The default user name is “admin” with a password of “1234”.

**Navigating through dialog screens**

Each dialog screen includes various options and buttons as seen in Figure 9 below. The frame surrounding an option or button indicates that this option is currently selected.

Use the mouse to select any option or button on the screen. You can also use the directional arrow buttons (Up, Down, Left, or Right) to navigate through the options. Changes to screen settings can be entered in various ways as shown in Table 8 on page 22.

**Figure 9: Camera input adjustment**
Table 8: Types of control on the screen

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check box</td>
<td>Provides two values: ✓ indicates enabled and × indicates disabled. You can click the check box or use the ENTER or OK button to switch between values.</td>
</tr>
<tr>
<td>List box</td>
<td>Provides more than two values for the option. Only one of them can be selected. Click the scroll arrows at the right-hand side of the box to scroll through the possible values. You can also use the Up or Down Arrow buttons to select a value. For example, the Camera option is a list box that lets you select the camera you want to work with.</td>
</tr>
<tr>
<td>Edit box</td>
<td>Lets you enter characters. For more information, see “Using an edit box” below.</td>
</tr>
<tr>
<td>Command button</td>
<td>Triggers a special function or lets you display another screen. For example, click the Rules button to display the Rules screen. Click the Confirm button to save your settings and return to the main menu. Click the Cancel button to abandon any changes made on the screen and return to main menu. Command buttons that are unavailable are displayed in gray. They must be enabled before you can click them.</td>
</tr>
</tbody>
</table>

Using an edit box

An edit box lets you type characters to set the value of an option, such as a camera name. You must be in edit mode before you can enter a value.

**Note:** A full range of alphanumeric characters is only available when using the mouse or remote control.

**To enter text in an edit box using the mouse:**
1. Click anywhere within the edit box to enter the edit mode and display a virtual keyboard.
2. Click to enter the desired characters into the edit box.
3. When you’re finished, click the edit box to accept the value you’ve entered.

**To enter text in an edit box using the remote control:**
1. Press OK to enter the edit mode.
2. Press # to select the format and type of character you want to enter.
   - While in edit mode, the status bar on the bottom left of the screen displays which type of character will be entered. For example, the figure below indicates that characters will be entered in uppercase.
   ![Uppercase example](image)
   - Options include number, uppercase, lowercase, or symbols. There are 24 different symbols to select. Press 0 to scroll between four pages of symbols.
3. Enter your characters.
Use the numeric buttons on the remote control to enter characters. Press the numeric buttons repeatedly to cycle through different characters available for that button. The character format and type depends on the value you selected in step 2. Use the Left or Right Arrow buttons to move the cursor within the edit box. Use the DEL button in the remote control to delete the character left of the cursor.

4. Press OK to accept the value you’ve entered, or ESC to exit from the edit box without saving any changes you’ve made.

**Exiting the main menu**

Right-click and then click Camera or Multiview to exit the main menu and return to live mode. Press ESC on the front panel or remote control to exit the main menu and return to live mode.
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Basic operation

Turning on the TVR 10

Before turning the TVR 10 power on, make sure that the power supply matches that of the TVR 10 and the AC adapter is connected correctly. Connect at least one monitor to the video out or the VGA interface. Otherwise, you will not be able to see the user interface and operate the device.

To turn the TVR 10 power on:
1. Connect power supply correctly.
2. Switch on the manual power button on the back panel. Once the TVR 10 is powered, the POWER LED should light up in green.

Live mode

The TVR 10 automatically enters into live mode once powered on. On the display screen, you can see date, time, and camera name. To change the camera name, refer to “Camera name” on page 47. To set system the date and time refer to “System date and time” on page 60.

While in live mode, the TVR 10 also displays the status icon of each camera as shown in Figure 10 on page 26.
Camera status

Each icon represents a camera. The icon color shows the camera status. Table 9 below gives the status color code.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Color</th>
<th>Status description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>White</td>
<td>No video signal</td>
</tr>
<tr>
<td><img src="yellow.png" alt="Yellow" /></td>
<td>Yellow</td>
<td>Standby recording (when recording upon alarm and/or motion)</td>
</tr>
<tr>
<td><img src="green.png" alt="Green" /></td>
<td>Green</td>
<td>Recording</td>
</tr>
<tr>
<td><img src="blue.png" alt="Blue" /></td>
<td>Blue</td>
<td>Motion detection</td>
</tr>
<tr>
<td><img src="red.png" alt="Red" /></td>
<td>Red</td>
<td>Alarm</td>
</tr>
</tbody>
</table>

Activating/deactivating the on-screen status bar

<table>
<thead>
<tr>
<th>Device</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>Right-click to open the mouse menu, and then click Status Bar.</td>
</tr>
<tr>
<td>Front panel/remote control</td>
<td>Press # to activate or deactivate the status bar.</td>
</tr>
</tbody>
</table>

Cycling through camera views

Right-click and then click Camera or press the numeric buttons to switch to an individual camera display. For example, you can press 2 to view the second camera.
Press DISP to manually toggle through single camera and four-screen views. The single camera display reverts back to camera 1 when switching to single view. You can set the auto live mode on the Display menu.

### Viewing in multiscreen

<table>
<thead>
<tr>
<th>Mouse</th>
<th>Right-click to open the mouse menu, and then click Multi Screen. Select the desired display layout. You can select either a four-screen or single screen view.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front panel/remote control</td>
<td>Press DISP to switch to multiscreen display viewing.</td>
</tr>
</tbody>
</table>

### Connecting the spot monitor

**To connect the spot monitor:**
1. Connect Video out 2 with the spot monitor by a cable.
2. While in live mode, right-click and click Spot Channel.
3. You now have access to the secondary monitor.

**Note:** Make sure that there is video signal input; otherwise the spot monitor will only show a blue screen.

### Logging on

The TVR 10 is shipped with one predefined user for the system administrator. The default system administrator log on uses “admin” as a user name with a password of 1234. You can modify the admin password but not the admin user name. We recommend that you change the admin password once you have completed the installation and setup to protect against unauthorized access. The administrator can create up to 15 users and define their privileges. For more information, see “User settings” on page 41.
To log on to the TVR 10 user interface:
1. In the User box, select a user.
2. Enter the corresponding password in the Password edit box.
3. Click Confirm to enter the main menu.

If there is no response, it means the user name and password are not matched. The TVR 10 will enter the live mode if you enter unmatched logon credentials three times.

Controlling a PTZ camera

The PTZ control interface lets you control the PTZ operation of the cameras within the TVR 10 user interface. You can control PTZ cameras using the buttons on the front panel and IR remote control as well as utilizing the PTZ control icons accessed with the mouse. To display the PTZ control interface, the user must have PTZ control access privileges.

Displaying the PTZ control interface

While in menu mode, right-click and then click PTZ control to display the PTZ control interface directly. Select a user name and type the correct password in the Login screen. The PTZ control interface displays as shown in Figure 12 on page 29. You can adjust the position of the current camera display on the screen.
Selecting a camera

When in PTZ control mode, press the numeric buttons to select a camera. For example, press the number 2 button to select the second camera PTZ.

After selecting the camera PTZ, you can use the control buttons to control the PTZ.

PTZ control buttons description

Table 10 below provides descriptions of the PTZ control buttons.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up, Down, Left, Right Arrow buttons</td>
<td>Pans left and right. Tilts up and down.</td>
</tr>
<tr>
<td>ZOOM+, ZOOM-</td>
<td>Zooms in and out.</td>
</tr>
<tr>
<td>FOCUS+, FOCUS-</td>
<td>Focuses in and out.</td>
</tr>
<tr>
<td>IRIS+, IRIS-</td>
<td>Opens and closes the iris controls.</td>
</tr>
<tr>
<td>REC/SHOT</td>
<td>Calls up a preset position. This feature is camera and protocol-specific.</td>
</tr>
<tr>
<td>PLAY/AUTO</td>
<td>Calls up auto panning.</td>
</tr>
</tbody>
</table>

Calling up a preset PTZ position

There are several ways to call up a preset position.
Chapter 4: Basic operation

Front panel

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press PTZ to enter PTZ mode. Press REC and enter a preprogrammed three-digit preset number. Preset starts immediately. If you enter a one or two-digit number, depending on your TVR 10 model, you will change the selected camera. This function is only available if the mouse is not connected to the TVR 10.</td>
<td></td>
</tr>
</tbody>
</table>

Remote control

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press PTZ to enter PTZ mode. Press SHOT and enter a preprogrammed three-digit preset number. Preset starts immediately. If you enter a one or two-digit number, depending on your TVR 10 model, you will change the selected camera. This function is only available if the mouse is not connected to the TVR 10.</td>
<td></td>
</tr>
</tbody>
</table>

Mouse

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right-click and select PTZ control to enter PTZ mode. Right-click again and select Preset. Select one of the preset numbers listed.</td>
<td></td>
</tr>
</tbody>
</table>

PTZ preset numbers are preprogrammed.

When you exit PTZ control mode, the camera stays at the current position.

**Note:** The PTZ preset position must already be configured. Refer to “PTZ settings” on page 76 for more information. You can define up to 128 preset positions.

### Exiting PTZ control mode

Press ESC or ENTER to exit and return to the live mode.

### Manual recording

When a camera is recording, its corresponding LED on the front panel lights up in green. This green LED is also lit when recording manually. Start or stop a camera recording by pressing the REC button and entering the Manual Record menu.

**Note:** You must have access privileges to enter the Manual Record dialog screen.

### Manual Record screen

To enter the Manual Record screen while in live mode, press REC and enter your user name and password if requested.
The controls and options available on the Manual Record screen are described in Table 10 below.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera</td>
<td>Lists the number of cameras the TVR 10 has.</td>
</tr>
<tr>
<td>Status</td>
<td>Camera work status has four values:</td>
</tr>
<tr>
<td></td>
<td>• Gray indicates the camera is idle.</td>
</tr>
<tr>
<td></td>
<td>• Green indicates the channel is recording (including real time recording,</td>
</tr>
<tr>
<td></td>
<td>alarm recording, motion detection recording).</td>
</tr>
<tr>
<td></td>
<td>• Red indicates network transmission.</td>
</tr>
<tr>
<td></td>
<td>• Orange indicates both recording and network transmission.</td>
</tr>
<tr>
<td>Start/Stop</td>
<td>The checkmark indicates you can start recording on the corresponding channel.</td>
</tr>
<tr>
<td></td>
<td>The X mark means you can stop recording.</td>
</tr>
<tr>
<td>Start All</td>
<td>Starts recording on all channels.</td>
</tr>
<tr>
<td>Stop All</td>
<td>Stops recording on all channels.</td>
</tr>
</tbody>
</table>

Manually starting or stopping a recording

This section describes how to manually start or stop a recording.

To manually start or stop a recording:

1. Right-click and then click Manual Record to display the Manual Record screen. Alternatively, press the REC button on the front panel or remote control.
2. Enter your user name and password if requested.
The Manual Record screen displays listing all cameras. The camera status line shows which cameras are currently recording.

3. Click the camera’s Start/Stop line to begin the recording. A checkmark appears on that camera’s Start/Stop box.

4. Select the next camera you want to start or stop recording. Repeat step 3.

5. To select all cameras for recording, click Start All.
   
   All camera status LEDs on the front panel and the on-screen camera status icons on the status bar turns green.

6. Click Stop All to stop recording for all cameras.

7. Right-click or press ESC to save changes and return to the live mode.

### Playing back video

The TVR 10 lets you play back recorded video. This section describes the features and methods in playing back video.

### Play Back screen

The Play back screen lets you search and view recorded video. You must be in live mode to view video. Search for recorded video using different criteria including:

- Motion detection, alarm, or manually recorded files
- Start and end time of recording

**Note:** You must have access privileges to enter the Play Back screen.

See Table 12 on page 33 for a description of the Play Back screen controls and options.
Figure 14: Play Back screen

Table 12: Play Back controls and options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cam</td>
<td>Selects a specific camera.</td>
</tr>
<tr>
<td>Search for</td>
<td>Specifies a recorded file type. The file type options include: All, All Time, Motion Detect, Alarm, and Manual.</td>
</tr>
<tr>
<td>Time</td>
<td>Specifies a start and end date/time to conduct a search based on a recording period.</td>
</tr>
<tr>
<td>Search</td>
<td>Begins your search. If there are no files that match your search criteria, a corresponding screen displays.</td>
</tr>
<tr>
<td>Play</td>
<td>Plays back the recorded stream directly based on the time section.</td>
</tr>
<tr>
<td>Page No.</td>
<td>Selects a page. In the file list box, each page can only display eight files. If more than eight files match, you can select a page to list other files. 500 pages (4,000 files) can be searched at one time. You can use numeric buttons or the Up or Down Arrow buttons to select a page.</td>
</tr>
<tr>
<td>File list box</td>
<td>Lists the matched files. File started time and size are displayed in the list box. You can use the Up or Down Arrow buttons to move the scroll bar to select a file.</td>
</tr>
<tr>
<td>Media</td>
<td>Selects a device (media) to backup your recorded files. You can select USB flash, USB HDD, or USB CD/DVD drive to backup the files or clips.</td>
</tr>
<tr>
<td>Archive</td>
<td>Starts backup.</td>
</tr>
<tr>
<td>Archive Today</td>
<td>Backs up all recorded files from today.</td>
</tr>
</tbody>
</table>

Searching for a recorded video

Prior to playing back a recorded video, you must first search for the video files you want to play.
To search for recorded video:

1. Right-click and click Search in live mode or press PLAY on the front panel or the remote control.
2. If requested, enter your user name and password. The Play Back screen displays.
3. Select the camera you want to search video from in the Camera list box.
4. Select the file type of recorded video you want in the Search For list box.
5. For recording periods, enter the start and end dates as well as times in the Time edit boxes.
6. Click Search to begin the search.
   A list of files displays once the search is completed. The list may extend to several pages. The files are listed by date, with the most recent file listed first.
7. Right-click or press ESC to quit playback and return to live mode.

Searching for motion detection video

When searching for motion detection video, if you select Always on the Rec Type box in the Recording Schedule screen, you will not receive any motion detection results. To search for motion detection video, select Motion, Motion or Alarm, or Motion and Alarm on the Rec Type box in the Recording Schedule screen. For more information, see “Defining a recording schedule” on page 65.

Playing back a recorded file

Once you have found the video files using the Play Back screen, you can view video in several different ways:

- Click the Play button. The system starts playing each listed file.
- or -

- Click a video file in the File List box or select the file and press the ENTER button. Only the selected file is played.

While playing back a video, an information bar displays the following information as shown in Figure 15 on page 36:

- Volume
- Play progress
- Play speed
- Played time
- File total time
Table 13: Playback interface options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU</td>
<td>Displays or hides the information bar.</td>
</tr>
<tr>
<td>PLAY</td>
<td>Turns the sound on or off.</td>
</tr>
<tr>
<td>Right or Left Arrow button</td>
<td>Adjusts the play progress by percentage (%).</td>
</tr>
<tr>
<td>Up or Down Arrow button</td>
<td>Adjusts the play speed: Normal speed is “1x.” Use the Up Arrow button to increase play speed (2X, 4X). Use the Down Arrow button to decrease play speed (1/2X, 1/4X, 1/8X and single)</td>
</tr>
<tr>
<td>ENTER</td>
<td>Pauses or continues playback. If playing video in frame by frame, use this option to play one frame.</td>
</tr>
<tr>
<td>PTZ</td>
<td>Press once to copy the segment and again to stop. You will need an external backup device to store the segment in.</td>
</tr>
<tr>
<td>ESC</td>
<td>Exits the interface.</td>
</tr>
<tr>
<td>SRCH</td>
<td>Mutes audio.</td>
</tr>
<tr>
<td>REC</td>
<td>Zooms video.</td>
</tr>
</tbody>
</table>

Note: Performance of playback speed may decrease depending on how much information the TVR 10 is processing.

Exiting playback

There are several ways to exit the playback interface depending on the screen or operating mode you want to access afterwards.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESC</td>
<td>Takes you to live mode</td>
</tr>
<tr>
<td>MENU</td>
<td>Takes you to the main menu</td>
</tr>
<tr>
<td>REC</td>
<td>Takes you to the Manual Record screen</td>
</tr>
<tr>
<td>PTZ</td>
<td>Takes you to PTZ control mode</td>
</tr>
</tbody>
</table>

Playing back video with a mouse

Playing back video with a mouse provides you with an additional playback control bar as shown in Figure 15 on page 36.
### Chapter 4: Basic operation

#### Figure 15: Playback control interface

![Playback control interface](image)

#### Table 14: Playback control bar description

<table>
<thead>
<tr>
<th>Control</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>Skip reverse/forward</td>
<td>Skips backward or forward 3% each time.</td>
</tr>
<tr>
<td>[ ] [ ]</td>
<td>Fast forward/ Slow forward</td>
<td>Adjusts the play speed: Normal speed is “1x.” Use the Up Arrow button to increase play speed (2X, 4X). Use the Down Arrow button to decrease play speed (1/2X, 1/4X, 1/8X and single)</td>
</tr>
<tr>
<td>[ ] [ ]</td>
<td>Pause</td>
<td>Pauses the video.</td>
</tr>
<tr>
<td>[ ] [ ]</td>
<td>Audio</td>
<td>Toggles between mute and sound. Click once to mute the video. Click again to recover the sound.</td>
</tr>
<tr>
<td>[ ] [ ]</td>
<td>Copy</td>
<td>Copies a video segment. Click once to start the copy. Click again to stop.</td>
</tr>
<tr>
<td>[ ] [ ]</td>
<td>Hide Status</td>
<td>Hides the control bar. Right-click your mouse and click display to display the control bar again.</td>
</tr>
<tr>
<td>[ ] [ ]</td>
<td>Search</td>
<td>Triggers a rectangle area on the screen to zoom into. Use the left mouse button to drag a rectangle around the area, and then double-click to zoom into that area. Click again to return to the playback interface.</td>
</tr>
<tr>
<td>[ ] [ ]</td>
<td>Toggle camera</td>
<td>Switches to the next or previous playback cameras. These options are irrelevant if you only recorded using one camera at that time.</td>
</tr>
</tbody>
</table>
Archiving recorded files

Archive recorded files using an external device. You can also archive specific incidents in a file. You must be in live mode to play back a recorded file.

You can insert a mini-USB hub to the USB port to attach a mouse for navigation and a USB drive for archiving. However, the unit may not support all types of USB hubs.

**Note:** You must have playback privileges to play back recorded files. Avoid moving the external recording device when backing up information onto it.

Archiving the day’s recorded files

Use the Archive Today option on the Play Back screen to archive all the day’s recordings. A dialog box displays the backup status.

If the external device is not connected correctly or the TVR 10 does not detect the external device, an alert dialog displays. Please alert the administrator if this occurs.

Archiving recorded files from a file list

You can also archive recorded files displayed in the File List box.

**To archive files from the File List box:**

1. Search for recorded files.
   
   For more information on searching for recorded files, see “Searching for a recorded video” on page 33.

2. Select the files that you want to back up.
   
   In the file list box, click the file you want to archive. The checkmark symbol indicates a selected file. Select additional files you want to archive. You can use the Up and Down Arrow buttons to move through the files as shown in the figure below. Press ENTER to select the file you want to archive.
3. Use the Media box to select the backup device you want to use.

4. Click Archive to start the archiving process.

   When the archiving starts, a corresponding message box displays, indicating the status. If the selected files exceed the capacity of your storage device, an error message displays.

Archiving a video segment

While playing back a recorded file, the TVR 10 lets you archive a specific segment of the video you are watching.

To back up image segments during playback:

1. Enter the playback interface by selecting a recorded file. For more information, see “Playing back a recorded file” on page 34.

2. While the video is playing, press PTZ to begin recording the video, and press PTZ again to stop recording. A video segment is created.

3. You can repeat step 2 to create additional segments. You can generate up to 30 additional segments.

4. After all segments have been created, press ESC. A confirmation message window displays. Press Confirm to begin archiving the selected segments. Press Cancel to abort the archive process.

Playing back the archived files

Use the standard file player software to play back the video segment on your PC.
Turning off the TVR 10

To turn off the TVR 10:

1. On the main menu, click Utilities, and then click Power Off.
   — or —
   Press and hold the Power button on the remote control for at least five seconds. Enter a user name and password if required.

2. Wait 10 seconds then turn off the power switch located on the back of the unit.
Chapter 5
Advanced setup

This chapter covers the advanced setup of your TVR 10. Only users with appropriate access privileges can define and modify advanced configurations. When the following settings are modified and saved, you will be prompted to reboot the TVR 10 in order for the new settings to take effect. You do not need to reboot the device for any other configurations.

- Any network configurations
- Resolution and record schedule
- External alarm sensor type
- View tampering alarm schedule
- Video loss alarm schedule
- Motion detection alarm schedule
- External alarm schedule
- Alarm output schedule

User settings

The TVR 10 is shipped with one predefined user for the system administrator. The default system administrator log on uses admin as a user name with a default password of 1234. You can modify the admin password but not the admin user name.

The administrator can create up 15 users and define their privileges. When new users are added to the list, the administrator can define individual passwords or each user can use a default password.
Modifying your password

Passwords limit access to the TVR 10 and the same password can be used by several users. When creating a new user, the default password is 0000. Each standard user can modify his or her own password. However, only an administrator can assign or unassign a password to a user. Specify an admin password of up to four digits, ranging from 1 to 4, to allow you access to the system from the front panel and without using the remote control or mouse.

Note: Keep the admin password in a safe place. If you should forget the password, you must return the unit to a service center to be reconfigured.

To modify your password using the mouse or remote control:

1. Log on to the main menu.
2. Click User to display the User screen.
3. Select the target user name.
   - Click on a user or use the Up or Down Arrow buttons to select a user as shown in the figure below. Click the Password edit box to enter into edit mode.
4. Enter the new password.
   - Use numeric buttons to enter the new password. Passwords can be up to 16 numeric characters. The password edit box can be left blank. This indicates that the selected user does not have a password.
5. Verify the new password.
   - Click the Verify edit box, and enter the new password again to verify the change. In the edit box, use the Left or Right Arrow button to move the cursor and press DEL to delete the numeral in front of the cursor.
6. Click Confirm to accept the change and return to the main menu.
If the initial and verify passwords entered are identical, the password is saved and becomes effective immediately. However, if both passwords do not match, a warning message appears as shown in the figure below. Press ENTER to confirm and you are returned to the password edit box to the new password again.

Adding a new user

Only the system administrator can add or delete users. Up to 15 users can be created.

To add a new user:

1. Click User on the main menu to display the User screen.
2. Click Add to display the Add screen as shown in the figure below.
3. Enter a new user name using alphanumeric characters.
4. Click Confirm (or press ENTER) to confirm. The User screen displays with the new user name listed.
After adding a new user, the password field remains blank. You can leave the password field blank, or you can assign the user a password. For more information, see “Modifying your password” on page 42.

Assigning access privileges

All new users must be granted user privileges as privileges are not automatically defined by the system. Users can be given local privileges to do playback, remote playback, and view logs. You can also grant them more extensive privileges that cover both local and remote privileges. For more information, see “Access privileges” on page 45.

To assign access privileges to a user:

1. Click User on the main menu to display the User screen.
2. In the User Box, select a user to whom you want to assign access privileges.
3. Click Default Privileges to assign default privileges to the user. Default privileges include local playback, remote playback, and viewing logs.
4. Click Set Privileges to allocate more detailed access privileges. The Set Privileges screen displays as shown in the figure below.

![Set Privileges Screen](image)

5. Assign local and/or remote access privileges to the user.
   Check each item to select it. This enables or disables that item. Users can be given both local and remote access privileges. For more information, see “Access privileges” on page 45.

6. Click Confirm to save the changes and return to the main menu.
Access privileges

Access privileges define what areas in the system a user can access. The TVR 10 access privileges are categorized into two different areas: local and remote.

Local

Local privileges are for local operation, such as the operating the unit using the front panel, IR remote control, and RS-485 interface.

Table 15: Local privileges

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTZ control</td>
<td>Locally controls PTZ</td>
</tr>
<tr>
<td>Record</td>
<td>Manual starts or stops recording</td>
</tr>
<tr>
<td>Set parameters</td>
<td>Locally sets up the TVR 10 parameters</td>
</tr>
<tr>
<td>Log</td>
<td>Locally views the log on TVR 10</td>
</tr>
<tr>
<td>Utilities</td>
<td>Locally upgrades firmware, formats the HDD, reboots the TVR 10, and shuts down the TVR 10, etc.</td>
</tr>
</tbody>
</table>

Remote

Remote privileges allow users to use the TVR 10 through a network.

Table 16: User privileges for remote operation

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTZ Control</td>
<td>Remote control PTZ</td>
</tr>
<tr>
<td>Record</td>
<td>Remote manual start/stop recording</td>
</tr>
<tr>
<td>Set parameters</td>
<td>Remote setup the TVR 10 parameters</td>
</tr>
<tr>
<td>Log</td>
<td>Remote view the log on TVR 10</td>
</tr>
<tr>
<td>Utilities</td>
<td>Remote upgrade firmware, format HDD, reboot TVR 10, and shut down TVR 10, etc.</td>
</tr>
<tr>
<td>Talk</td>
<td>Client talks with TVR 10</td>
</tr>
<tr>
<td>Alarm</td>
<td>Remote control TVR 10 alarm output</td>
</tr>
<tr>
<td>Local Video Out</td>
<td>Remote control TVR 10 video output</td>
</tr>
<tr>
<td>Com Control</td>
<td>TVR 10 RS-232</td>
</tr>
</tbody>
</table>
Setting up the MAC address

Setting up a user with a MAC address from the user's computer prohibits access to the TVR 10 from other computers.

To set up a MAC address:
1. At the PC DOS prompt, use the “ipconfig” command to obtain the MAC address of that PC (in 6 bytes).
2. On the TVR 10 User screen, click Set Privileges to display the Set Privileges screen.
3. Click the MAC address edit box. Use the virtual keyboard with the mouse or the number buttons on the IR remote control to enter the MAC address. Press ENTER to accept the entry.
4. Click Confirm to return to the User screen.
5. Click Confirm again to return to the main menu.

Deleting users

Only the system administrator can add or delete users.

To delete a user:
1. On the User screen, select the user you want to delete.
2. Click Del to delete that user. A confirmation dialog displays as shown below.
3. Click Confirm to delete the user and return to the User screen.
4. On the User screen, click Confirm to save the changes and return to the main menu.
Camera settings

This section describes how to change camera settings from the Camera Configuration screen. Camera options that you can configure are listed below. You can change these settings in any order. The options are:

- Name of each camera
- Camera name position on screen
- Camera brightness, contrast, saturation, and hue
- Display properties of each camera
- Area on screen to be masked
- When to view a tamper alarm
- Video loss alarm
- Motion detection alarm

All changes made on the Camera Configuration screen apply only to the selected camera. You can easily copy the camera settings of one camera to another.

**Figure 16: Camera configuration screen**

Camera name

Each camera can be assigned a camera name which must be unique. If you do not assign a camera name, a default prenumbered camera name is applied.

**To change a camera name:**

1. Click Camera on the main menu to display the Camera Configuration screen.
2. Select a camera from the Camera box.
3. Enter the new camera name in the Camera Name edit box.
   
   Click the Camera Name edit box to enter the edit mode. You can enter numerals, uppercase and lowercase letters (see “Using an edit box” on page 22 for more information). The camera name can support 32 characters. Press ENTER to exit the edit mode.

4. Click Confirm to save your changes. Click Cancel or press ESC to abort.

**Camera name position**

You can position the camera name anywhere on screen. If you do not want to display the camera name, clear the check box next to the Camera Name edit box. You can copy the position settings to any other camera.

**To edit a camera’s position:**

1. Click Camera on the main menu to display the Camera Configuration screen.
2. Select a camera from the Camera box.
3. Enter the Camera Name Position Setup interface.
   
   Check the check box on the right side of the camera name, then click Position to enter the Camera Name Position Setup screen.
4. Position the camera name.
   
   The interface displays a grid with the camera name in the bottom right corner. Drag the camera name or use the directional arrow buttons (Up, Down, Left, or Right) to move the camera name position. When satisfied with the on-screen position, press ENTER to return the Camera Configuration screen.

5. Click Confirm to save the camera position.

**On-screen date and time position**

In addition to the camera name, the TVR 10 also displays the system date and time on screen. You can modify the on-screen display position (also referred to as OSD) of the system date and time on the Camera Configuration screen.

**To position the camera name on screen:**

1. Display the Camera Configuration screen and select a camera.
2. Select a display mode for the camera from the Date & Time OSD list box. Display modes include:
   
   • Solid black
3. Enter the Date and Time Position Setup interface.

Click the Date & Time OSD Position button to enter the Date and Time Position Setup interface as shown in the figure below.

![Date and Time Position Setup Interface](image)

4. Position the on-screen date and time.

The interface displays a grid with the date and time at the top center of the screen. Drag the date and time grid or use the directional arrow buttons (Up, Down, left, or Right) to move the date and time position. When you are satisfied with the on-screen position, press ENTER to return the Camera Configuration screen.

5. Click Confirm to save the camera position.

**Adjusting the video image**

In order to get the best image quality when capturing video, you may need to adjust the video image settings including brightness, saturation, contrast, and hue. Use the Adjust screen (as shown in Figure 17 on page 50) on the Camera Configuration screen to modify these settings.

You can set up the video adjustments individually, and copy the video adjustments of one camera to another.
To adjust the video image:

1. Display the Camera Configuration screen and select a camera.
2. Click the Adjust Video Setup button to display the Adjust Video screen.
3. Make the appropriate video image adjustments.
   - You can adjust the video image’s brightness, contrast, hue, and saturation by clicking the corresponding Adjust button. Click the corresponding Adjust button to display the Adjust screen. The screen displays the camera view with a scroll bar at the bottom of the screen. Use the scroll mouse button or the Up or Down Arrow buttons in the interface to make your adjustments. As you make your adjustments, the camera view displays the corresponding adjustment.
4. When satisfied, click anywhere in the screen to return to the Adjust Video screen.
5. Click Confirm to save your changes.

Privacy masking

The TVR 10 lets you define an area on screen that can remain hidden from view. For example, you can choose to block the view of a camera when overlooking residential premises. This hidden area is referred to as privacy masking. Privacy masking cannot be viewed live or recorded, and appears as a blank screen on display.

Figure 18 on page 51 provides an example of the privacy masking function.
To define privacy masking:

1. Display the Camera Configuration screen and select a camera.
2. Click Advanced Settings Setup to display the Advanced Settings screen.
3. Select the Enable the Privacy Masking check box to enable privacy masking.
4. Click Privacy Masking Zone to enter the Mask Area Setup interface.
   The setup interface displays a grid (22 x 18 panes for PAL, 22 x 15 for NTSC). A single pane in yellow is displayed at the top left corner. The yellow pane indicates the area to be masked.
5. Select the areas to be masked.
   Move the pointer and click or use the directional arrow buttons (Up, Down, Left, or Right) to move the yellow pane to the zone you want to mask. Click the mouse again to select that area for privacy masking. The yellow panes turn red, indicating that this area will be hidden from view. Drag the mouse or use the directional arrow buttons to extend or shrink privacy masking as shown in the figure below.
6. Click the mouse to save that area for privacy masking.
7. Press ENTER to return to the Advanced Settings screen.
8. Repeat steps 4 to 7 for additional areas for privacy masking. You can set up four masked areas on a screen.
9. Click Confirm on the Advanced Settings screen to save your changes and return to the main menu.

**Note:** The cancel privacy masking, disable the Privacy Masking option on the Advanced Settings screen.

**Camera tamper alarm**

The TVR 10 lets you define camera tamper alarms. A camera tamper alarm refers to an alarm triggered when a camera view is blocked (either deliberately or accidentally). For example, the system can trigger an alarm if someone spray paints the camera lens. The alarm displays on the status bar of the screen.

Use the Rules screen (shown in Figure 19 on page 53) to specify a part of the display screen that can detect a tamper that eventually triggers the alarm. In addition, you can define how the system alerts you of the tamper alarm.
Defining a camera tamper alarm requires the following tasks:

1. Specify the detection sensitivity level.
2. Define the on-screen area that can trigger a camera tamper alarm.
3. Configure the tamper alarm response.

**Note:** These tasks define a camera tamper alarm for only a single camera. You will need to perform these tasks for every camera that requires a tamper alarm.

**To specify the detection sensitivity level:**

1. Display the Camera Configuration screen and select a camera.
2. Click Advanced Settings to display the Advanced Settings screen.
3. Set the detection sensitivity level.

   Select a camera tampering option in the Camera Tampering list box. Values include: Off, Normal, High. If Normal or High is selected, the Area and Rules buttons become available.

**To define the on screen area that can trigger a camera tamper alarm:**

1. In the Advanced Settings screen, click Camera Tampering Area to display the Camera Tampering Area screen.
2. Define the area for camera tampering.

   Defining an area for camera tampering is similar to masking an area for privacy. See steps 4 to 7 on page 51 for further instructions.
3. When finished, right-click and then click OK to confirm your changes.

   **Note:** Only one tampering area can be defined for each camera.
To define the tamper alarm response:

1. In the Advanced Settings screen, click Camera Tamper Area to display the Camera Tamper Rules screen.

2. Define an alarm schedule.

   The system’s handling of a camera tamper alarm depends on the alarm schedule. In the Rules screen, select the day of the week in the Alarm Schedule list box for which you want to set the response time schedule. Enter the time period for the response in the Period edit boxes. You can enter up to four time periods for each day of the week.

3. Select a response method.

   Check a response method for the system when a camera tamper alarm is triggered. You can check one or more response methods including:

   **Full Screen.** Displays the alarm on the screen.

   **Buzzer.** An audible alarm sounds.

   **Upload to Client.** This feature is currently not supported.

   **Alarm Out.** Triggers an alarm output. Up to four alarm outputs can be enabled.

   Check or use the Up or Down Arrow buttons and the ENTER button to enable or disable these options.

4. Click Confirm on the Rules screen to save your setup.

   **Note:** The TVR 10 will prompt you to reboot in order for the schedule to take effect.

**Video loss alarm**

The TVR 10 lets you define video loss alarms. A video loss alarm refers to an alarm triggered when a video signal is lost or corrupt due to power failure, video cable failure, bad connection, and more. The video loss alarm triggers only if the video loss occurs during a programmed time schedule. The Video Loss screen lets you define video loss alarms as shown in Figure 20 on page 55. The alarm displays on the status bar of the screen.
To define a video loss alarm:

1. Display the Camera Configuration screen and select a camera.
2. Click Advanced Settings to display the Advanced Settings screen.
3. Click Video Loss option. The Rules option becomes active.
4. Define the video loss alarm schedule.

   The system's handling of a video loss alarm depends on the alarm schedule. In the Rules screen, select the day of the week in the Alarm Schedule list box for which you want to set the response time schedule. Enter the time period for the response in the Period edit boxes. You can enter up to four time periods for each day of the week.

5. Select a response method.

   Check a response method for the system when a camera tamper alarm is triggered. You can check one or more response methods, including:

   - **Full Screen.** Displays the alarm on the screen.
   - **Buzzer.** An audible alarm sounds.
   - **Upload to Client.** This feature is currently not supported.
   - **Alarm Out.** Triggers an alarm output. Up to four alarm outputs can be enabled.

   Check the check box or use the Up or Down Arrow buttons and the ENTER button to enable or disable these options.

6. Click Confirm on the Rules screen to save your setup.

   **Note:** The TVR 10 will prompt you to reboot in order for the schedule to take effect.
7. Repeat steps 2 to 6 for additional cameras.

**Motion detection alarm**

The TVR 10 lets you define motion detection alarms. A motion detection alarm refers to an alarm triggered when a camera detects a motion. The alarm displays on the status bar of the screen.

You can define the level of sensitivity to motion, the area on screen where the motion is detected, and specify which cameras can record the motion when a motion alarm is detected.

If you enable this function, the TVR 10 will display the alarm on the status bar on the screen when motion is detected.

Use the following PTZ buttons to define motion detection areas.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up, Down, Left, Right Arrow buttons</td>
<td>Moves the yellow pane to any position</td>
</tr>
<tr>
<td>Right Arrow button</td>
<td>Increases the motion detection area size from the right</td>
</tr>
<tr>
<td>Left Arrow button</td>
<td>Decreases the motion detection area size from the left</td>
</tr>
<tr>
<td>Down Arrow button</td>
<td>Increases the motion detection area size downwards</td>
</tr>
<tr>
<td>Up Arrow button</td>
<td>Decreases the motion detection area size upwards</td>
</tr>
<tr>
<td>PTZ</td>
<td>Selects the whole screen as a motion detection area</td>
</tr>
<tr>
<td>#</td>
<td>Clears all motion detection areas</td>
</tr>
<tr>
<td>ENTER</td>
<td>Saves changes and returns to the Camera Configuration screen</td>
</tr>
<tr>
<td>ESC</td>
<td>Cancels the setup and returns to the Camera Configuration screen</td>
</tr>
</tbody>
</table>

**To define motion detection areas:**

1. Display the Camera Configuration screen and select a camera.
2. Set the motion detection sensitivity level.
   
   Select a level from 0 (lowest sensitivity) to 6 (highest sensitivity), as well as the Off option in the Motion Detection list box. Selecting an option other than Off activates the Motion Area and Motion Rules options.
3. Display the Motion Detection Area setup interface.
   
   The setup interface displays a grid (22 x 18 panes for PAL, 22 x 15 for NTSC). A single pane in yellow is displayed in the top left corner. The yellow pane indicates the area for motion detection.
4. Define the motion detection area.

Move the pointer or use the directional arrow buttons (Up, Down, Left, or Right) to move the yellow pane to the zone you want to mask. Click to select that area for motion detection. The yellow panes turn red, indicating an alarm will trigger if motion is detected within this area. Drag the mouse or use the directional arrow buttons to extend or shrink the motion detection area.

5. Click in the red area to save that area for motion detection and return to the yellow pane to continue defining areas as shown in the figure below.

![Motion Detection Area Diagram](image)

6. Repeat steps 4 to 6 for additional motion detection areas. You can set up four masked areas on a screen.

7. To clear part of a motion detection area, move the yellow pane to the motion detection area you want to delete and press REC. To clear all motion detection zones, press #.

8. Click the mouse to return to the Camera Configuration screen.

**To define the motion alarm response rules:**

1. Display the Motion Detection Alarm Rules screen.

   Click Motion Detection Rules to display the Motion Rules dialog screen as shown in the figure below.
2. Select the cameras you want to record for motion detection.

Select the cameras you want to begin recording when the system receives a motion detection alarm. Check one of the camera boxes to select that camera. Click again to deselect. You can select more than one camera.

**Note:** For cameras to be able to record for a motion detection alarm, you must first configure them for motion recording. See “Defining a recording schedule” on page 65 for more information.

3. Define an alarm schedule.

The system’s handling of a motion detection alarm depends on the alarm schedule. On the Motion Detection Alarm Rules screen, select the day of the week in the Alarm Schedule list box for which you want to set the response time schedule. Enter the time period for the response in the Period 1 edit boxes. You can enter up to four time periods for each day of the week. The four daily time periods cannot overlap.

Use the Copy option to copy the same periods to a different weekday.

**Note:** You will be prompted to reboot the TVR 10 in order for the schedule to take effect.

4. Select a response method.

Check a response method for the system when a motion detection alarm is triggered. You can check one or more response methods including:

- **Full Screen.** Displays the alarm on the screen.
- **Buzzer.** An audible alarm sounds.
- **Upload to Client.** This feature is currently not supported.
- **Alarm Out.** Triggers an alarm output. Up to four alarm outputs can be enabled.
Check the check box or use the Up or Down Arrow buttons and the ENTER button to enable or disable these options.

5. To copy the alarm rules to another day, select a day in the Copy to list box and click Copy.

6. Click Confirm on the Rules screen to save your setup.

   Note: The TVR 10 will prompt you to reboot in order for the schedule to take effect.

Display settings

Use the Display screen to configure how information is displayed on screen. The following options can be configured:

- Device ID
- Password requirement option
- Video output standard
- Video scaling
- Menu transparency
- System time and date
- Multiscreen

Device ID

The device ID provides a means for an IR remote control to connect to the TVR 10. If there is more than one TVR 10 in a setting, you must define a different device ID for each TVR 10. Otherwise, the IR remote control will control all TVR 10s with the same device ID at the same time. The default device ID is 01.
To change the device ID:

1. Click Display on the main menu to open the Display screen as shown in the figure below.

![Display Screen](image)

2. Click the Device ID edit box to enter into edit mode.
3. Enter the new device ID. The device ID value ranges from 1 to 255.
4. Click Confirm to save your changes.

**Video output standard**

The TVR 10 can support NTSC or PAL video output. NTSC is the default format.

To modify the video output standard:

1. Click Display on the main menu to open the Display screen.
2. Select a either PAL or NTSC video output in the Video Standard list box.
3. Click Confirm to save your changes.

**System date and time**

Configure the TVR 10 system date and time in the Date & Time screen as shown in Figure 21 on page 61. You can also enable Daylight Saving Time (DST) and date format in this screen. The date and time configured on this screen appears on the video display.
To configure the TVR 10 system date and time:

1. Select Display in the main menu to display the Display Configuration screen.
2. Click Date & Time Setup to display the Date & Time screen.
3. Specify a date format using the Date Display Mode list box.
   
   The following are available formats:
   
   • MM DD YY
   • DD MM YY
   • YY MM DD

4. Enter a date.
   
   Click the Date edit box to enter into edit mode. Use the number buttons to enter a date.

5. Enter the time.
   
   Click the Time edit box to enter into edit mode. Use the number buttons to enter the time.

6. Check Daylight Saving Time (if applicable).
   
   Check the Enable DST check box to enable Daylight Saving Time. Select the month, date and time when Daylight Savings starts and stops using the From and To list boxes.

7. Click Confirm to save your changes.
Multi-screen layout

When you turn on the TVR 10, the system automatically enters into the live mode. Use the following buttons to toggle between different display options:

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISP</td>
<td>Toggles between a single screen display to a four screen display</td>
</tr>
<tr>
<td>Numeric buttons (1-4)</td>
<td>Switch between cameras on a single screen</td>
</tr>
</tbody>
</table>

The Multi-Screen screen, displayed in Figure 22 below, lets you configure the display properties when in live mode. To display the Multi-Screen screen, click Display on the main menu, and then click Multi-Screen. Click Confirm to save your changes and return to the Display Configuration screen.

![Multi-screen screen](image)

**Figure 22: Multi-screen screen**

Display mode

The Display Mode list box lets you specify how many screens appear during live mode. Use the Up or Down Arrow buttons to select between options. You can select a single screen or four screens.

Dwell time

The Dwell time list box lets you specify amount of time a screen is displayed before moving into a different screen. Use the Up or Down Arrow buttons to select one of the following options:

- 5 seconds
- 10 seconds
- 20 seconds
Audio preview

Check the Audio Preview check box if you want the TVR 10 to play the audio of the camera when displaying a single camera.

Display layout setup

Use this option to define the order of the cameras to be displayed when in live mode. If you have selected a four-screen display mode, the video frame should display four panels. Select a panel and press a numeric button corresponding to the camera number you want to display in that panel. Continue for each camera. The preview order is displayed on a status bar below the preview frame as shown in Figure 22 on page 62.

Saving the display setup

Click Confirm to save your setup.

Recording settings

Use the Recording Configuration screen, shown in Figure 23 on page 64, to define how the TVR 10 records video. The following options can be configured:

- Handling of information when the HDD is full
- Audio and/or video recorded
- Bit rate
- Frame rate
- Camera resolution
- Recording schedule of a camera
- Pre and post recording times for alarm recordings
Record mode

This option lets you specify how the TVR 10 responds when the HDD becomes full. Select Stop Recording to trigger a Hard Disk Full exception. Recording will not continue if the HDD is full and you have the Stop recording option selected. Select Overwrite to overwrite the earliest recorded files when the HDD is full to continue recording.

Camera recording

This option lets you specify the camera for which you want to define the recording configuration. Use the Up or Down Arrow buttons to select a camera.

Table 17 below lists the recording options you can configure for your camera.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stream Type</td>
<td>Specifies the stream type you wish to record. Select Video to record video stream only. Select Audio&amp;Video to record both video and audio streams.</td>
</tr>
<tr>
<td>Resolution</td>
<td>Specifies the recording resolution. A higher image resolution provides a higher image quality but also requires a higher bit rate. The camera resolution ranges from QCIF (lowest) up to 4CIF (highest). If you make changes to this option, you must reboot the TVR 10 to implement the changes.</td>
</tr>
<tr>
<td>Bit rate</td>
<td>Specifies the maximum bit rate. Recommended bit rate depends on the camera resolution.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Frame Rate</td>
<td>Specifies the frame rate for the selected resolution. Options include: 25 (PAL)/30 (NTSC) 22, 20, 18, 16, 15, 12, 10, 8, 6, 4, 2, and 1.</td>
</tr>
<tr>
<td>Pre-Event Time</td>
<td>This option is used if you have the motion detection and/or external alarms enabled. Pre-event time refers to the time recorded before a motion or external alarm is triggered and includes the alarm data. If a motion or external alarm occurs and you have set the pre-event time to 5 seconds, the TVR 10 will record and save up to 5 seconds prior to the alarm event. Pre-event time options include: No Prerecord, 5 (default), 10, 15, 20, 25, 30 seconds, and Max Prerecord. Max Prerecord lets you save all data in the Prerecord buffer. Pre-event time relates to the bit rate in that the lower the bit rate, the longer the actual pre-event time.</td>
</tr>
<tr>
<td>Post-Event Time</td>
<td>This option is used if you have the motion detection and/or external alarms enabled. When an external or motion alarm is cleared, the TVR 10 will continue recording based on the value specified in this option. Options include: 5 (default), 10, 30 seconds, 1, 2, 5, and 10 minutes.</td>
</tr>
<tr>
<td>Record</td>
<td>Enables or disables recording for the selected camera.</td>
</tr>
<tr>
<td>Schedule</td>
<td>Defines a recording schedule when you enable camera recording. When you modify the camera recording schedule, you must reboot TVR 10 to implement the changes.</td>
</tr>
</tbody>
</table>

**Defining a recording schedule**

When enabling a camera for recording, you can define a recording schedule for the selected cameras. You will be prompted to reboot the TVR 10 after making any schedule modifications. Use the Recording Schedule screen to define a schedule as shown in Figure 24 below.

**Figure 24: Recording schedule screen**
To define a recording schedule:

1. Display the Schedule screen.
   On the Recording Channel Configuration screen, click Record to enable recording. Then click Schedule to display the Schedule screen.

2. Select a day of the week for which you want to set the recording schedule.
   Select a day of the week using the Day list box to define specific periods for recording during that day. If you want the TVR 10 to record the entire day, check All Day to enable All Day recording.

3. Set the start and end time for recording.
   Click the Start Time edit box and enter a time you want the TVR 10 to begin recording. Click the End Time edit box option to specify an end time.

4. Select a recording type.
   Select one of the recording types:
   - Always
   - Motion
   - Alarm
   - Motion or alarm
   - Motion and alarm
   - Command
   If you checked the All Day recording check box, this box is automatically set to Always. To be able to search for motion detection video, select Motion, Motion or Alarm, or Motion and Alarm in this box. For more information, see “Searching for motion detection video” on page 34.

5. Repeat steps 3 to 4 for additional periods.
   Note: The four daily time periods cannot overlap.

6. Set the schedule periods for the other days of the week as required.
   Use the Copy To option to copy the scheduled periods to another day of the week.

7. Save your changes
   Click Confirm to return to the Recording screen. Click Confirm again to save your changes and return to the main menu.

Notes

- The TVR 10 will prompt you to reboot in order for the schedule to take effect.
• If you set your record type to Motion or other related types, you must define the Motion Detection alarm in order to trigger motion recording. See “Motion detection alarm” on page 56 for more information.

• If record type is Alarm or other related types, you must define alarms to trigger alarm recording. See “Alarm settings” below for more information.

Alarm settings

Use the Alarms screen to define how the TVR 10 handles alarms. You can select how the alarm settings should be handled such as:

• An external alarm input
• An internal alarm input
• Notification settings

Click Alarms on the main menu to display the Alarms screen as shown in Figure 25 below.

![Figure 25: Alarms screen](image)

**To set up an external alarm input:**

1. Select an alarm input in the Alarm Input box.
2. Select an input type in the Input Type box.
   - Alarm input type refers to the sensor type. You can select Normal Open or Normal Close according to the sensor type.
3. Enable the alarm input.
Select the Alarm check box to enable that alarm input. The Rules and PTZ Rules options become active.

4. Select your cameras for alarm handling.
   Click Rules to display the Alarm In Handling screen as shown below.

   ![Alarm In Handling screen]

   Check the cameras from which you want to record an alarm input in the Record Camera check boxes to enable or disable the camera channel.

   **Note:** In order for a camera to record an alarm, the recording option and type must be enabled on the Schedule screen. See “Defining a recording schedule” on page 65 for more information.

5. Define your alarm handling schedule.
   In the Alarm Schedule section of the Alarm In Handling screen, define a schedule for when the TVR 10 will respond to an external alarm. Select the day of the week and under Period 1 enter the start and end time periods for the selected day.

   Select how you want to be notified of an external alarm. Check one or more of the following response methods:
   - **Full Screen.** Displays the alarm on the screen.
   - **Buzzer.** An audible alarm sounds.
   - **Upload to Client.** This feature is currently not supported.
   - **Alarm Out.** Triggers an alarm output. Up to four alarm outputs can be enabled.

7. Click Confirm to save your settings and return to the Alarms screen.
   **Note:** The TVR 10 prompts you to reboot in order for the schedule to take effect.

8. Set a PTZ link to the alarm.
In the Alarms screen, click PTZ Rules to display the PTZ Rules screen, as shown in the figure below.

![PTZ Rules Screen](image)

Select a camera, and then click one or more of following PTZ linkages: Preset, Preset tour, Enable Cruise (shadow tour). When an option is enabled, enter the number for the PTZ preset to be used. See “PTZ settings” on page 76 for more information on defining PTZ presets.

**Note:** Make sure that the PTZ you are using can support preset, preset tour, and shadow tour functions. An external alarm input can trigger a camera’s PTZ linkage.

9. Click Confirm to save and return to the Alarms screen.

10. To copy the alarm input parameters to another alarm input, select the new alarm input from the Copy to Alarm In list box, and then click Copy.

11. Click Confirm on the Alarms screen to save your changes and return to the main menu.

**To set up an alarm relay output:**

1. Select an alarm output in the Alarm Out box.

2. Select the alarm output duration.

   The alarm output duration is the length of time that an alarm output displays before stopping. Options include: 5, 10, and 30 seconds, 1, 2, 5, and 10 minutes, and Manual Stop. Manual Stop indicates the alarm output will not stop until you specify Stop in the Alarm Output option on the Utilities screen. See “Acknowledging an alarm” on page 86 for more information.

3. Define an alarm out schedule.

   Click Alarm Out Time Schedule on the Alarms screen to enter the AlarmOut schedule as shown in the figure below. Select the day of the week and under
Period 1 and enter the start and end time periods for the selected day. Each day can have up to four time periods.

Repeat for each day of the week. If the desired times for this alarm output are identical to those for other days, click Copy To and specify the day of the week to which you want to copy this schedule. Select All if the same schedule is used all week. Click Copy.

4. Click Confirm to save your settings and return to the Alarms screen.

5. Copy the alarm output settings to another alarm output if required.

To copy the settings to another alarm output, select an alarm output on the Copy to Alarm Out list box then click Copy. A confirmation message displays. Select OK to accept.

6. Click Confirm on the Alarms screen to save your alarm output settings.

   **Note:** The TVR 10 will prompt you to reboot in order for the schedule to take effect.

### Notifications

Notifications refer to internal errors that occur within the system. Table 18 below provides a list of these exceptions.

**Table 18: List of exceptions**

<table>
<thead>
<tr>
<th>Condition</th>
<th>When alarm occurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDD full</td>
<td>Hard drives are full. Notification only occurs if you disable overwrite.</td>
</tr>
<tr>
<td>Hard disk error</td>
<td>An error occurred in the hard drive.</td>
</tr>
<tr>
<td>Illegal access</td>
<td>Log on failed on the unit.</td>
</tr>
<tr>
<td>IP address conflict</td>
<td>Two devices on the network have the same IP address.</td>
</tr>
</tbody>
</table>
Use the Notification screen (displayed in Figure 26 below) to define how you want to be notified of these exceptions. To display the Notification screen, click Notification Setup on the Alarms screen.

Figure 26: Notification screen

Use the Exception list box to select an exception, and then check one or more of the following notification methods:

- **Buzzer.** An audible alarm sounds.
- **Upload to Client.** This feature is currently not supported.
- **Trigger Alarm Out.** Triggers an alarm output.
- **Alarm Out.** Triggers an alarm output. Up to four alarm outputs can be enabled.

When finished, click Confirm to save your settings and return to the Alarms screen.

**Network settings**

Accessing the TVR 10 through a network requires that you define certain network settings. Use the Network screen to define the network settings of the TVR 10. The following options can be configured:

- IP address and settings
Subnet mask
Gateway IP
Network communication port
HTTP port
PPPoE (Point-to-Point Protocol over Ethernet)
DDNS (Dynamic Domain Name System)

**Note:** When a network parameter is modified, the TVR 10 will prompt you to save and reboot the unit.

To display the Network screen, click Network. The Network screen displays as shown in Figure 27 below.

![Network setup](image)

### Network settings

Table 19 below describes the Network screen options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP address</td>
<td>Specifies the network's IP address. The IP address configured here must not conflict with another IP address. If there is a DHCP server within the network, you can set the IP as &quot;0.0.0.0&quot; then save and reboot the TVR 10. In the reboot process, the TVR 10 searches the DHCP server and retrieves one dynamic IP address. This value displays as the dynamic IP address. If the TVR 10 is utilizing the PPPoE function, the TVR 10 also connects to the Internet and this value displays as the dynamic internet IP address. Default value is 192.168.111.111.</td>
</tr>
</tbody>
</table>
### Option Description

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port</td>
<td>Specifies the network access port number. This value must be greater than 2000.</td>
</tr>
<tr>
<td>Mask</td>
<td>Specifies the subnet mask. Default value is 255.255.255.0.</td>
</tr>
<tr>
<td>Gateway</td>
<td>Specifies the gateway IP address. The gateway IP is used to communicate in different network segments.</td>
</tr>
<tr>
<td>Http Port</td>
<td>Specifies the port used for the Internet Explorer (IE) browser. The default value is 80. This value can be modified.</td>
</tr>
<tr>
<td>Advanced settings</td>
<td>Specifies the advanced IP settings. See “Advanced IP settings” below for more information.</td>
</tr>
</tbody>
</table>

### Advanced IP settings

Table 20 below describes the advanced IP settings.

**Table 20: Advanced IP settings**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac</td>
<td>Specifies the physical address of the device. This value can not be overwritten.</td>
</tr>
<tr>
<td>NIC type</td>
<td>Specifies the NIC type. Default is 10M/100M Auto. Other options include: 10M Half-Dup, 10M Full-Dup, 100M Half-Dup and 100M Full-Dup.</td>
</tr>
<tr>
<td>IP server address</td>
<td>Use this option if the TVR 10 is utilizing the PPPoE function, and retrieves one dynamic IP address. If you define the DNS IP with one fixed Internet IP address, the TVR 10 sends information such as TRV10 name, serial number, and current IP address to that fixed IP address. The fixed IP address is referred to as the DNS IP. The DNS server with that fixed Internet IP address can receive the TVR 10 information and be used to resolve the TRV10 dynamic IP address. This IP server is a unique software and does not fall into the normal domain name server. You can use the SDK provided to develop this DNS software.</td>
</tr>
<tr>
<td>Multicast IP</td>
<td>Specifies a D-class IP address between 224.0.0.0 to 239.255.255.255. You do not need to specify this option if you are not using the multicast function. Some routers prohibit the use of multicast function in case of a network storm.</td>
</tr>
<tr>
<td>Remote Host IP and Port</td>
<td>If an alarm and exception occur, the TVR 10 sends information to the host IP you specify in this option. The site that has this IP can remotely receive the alarm and exception information from the TVR 10.</td>
</tr>
</tbody>
</table>
PPPoE setup

Use the PPPoE Setup screen (shown in Figure 28 below) to define settings for the PPPoE function.

To use the PPPoE function:

1. Click Advanced Settings on the Network screen to display the Network Advanced Settings screen.
2. Select an NIC type. Press Confirm to save and return to the Network screen.
3. Enter a port number.
   In the Port edit box, use numeric keys to enter the port number. The port number must be higher than 2000.
4. Enter the IP Server address.
   Display the Advanced Settings screen. Enter a fixed Internet IP address where the IP analyst software (IP Server) is run in the IP Server edit option.
5. Display the PPPoE Setup screen and enter the PPPoE settings.
   To display the PPPoE Setup screen, click PPPoE Setup on the Network screen. This enables PPPoE function. Enter the PPPoE username, password and verify password that ISP provided.
6. Save your settings.
   Click Confirm to save your settings and return to the Network screen. Click Confirm on the Network screen to return to the main menu. The TVR 10 prompts you to reboot to implement your network changes. In the reboot process, the TVR 10 starts the dialup using the PPPoE function. If the TVR 10 dialup Internet
connection is successful, the TVR 10 displays the dynamic Internet IP address on the Network screen.

**DDNS setup**

Use the DDNS setup screen (shown in Figure 29 below) to define the settings for the DDNS function. Before you can configure the DDNS settings, you must first create an account through the DynDNS Web site (www.dyndns.com).

**Figure 29: DDNS setup**

---

To define the DDNS settings:

1. Click DDNS Setup on the Network screen to display the DDNS Setup screen.
2. Ensure that the protocol is set to DynDns.
3. Enter the server address and server port.
4. Enter the host name as created through the DynDns Web site.
5. Enter the user name for the account you created through the DynDns Web site.
6. Enter the password for the account.
7. Enter the password on the Verify field to verify your password.
8. Click Confirm to save your settings. The TVR 10 prompts you to reboot.
PTZ settings

Use the PTZ screen, shown as Figure 30 below, to define PTZ functions for cameras connected to your TVR 10. An RS-485 port is available at the TVR 10 back panel for PTZ control. You can define RS-485 settings to match your PTZ protocol such as:

- PTZ parameters (including baud rate, data bits, stop bits, parity, and flow control)
- PTZ protocol
- PTZ address
- Preset parameters
- Preset tour
- Shadow tour

To display the PTZ screen, click PTZ on the main menu.

Figure 30: PTZ screen

PTZ screen options

Table 21 below describes the PTZ screen options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select camera</td>
<td>Selects a PTZ camera.</td>
</tr>
<tr>
<td>PTZ parameters</td>
<td>Parameters include: baud rate, data bit, stop bit, parity, and flow control.</td>
</tr>
<tr>
<td>PTZ address</td>
<td>Specifies the PTZ address. Each PTZ has a different address.</td>
</tr>
</tbody>
</table>
### Option Description

**PTZ type**
Specifies the PTZ protocols. See Appendix D “PTZ protocols” on page 101 for a list of PTZ types.

Note: If you select the Pelco-P protocol, define the PTZ address plus or minus 1 the Camera ID. For example, if the camera ID is 2, the TVR 10 PTZ address should be set as 3.

**Preset setup**
Displays the Preset Setup screen.

**Preset tour setup**
Displays the Preset Tour Setup screen.

**Shadow tour setup**
Displays the Shadow Tour Setup screen.

### PTZ types
For a list of support PTZ types, see Appendix D “PTZ protocols” on page 101.

### Configuring the PTZ protocols for GE Security cameras
Before the PTZ cameras are assembled in their housings, set their protocol and address DIP switches for the TVR 10. for the different GE Security’s PTZ camera configurations. See Table 22 below for different GE Security PTZ camera settings.

If you are using PTZ cameras from another company, please refer to their configuration instructions.

<table>
<thead>
<tr>
<th>Camera</th>
<th>Switch setting</th>
<th>Protocol switches</th>
<th>Address switches</th>
<th>Baud rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>TruVision Dome 16 PTZ</td>
<td>Protocol switches</td>
<td>1011</td>
<td>0000</td>
<td>0000</td>
</tr>
<tr>
<td></td>
<td>Address switches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Baud rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyberdome</td>
<td>Protocol switches</td>
<td>Auto</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chapter 5: Advanced setup

### Camera Switch setting

<table>
<thead>
<tr>
<th>Camera</th>
<th>Switch setting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Address switches 0000000000</td>
</tr>
<tr>
<td>CyberDome II</td>
<td>Protocol switches 0000</td>
</tr>
<tr>
<td></td>
<td>Address switches 0000</td>
</tr>
</tbody>
</table>

### Legend

<table>
<thead>
<tr>
<th>Protocol switches</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address switches</td>
<td>0000</td>
</tr>
</tbody>
</table>

### Preset position

Preset position represents the camera’s position, zoom, focus, and iris. You can save up to 128 preset positions. Make sure your PTZ supports the preset function before you configure your presets.

To display the Preset Setup screen, click Preset Setup on the PTZ screen.

**Note:** The instructions below do not cover all PTZs.

**To define a PTZ preset position:**

1. Click Preset Setup on the PTZ screen to display the Preset Setup screen.
2. Enter a preset number (from 1 to 128) in the Preset edit box.
3. Click Edit to display the PTZ control interface.
4. Use directional arrow buttons to adjust the PTZ position.
5. Use the IRIS±, FOCUS±, and ZOOM± buttons to adjust the iris, focus, and zoom.
6. When finished adjusting, click Save to save that preset number.
7. Repeat steps 2 to 6 for additional presets.
8. Click Return to return to the PTZ screen.
9. Click Confirm on the PTZ screen to save all changes.

To delete a PTZ preset position:
1. Select a preset number on the Preset Setup screen.
2. Click Delete.
3. Repeat steps 1 to 2 for additional presets you want to delete.
4. Click Return to return to the PTZ screen.
5. Click Confirm on the PTZ screen to save all changes.

Preset tour setup
Each preset tour is made up of several preset points. A preset point includes:
- A preset position.
- A dwell time. This is the time duration when the PTZ camera stays at the preset position.
- A dwell speed. This is the speed at which the PTZ moves to the preset position.

You can save up to 16 preset tour sequences. Make sure your PTZ supports the preset tour function before you configure your preset tours.

Note: The TVR 10 does not support preset tours for GE domes.

To display the Preset Tour Setup screen, click Preset Tour Setup on the PTZ screen. The Preset Tour Setup screen displays as shown in Figure 31 on page 80.

Note: The instructions below do not cover all PTZs.
To define a preset tour sequence:

1. Click Preset Tour Setup on the PTZ screen to open the Preset Tour Setup screen.
2. Enter a Tour Number.

   You can define up to 16 different preset tour sequences. Each preset tour sequence is comprised of preset points, and each preset point includes a preset position, dwell, time, and speed.

3. Define a preset point.

   For each preset point, enter a cruise point number, preset number, dwell time, and dwell speed. Select Add to create that new cruise point.

4. Click Confirm to save that preset point into the sequence.
5. Repeat steps 3 to 4 for additional preset points.
6. Click StartSeq to check the tour sequence. The preset tour sequence runs. To stop the preset from running, click Stop.
7. To delete a preset point, specify the preset point number on the Delete Preset section of the screen and click Delete.
8. When finished defining a preset tour sequence, click Return to return to the PTZ screen.
9. Click Confirm on the PTZ screen to save your changes.

**Shadow tour**

The shadow tour function recalls the PTZ movement track. Make sure your PTZ supports the shadow tour function before you configure your shadow tours.
Use the Shadow Tour Setup screen to define shadow tours. To display the Shadow Tour screen, click Shadow Tour Setup

**Note:** The instructions below do not cover all PTZs.

**To define a shadow tour:**

1. Click Shadow Tour Setup on the PTZ screen to display the Shadow Tour Setup screen.
2. Click Rec to display the PTZ control interface.
3. Use the directional arrow buttons to control the PTZ camera movement.
4. Click anywhere in the screen to save the operation track and return to the Shadow Tour Setup screen.
5. Click Start to view the PTZ movement track. Click Stop to stop the preview.
6. Click Return to return to the PTZ screen.
7. Click Confirm on the PTZ screen to save your changes.
Chapter 6
Utilities settings

The Utilities Configuration screen lets you configure the following system settings:

- Modify system information
- View logs
- Acknowledge an alarm
- Manage HDD
- Upgrade the firmware
- Restore factory defaults
- Reboot the TVR 10
- Power off

Modifying the device name

The system information provides reference information about your TVR 10 such as the unit name, serial number, firmware version, and device model. Only the unit name can be modified in the system information. The unit name provides a description of the device for reference.

To modify the device’s unit name:

1. Click Utilities on the main menu to display the System Configuration screen.
2. Click System Information on the Utilities Configuration screen. The System Info dialog screen displays as shown in the figure below.
3. The default unit name is “TruVision Recorder.” Click the Unit Name edit box to enter into edit mode.

4. Enter the new unit name.
   See “Using an edit box” on page 22 for more information on entering text.

5. Click the edit box to exit the edit mode.

6. Click Confirm to save your changes.

Restoring to factory defaults

Use the Factory Defaults Restore button on the Utilities screen to restore the TVR 10 to its factory settings. Click Confirm at the prompt to confirm your changes, as shown in Figure 32 below, and the system will automatically reboot.

Figure 32: Restore parameters
Managing the hard drive

Use the Hard Disk screen, as shown in Figure 33 below, to manage your hard drive. To display the Hard Disk screen, click Hard Disk Manage on the Utilities screen.

Figure 33: Hard Disk screen

Checking the HDD status

Select the HDD (hard disk drive) required in the Select HD list box. The following information appears:

- Capacity
- Free space
- Idle
- Status

Formatting the HDD

Before formatting the HDD, stop all recording. Once formatting is completed, reboot the TVR 10. Otherwise, the unit will not function properly.

To format the HDD:

1. Click Hard Disk Manage on the Utilities screen to display the Hard Disk screen.
2. Select the HDD you want to format in the Select HD list box.
3. Click Format. A screen appears showing the formatting status.
4. When formatting is completed, click OK. The Hard Disk screen displays.
5. Click Return to the return to the Utilities screen.

Acknowledging an alarm

Click Alarm Output Stop on the Utilities screen to acknowledge an alarm. This command only applies if the Alarm Output has been set to manual. See “Alarm settings” on page 67 for more information.

Rebooting the TVR 10

To reboot the TVR 10, click Reboot Start on the Utilities screen.

Viewing logs

Up to 2,000 recorded logs can be stored in the TVR 10. When this capacity is reached, the system starts deleting older logs. To view recorded logs based on default options, click View Log on the Utilities screen. The View Log screen displays as shown in Figure 34 below.

Figure 34: View log
Searching for logs

You can also search for recorded logs by the following:

**Options.** There are four log options: All, Category and Time, Time, and Category.

**Main information types.** There are four main information types: All, Alarm, Notification, and Operation.

**Sub information types.** There are several different types of sub information depending on the main type selected. See Table 23 below for more information.

**Date and time.** Logs can be search by date as well as start and end recording times.

<table>
<thead>
<tr>
<th>Main information type</th>
<th>Sub information type by main information type</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>All</td>
</tr>
<tr>
<td>Alarm</td>
<td>External Alarm In, External Alarm Out, Motion Detect Start, Motion Detect Stop, View Tamper Start, and View Tamper Stop</td>
</tr>
<tr>
<td>Notification</td>
<td>Video Signal Loss, Illegal Access, Hard Disk Error, Hard Disk Full, IP Conflict, and DCD Lost</td>
</tr>
</tbody>
</table>

To search logs by type:

1. Display the View Log screen.
2. Select one of the four search criteria in the Search By list box: All, Category and Time, Time, and Category.

   If the All or Time criteria is selected, the main and sub type options are not available.

3. Select one of the types listed in the Main Type list box.
4. Select one of the types listed in the Sub Type list box.
5. Click Search Log to start your search.
6. If you want further information on the logs, click More Info.
7. Click Return to the return to the main menu.
To search logs by date and time:
1. Display the View Log screen.
2. Enter a start time using the Start Time edit box.
3. Enter an end time using the End Time edit box.
4. Click Search Log to start your search.
5. If you want further information on the logs, click More Info.
6. Click Return to the return to the main menu.
Chapter 7
Upgrading the firmware

The TVR 10 firmware is stored in the flash memory. Use the upgrade function to write the firmware file (`digicap.DAV`) into the flash memory.

You need to upgrade firmware when it has become outdated.

Upgrade methods

There are several ways to upgrade your firmware:

- Use the USB function of the Upgrade screen on the Utilities screen. Make sure the firmware file is placed under root directory of USB flash memory.
- Use the client software to upgrade the firmware file.
- Use the FTP function of the Upgrade screen on the Utilities screen. You need one host PC to run the FTP server software and place the firmware file. Make sure the TVR 10 and PC are in the same subnet.

We strongly recommend that you upgrade the firmware using the client software or the USB function.

Upgrading with a USB flash memory

Use the Firmware Upgrade button on the Utilities screen to upgrade your firmware. When upgrading your firmware, you retain all your existing settings. Only new features are added with their default settings.

To upgrade the firmware:

1. Click Firmware Upgrade on the Utilities screen. The Upgrade dialog appears as shown in the figure below.
2. Select the USB upgrade mode.

Connect a USB flash memory to the TVR 10 and confirm that the firmware file is in the root directory. Click USB to start the upgrade.

Note: The firmware must be downloaded to the USB main directory and the file named “digicap.”

3. When finished, right-click or press ESC to return to the main menu.

4. Reboot the TVR 10.

**Upgrading through the Web browser**

You can log in to the TVR 10 Web browser to perform a firmware upgrade. Prior to upgrade, ensure that you have the *digicap.DAV* file in the workstation you are accessing the TVR 10 from.

**To upgrade the firmware through the Web browser:**

1. Log in to the TVR 10 Web browser.
2. Select the Configure button.
3. Select the Others tab.
   
   You will need to scroll right through several tabs to locate the Others tab.
4. Click Remote Upgrading.
5. Click Explore and locate the *digicap.DAV* file in your workstation.
6. Click Upgrade. You will receive a prompt asking you to reboot the TVR 10.
7. Click Reboot to reboot the TVR 10.
Note: The TVR 10’s on-screen display will not provide any status indication prior to rebooting.

Setting up the wftp32 FTP server

This section describes how to configure your FTP server.

To set up the wftp32 FTP server:
1. Start the wftp32 program.
3. Set the user and its rights.
   a. Click New User.
   b. Create a user named “target” and set its password.
   c. Choose the target user in the User Name list.
   d. Enter the path where the firmware is placed in the Home Directory box, and then click Done to finish the configuration.

An example of the completed screen is shown below.

Upgrading using the FTP server

To upgrade using the FTP server:
1. Display the Utilities screen of the main menu.
2. Display the Firmware upgrade screen.
3. Select the FTP upgrade mode.
4. Enter the FTP Server’s IP Address (The IP of the computer where wfp32 runs) and click anywhere in the screen to confirm. The TVR 10 will connect to the FTP server.
through the network and download the firmware file. Click Confirm at the prompt to begin the upgrade process.

5. When finished, the system needs to reboot. Click Confirm to start the reboot or press Cancel to reboot later. The new firmware will start to work after rebooting.
Appendix A
Mouse control function

Display interface

Table 24: Display interface

<table>
<thead>
<tr>
<th>Mouse control</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double-click</td>
<td>Toggles between single camera to multiscreen views. Displays single camera view of camera you double-clicked on from the multiscreen view</td>
</tr>
<tr>
<td>Scroll wheel forward</td>
<td>Switches to previous screen</td>
</tr>
<tr>
<td>Scroll wheel backward</td>
<td>Switches to the next screen</td>
</tr>
<tr>
<td>Right-click</td>
<td>Displays the mouse menu</td>
</tr>
</tbody>
</table>

PTZ interface

Table 25: PTZ interface

<table>
<thead>
<tr>
<th>Mouse control</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double-click</td>
<td>Moves to the center of the screen (for SAE\YAAN protocol)</td>
</tr>
<tr>
<td>Drag</td>
<td>Selects an area to zoom in (for SAE\YAAN protocol)</td>
</tr>
<tr>
<td>Click</td>
<td>If you select an area for zooming in this action, which will save the poison as No.60 and zoom in the area (for SAE\YAAN protocol)</td>
</tr>
<tr>
<td>Scroll wheel forward</td>
<td>Switches to previous channel</td>
</tr>
<tr>
<td>Scroll wheel backward</td>
<td>Switches to the next channel [1]</td>
</tr>
</tbody>
</table>
Appendix A: Mouse control function

Mouse control Function

[1] Using the mouse can only call the first 96 of the 128 presets.

Camera name position configure interface

Table 26: Channel name or OSD position configure interface

<table>
<thead>
<tr>
<th>Mouse control</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drag</td>
<td>Camera name position follows the pointer.</td>
</tr>
<tr>
<td>Right-click</td>
<td>Displays menu with these commands:</td>
</tr>
<tr>
<td></td>
<td>• Confirm</td>
</tr>
<tr>
<td></td>
<td>• Cancel</td>
</tr>
<tr>
<td></td>
<td>• Style (for OSD only)</td>
</tr>
</tbody>
</table>

Area configure interface

Table 27: Area configure interface

<table>
<thead>
<tr>
<th>Mouse control</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right-click</td>
<td>Displays menu with these commands:</td>
</tr>
<tr>
<td></td>
<td>• Confirm</td>
</tr>
<tr>
<td></td>
<td>• Cancel</td>
</tr>
<tr>
<td></td>
<td>• Clear</td>
</tr>
<tr>
<td></td>
<td>• Full (appears only for motion detect area configuration)</td>
</tr>
<tr>
<td>Drag</td>
<td>Extends or shrinks an area</td>
</tr>
<tr>
<td>Pointer</td>
<td>The primary grid follows with the pointer</td>
</tr>
</tbody>
</table>
Text input interface

Table 28: Test input interface

<table>
<thead>
<tr>
<th>Mouse control</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click</td>
<td>Displays virtual keyboard, input text, and save and exit</td>
</tr>
<tr>
<td>Right-click</td>
<td>Cancels the text and exit the edition</td>
</tr>
<tr>
<td>Scroll wheel</td>
<td>Cursor goes to the previous or next character</td>
</tr>
</tbody>
</table>

Playlist interface

Table 29: Playlist interface

<table>
<thead>
<tr>
<th>Mouse control</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click</td>
<td>Selects the file to copy or cancel</td>
</tr>
<tr>
<td>Scroll wheel forward</td>
<td>Selects the previous file</td>
</tr>
<tr>
<td>Scroll wheel backward</td>
<td>Selects the next file</td>
</tr>
<tr>
<td>Right-click</td>
<td>Cancels and returns back to the Display interface.</td>
</tr>
<tr>
<td>Double-click</td>
<td>Plays the selected file</td>
</tr>
</tbody>
</table>

User interface

Table 30: User interface

<table>
<thead>
<tr>
<th>Mouse control</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double-click</td>
<td>Enters the selected user’s privileges setting interface</td>
</tr>
<tr>
<td>Right-click</td>
<td>Cancels the operations you did and back to previous interface</td>
</tr>
<tr>
<td>Scroll wheel forward</td>
<td>Selects previous user</td>
</tr>
<tr>
<td>Scroll wheel backward</td>
<td>Selects next user</td>
</tr>
</tbody>
</table>
Appendix A: Mouse control function
## Appendix B
### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>TVR 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video compression</td>
<td>H.264</td>
</tr>
<tr>
<td>Display resolution</td>
<td>PAL: 704 × 576, NTSC: 704 × 480, VGA: 1024 × 768</td>
</tr>
<tr>
<td>Playback resolution</td>
<td>QCIF/CIF/2CIF/DCIF/4CIF</td>
</tr>
<tr>
<td>Video input</td>
<td>4 channels, BNC (1.0 Vp-p, 75 Ω)</td>
</tr>
<tr>
<td>Main output</td>
<td>1 channel, BNC (1.0 Vp-p, 75 Ω)</td>
</tr>
<tr>
<td>Spot output</td>
<td>1 channel, BNC (1.0 Vp-p, 75 Ω)</td>
</tr>
<tr>
<td>Frame rate (per channel)</td>
<td>4CIF: 6 fps, DCIF: 12 fps, 2CIF: 15 fps, CIF: 25(P)/30(N) fps</td>
</tr>
<tr>
<td>Audio compression</td>
<td>OggVorbis, 16 Kbps</td>
</tr>
<tr>
<td>Audio input</td>
<td>1 channel, RCA (2.0~2.4 Vp-p, 1 KΩ)</td>
</tr>
<tr>
<td>Audio output</td>
<td>1 channel, RCA (2.0~2.4 Vp-p, 600 Ω)</td>
</tr>
<tr>
<td>Stream type</td>
<td>Video/Video&amp;Audio</td>
</tr>
<tr>
<td>Support dual stream</td>
<td>Yes</td>
</tr>
<tr>
<td>Bit rate</td>
<td>32 Kbps ~ 2 Mbps, user-defined</td>
</tr>
<tr>
<td>HDD interface</td>
<td>1 SATA interface can support 1 SATA HDD up to 1 TB</td>
</tr>
<tr>
<td>Communication interface</td>
<td>1 RJ45 10M/100M self-adaptive Ethernet Interface, 1 RS-485 interface</td>
</tr>
<tr>
<td>USB interface</td>
<td>1 USB interface can support USB disk, USB HDD, USB CD-RW, and DVD-RW</td>
</tr>
<tr>
<td>VGA interface</td>
<td>1 VGA interface can support resolution: 1024 × 768/60 Hz</td>
</tr>
<tr>
<td>External alarm in</td>
<td>4</td>
</tr>
</tbody>
</table>
### Appendix B: Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>TVR 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relay output</td>
<td>1</td>
</tr>
<tr>
<td>Voice talk</td>
<td>1 channel (using audio in)</td>
</tr>
<tr>
<td>Support Buzzer</td>
<td>Yes</td>
</tr>
<tr>
<td>Power supply</td>
<td>12 VDC</td>
</tr>
<tr>
<td>Power consumption</td>
<td>40 W</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>14 to 131°F (−10 to 55°C)</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>10% to 90%</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>12.36 x 1.77 x 8.88 in (314 x 45 x 225 mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 3.5 lb. (1.6 kg) with 1 HDD</td>
</tr>
</tbody>
</table>

PAL: 176×144(QCIF), 352×288(CIF), 704×288(2CIF), 528×384(DCIF), 704×576(4CIF);
NTSC: 176×120(QCIF), 352×240(CIF), 704×240(2CIF), 528×320(DCIF), 704×480(4CIF).

### Battery removal

The TVR 10 unit contains one 3 V Lithium battery. This battery can only be removed by a recycling or service technician. The remote control comes with two AAA alkaline batteries.

**To remove the remote control batteries:**
1. Detach the remote control’s back cover.
2. Replace the batteries with any standard AAA batteries.
3. Reattach the cover.
4. Dispose of the batteries as required by local ordinances or regulations.
Appendix C
Troubleshooting

Place the TVR 10 in well-ventilated space so that it operates within the allowed range of temperature and humidity as in specification.

If the circuit board is wet, dust on circuit board can cause a short circuit. The circuit board, plug and socket, housing fan and housing should be cleaned by brushing regularly.

<table>
<thead>
<tr>
<th>Failure</th>
<th>Possible reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>After plugging in and turning on the unit, the POWER light on the front</td>
<td>Power cable is not functioning.</td>
</tr>
<tr>
<td>panel does not turn on, and the fan does not work.</td>
<td>Power supply is not functioning.</td>
</tr>
<tr>
<td>After plugging in and turning on the unit, the POWER light on the front</td>
<td>Front panel cable is not functioning.</td>
</tr>
<tr>
<td>panel turns green but the fan does not work.</td>
<td>Fan is not functioning.</td>
</tr>
<tr>
<td>After plugging in and turning on the unit, the POWER light on the front</td>
<td>The ATX plug in main board is not plugged in.</td>
</tr>
<tr>
<td>panel turns green and the indicator lights on the panel turn on, but</td>
<td></td>
</tr>
<tr>
<td>the fan does not work.</td>
<td></td>
</tr>
<tr>
<td>TVR 10 continuously reboots after starting up every 10 seconds.</td>
<td>Upgraded using the wrong firmware</td>
</tr>
<tr>
<td>There are no images in the monitor connected with VOUT after TVR 10 is</td>
<td>Main board failure</td>
</tr>
<tr>
<td>started.</td>
<td></td>
</tr>
<tr>
<td>Cannot find the hard disk in reboot process.</td>
<td>Hard drive cable is not functioning.</td>
</tr>
<tr>
<td>TVR 10 cannot control PTZ through RS-485/422 port.</td>
<td>The power cable of the hard drive is not connected.</td>
</tr>
<tr>
<td></td>
<td>Hard drive failure</td>
</tr>
<tr>
<td></td>
<td>RS-485/422 cable is not connected properly or not</td>
</tr>
<tr>
<td></td>
<td>functioning.</td>
</tr>
<tr>
<td></td>
<td>PTZ parameters error.</td>
</tr>
<tr>
<td></td>
<td>RS-485 port failure.</td>
</tr>
<tr>
<td>Failure</td>
<td>Possible reasons</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Client software cannot view the TVR 10 live image.</td>
<td>Network error.</td>
</tr>
<tr>
<td></td>
<td>Connected using wrong TVR 10 parameters (IP address, port number, username or password, etc).</td>
</tr>
</tbody>
</table>
The following table lists the PTZ protocols in alphabetical order.

<table>
<thead>
<tr>
<th>A01</th>
<th>EVI-D30</th>
<th>M-PANEL</th>
<th>SP9096X</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACES</td>
<td>GE RS-422 [1]</td>
<td>NAIJIE</td>
<td>ST-2C160</td>
</tr>
<tr>
<td>ADR8060</td>
<td>GE RS-485</td>
<td>Netstreamer</td>
<td>ST-832</td>
</tr>
<tr>
<td>ALSON</td>
<td>HD600</td>
<td>NK08G</td>
<td>Tc Pelco P</td>
</tr>
<tr>
<td>Anten</td>
<td>HIKVISION</td>
<td>NK16</td>
<td>Tc Pelco-D</td>
</tr>
<tr>
<td>Auto-H</td>
<td>Howell</td>
<td>Panasonic</td>
<td>TDWY</td>
</tr>
<tr>
<td>Auto-M</td>
<td>HUNTER</td>
<td>PARCO</td>
<td>TECHWIN</td>
</tr>
<tr>
<td>BBV</td>
<td>HY</td>
<td>PE60</td>
<td>TL Pelco-p</td>
</tr>
<tr>
<td>CAT-KING</td>
<td>Infinova</td>
<td>PEARMAIN</td>
<td>TLHHX-2000</td>
</tr>
<tr>
<td>Celotex</td>
<td>INV3609HD</td>
<td>Pelco-D</td>
<td>TWHC</td>
</tr>
<tr>
<td>ChangLin</td>
<td>JC-4116</td>
<td>Pelco-d WX</td>
<td>TX-CONTROL-232</td>
</tr>
<tr>
<td>DaLi</td>
<td>KC3360S</td>
<td>Pelco-P</td>
<td>USNT</td>
</tr>
<tr>
<td>DeltaDome</td>
<td>KLT-NVD2200PS</td>
<td>Philips</td>
<td>VCL-SPEED-DOME</td>
</tr>
<tr>
<td>Demo-Speed</td>
<td>LC-D2104</td>
<td>PIH-7625</td>
<td>VCOM VC-2000</td>
</tr>
<tr>
<td>Dennard Dome</td>
<td>LCU</td>
<td>PLD</td>
<td>VIDO-B01</td>
</tr>
<tr>
<td>DH-CC440</td>
<td>LG</td>
<td>RM110</td>
<td>WEIHAN</td>
</tr>
<tr>
<td>DM Dynacolor</td>
<td>LG-Multix</td>
<td>SAE QUICK</td>
<td>XYM-12</td>
</tr>
<tr>
<td>D-Max</td>
<td>LiAo</td>
<td>SAE/YAAN</td>
<td>YH-06</td>
</tr>
<tr>
<td>DM-Pelco-D</td>
<td>LiLin</td>
<td>Sample</td>
<td>YouLi</td>
</tr>
<tr>
<td>ENKEL</td>
<td>M-MV2050</td>
<td>Samsung</td>
<td>YT-PelcoD</td>
</tr>
</tbody>
</table>

[1] The TVR 10 has RS-422 support. However, the TVR 10 must be installed before the first keypad at the beginning of the Digiplex (RS-422) system in order to avoid interfering with keyboard control. You can have the TVR 10 driving a dome directly in a standalone system.
Appendix E
Factory defaults

Menu defaults

<table>
<thead>
<tr>
<th>Function</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date format</td>
<td>MM/DD/YY</td>
</tr>
<tr>
<td>Normal record speed</td>
<td>30 frames per second (NTSC), 25 frames per second (PAL) at CIF</td>
</tr>
<tr>
<td>Stream type</td>
<td>Audio &amp; Video</td>
</tr>
<tr>
<td>Menu timeout</td>
<td>1 minute</td>
</tr>
<tr>
<td>Video standard</td>
<td>NTSC</td>
</tr>
<tr>
<td>Disk overwrite mode</td>
<td>Overwrite</td>
</tr>
<tr>
<td>Brightness</td>
<td>50%</td>
</tr>
<tr>
<td>Contrast</td>
<td>50%</td>
</tr>
<tr>
<td>Hue</td>
<td>50%</td>
</tr>
<tr>
<td>Saturation</td>
<td>50%</td>
</tr>
<tr>
<td>Daylight Savings Time</td>
<td>Off</td>
</tr>
</tbody>
</table>

Network defaults

<table>
<thead>
<tr>
<th>Function</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP address</td>
<td>192.168.111.111</td>
</tr>
<tr>
<td>Subnet mask</td>
<td>255.255.255.0</td>
</tr>
<tr>
<td>Gateway address</td>
<td>0.0.0.0</td>
</tr>
</tbody>
</table>
### Appendix E: Factory defaults

<table>
<thead>
<tr>
<th>Function</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port</td>
<td>8000</td>
</tr>
<tr>
<td>Http port</td>
<td>80</td>
</tr>
</tbody>
</table>
Appendix F
Warranty and support

Warranty information

The warranty period for the TVR 10 is three years from the date of delivery.

Contacting support

For help installing, operating, maintaining, and troubleshooting this product, refer to this document and any other documentation provided. If you still have questions, contact us during business hours (Monday through Friday, excluding holidays).

Table 31: Technical support

<table>
<thead>
<tr>
<th>North America</th>
</tr>
</thead>
<tbody>
<tr>
<td>T  888 GE Security (888.437.3287) Toll-free in the US, Puerto Rico, and Canada.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>503.885.5700 outside of the toll-free area.</td>
</tr>
<tr>
<td>F  888.329.0332 (Tualatin tech support)</td>
</tr>
<tr>
<td>561.998.6232 (Boca Raton tech support)</td>
</tr>
<tr>
<td>E  <a href="mailto:nstechsrv@ge.com">nstechsrv@ge.com</a></td>
</tr>
<tr>
<td><a href="mailto:gesecurity.customerservice@ge.com">gesecurity.customerservice@ge.com</a></td>
</tr>
<tr>
<td>Australia</td>
</tr>
<tr>
<td>E  <a href="mailto:techsupport@gesecurity.com.au">techsupport@gesecurity.com.au</a></td>
</tr>
<tr>
<td>Latin America</td>
</tr>
<tr>
<td>T  1 305.593.4301</td>
</tr>
</tbody>
</table>
### Latin America

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>1 305.593.4300</td>
</tr>
<tr>
<td>E</td>
<td><a href="mailto:InfraSec.TechnicalServicesLatinAmerica@ge.com">InfraSec.TechnicalServicesLatinAmerica@ge.com</a></td>
</tr>
<tr>
<td>E</td>
<td><a href="mailto:InfraSecCustomerService.LatinAmerica@ge.com">InfraSecCustomerService.LatinAmerica@ge.com</a></td>
</tr>
</tbody>
</table>

### Europe, Middle East, and Africa

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Select Customer Support at <a href="http://www.gesecurity.eu">www.gesecurity.eu</a></td>
</tr>
</tbody>
</table>

### China, India, Singapore, Taiwan, Southeast Asia

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td><a href="mailto:ges.asiatechservice@ge.com">ges.asiatechservice@ge.com</a></td>
</tr>
</tbody>
</table>
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