USER’S GUIDE

For the ionitPRO+ and ionitRT DVR systems

For additional help, use the help file included with your software or visit our website at www.ionitus.com
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1. INTRODUCTION

RECORDER CONTENTS

Each DVR is shipped in a self-contained box with the following additional contents:

- Ionit software disk
- Ionit System Setup Guide
- System driver disk
- System power cord
- Audio connection cables (1 per PCI card)
- Keyboard and mouse (may be keyboard with touchpad)
- DVR/hard drive keys

STARTING THE IONIT DVR

Initial Launch

If you are installing the Ionit DVR for the first time, the unit will start and the Ionit recording software will launch automatically once power is supplied to the system.

Once you connect video cameras to the DVR, the DVR will automatically begin recording. However, the system controls will not be accessible until you log into the recording software.

The DVR software comes with a default Administrator User Name and Password, which can be found in the System Setup Guide that accompanies the DVR. The DVR’s System Administrator has full system access. (See Section ___ for instructions on how to change the default Administrator Name and Password.)

To access the log-in window, click any camera box, hit the Esc key and enter the default System Administrator User Name and Password.

Subsequent Launches

The Ionit DVR is set to automatically launch the recording software and begin recording when powered up. If you later decide to change the Auto Launch setting, or if you have manually exited the Ionit recording software, you can launch the recording software in one of two ways:

Double click the blue Ionit shortcut icon (ionitPro+ or ionitRT) on the Windows desktop and log in; or
From the Windows Start menu, select Programs, then the Ionit recording software (IonitPro+ or IonitRT) and log in.
SYSTEM REQUIREMENTS FOR REMOTE CLIENT (COMPUTER):

To view live or recorded video from a remote client (i.e., computer) you must install Ionit recording software on that remote client. Refer to Ionit’s System Setup Guide or the Remote Access section of this manual for details on setting up a remote client.

Ionit recommends the following minimum specifications for a remote client:

- Windows® 2000 or XP
- 1024x768 and 32-bit true color or above is recommended for better screen display
- Pentium 4, 1.2 GHz or higher
- 256MB RAM (or higher)
- 32MB video RAM (64MB preferable)
- DirectX 8.0 (or later)
- Ethernet Card
- Full Duplex Sound Card

DOCUMENTATION UPDATES

The latest updates on Ionit system operations are available at [www.ionitusa.com](http://www.ionitusa.com)

Windows Help provides complete instructions for using the Microsoft® Windows operating system. To access Windows Help, click the Start button, and then click Help. For more information on using the Windows operating system, see the Microsoft Windows documentation that came with your computer.
2. SYSTEM OPERATION OVERVIEW

Once you enter the User Name and Password for either the System Administrator or an authorized system User, the main screen of the recording software will appear as shown below:

![Main Screen Screenshot]

Below is a brief description of the features that appear on the main screen.

**SYSTEM EXIT ICON:** Allows authorized users to exit the program.

**CONTROL PANEL:** Reveals a control panel on the right hand side for i) connecting to and viewing other networked DVRs and ii) controlling pan/tilt/zoom (PTZ) cameras (see Remote Access and PTZ Operations section).

**STATUS PANEL:** The DVR's status panel contains various information about the system as well as features for making adjustments to individual cameras.
**Left Side:** Displays the amount space available on the hard drive that the DVR is currently writing to (NOTE: your system may have multiple data hard drives) as well as the name of the host DVR (computer icon and name). A “link” (cable plug) icon will also appear in the Host window when the system is being accessed remotely. An “eye” icon will appear when system is in Scan mode (see below).

**Center:** Displays the current time and date. This can be adjusted through the Time and Date setting on the WindowsXP Control Panel.

**Right Side:** Contains Image Function icons, which are used for making adjustments to individual cameras. To implement an Image Function icon, first select the camera that you wish to apply a particular Image Function feature to by left clicking on the image of the desired camera. Your camera selection will be verified by a “hand” icon appearing in the upper right corner of the selected image. Then click on the desired Image Function icon.

**Image Function Icons:** The Image Function icons are as follows:

- **Unmask:** Erases any alarm boxes that have been configured for the selected camera. (Creating alarm boxes is discussed in Section 3).
- **Snapshot:** Takes a still image from the selected camera and saves it as a JPEG image in that day’s Pictures folder in the video file tree that is accessible though the system’s Files Mode (discussed later).
- **Caption:** Reveals/hides text overlay on video image displaying camera name, date and time information for the selected camera.
- **Caption Color:** Enables selection of different colors for the video text of the selected camera.
- **Camera Adjustments:** Enables adjustments to the brightness, contrast, saturation and hue for the selected camera.
**SYSTEM SETTINGS PANEL:** Also on the main screen is a *System Settings Panel*, located just below the Status Panel. The *System Settings Panel* icons are initially hidden behind a “VGZ” logo.

Click on the *Up Arrow* icon (to the right of the VGZ logo) to reveal the following six *System Settings* icons: *Link, Scan, Set, Log, Map* and *Mute*.

- **Link:** Enables remote linkage to other Ionit DVRs and clients. See Remote Access section for further instructions.
- **Scan:** Automatically cycles through all cameras, one image at a time, displaying an enlarged image. This feature DOES NOT affect recording operations. To deactivate the Scan feature, click the *Scan* icon again.
- **Set:** Provides access to advanced *System Settings* folders. See System Settings section for instructions for all folders.
- **Log:** Tracks log-ins and log-outs for all local users as well as all local and remote camera alarm events. See System Settings section instructions on setting alarms.
- **E-Map:** Provides access to cameras via any downloaded facility map(s). See System Settings section for further instructions on the *E-Map* function.
**Mute**: Eliminates all potential audio output from the DVR’s sound card.

**MINIMIZE/FULL SCREEN DISPLAY**: The Minimize and Full Screen display features are located in the lower right corner of the main screen. Minimize (click on the dash) allows you to minimize the main screen, enabling you to access the Windows desktop and the Ionit server software. Full Screen (click on the box) enlarges the video display to fill the entire screen. Press the Esc key on keyboard to return to the original screen size.

**VIDEO RECORD/PLAYBACK FUNCTIONS**: Also on the right side of the control panel are the following four icons: *Rec., Play, Stop* and *Key*. The Record, Play and Stop icons relate to the recording and playback of video images; the Key icon can be used to limit system access.

- **Record**: Selecting the Record icon \(\text{Record Icon} \) will activate all the preset cameras to begin video/audio recording.
- **Stop**: Selecting the Stop icon \(\text{Stop Icon} \) will stop all video/audio recording.
- **Play**: To playback video, select the *Play* icon \(\text{Play Icon} \) and a playback search panel will appear. See Section 4 for instructions on how to retrieve and play back video images.
- **Key**: The Key icon enables you to block access to the system controls without exiting the recording software or turning off the DVR. Select the Key icon \(\text{Key Icon} \) and log out of the recording system. The system will continue to operate but will remain locked until a valid User Name and Password are entered into the system. To log back into the system, press the *Esc* key to reveal the log-in window and enter a valid User Name and Password.

### 3. SYSTEM SETTINGS FOLDERS

The *System Settings Folders* enable you to customize the settings for various system controls. To access the *System Settings Folders*, select the *Set* icon on the *System Settings Panel* and a window will appear displaying tabs for the following twelve system setup file folders:

- Board Setup
- Camera Setup
- Host Setup
- E-Mail Setup
- User Setup
- Database Setup
- Sound Bank Setup
- My Channels Setup
- Address Book Setup
- Program Setup (Scheduled Recording)
- E-Map Setup
- I/O Device Setup

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The first folder to appear will be the *Board* folder. To access other folders, click on the desired folder tab.

**IMPORTANT:** After making the desired changes in any *System Settings* folder, make sure you click OK at the bottom of the file folder. If you do not click OK when finished your changes will not be entered.

### A) BOARD SETUP

The *Board* setup folder enables you to adjust frame size (NTSC or PAL) and make adjustments to individual “camera boards.” Each set of four camera ports corresponds to a single camera board; these boards have a system default names of Board 1, Board, 2, Board 3 and Board 4. Ionit “rack-mount” systems support up to 16 cameras (i.e., 4 boards) in a single DVR. Ionit “desktop” systems support up to 8 cameras (i.e., 2 boards). Select the *Board* tab from the *System Settings* folders to reveal the following screen.

- **Frame Size:** To change the desired frame size, select either NTSC or PAL. Frame size for NTSC is 640x480. The frame size for PAL is 704x576.

- **Individual Board Adjustments:** Available adjustments for individual boards are as follows:

  - **Name:** To change the board name, enter a name under each individual board. The default value corresponds to the Ionit PCI card number, ranging from 1 to 4.

  - **Recording Speed:** To change the maximum recording speed (frames per second), input the desired number for each board. The Ionit software will automatically adjust the recording speed to the maximum allowable speed of entire system. The default value is 30 fps in NTSC system and 25fps in PAL system.

  - **Frames Per Second/Seconds Per Frame:** The “FPS” icon (right of the Recording Speed box) refers to “frames per second.” Clicking on the “fps” icon converts recording on the board to “SPF” or “seconds per frame.” DVR recording should be conducted in “frames per second” unless you have a particular need to record in seconds per frame. Make sure this icon displays “fps” for each board.

  - **Full Speed Alarm Recording:** To set the system so that a camera records at a higher frame rate when an alarm is activated, activate the “Full Speed Recording When Alarm” box.

**IMPORTANT:** Before making changes to any board settings, first stop all DVR recording by clicking the Stop icon on the main screen. If you do not stop recording first, your changes to the Board settings will not be saved.

### B) CAMERA SETUP

The *Camera* folder provides access to settings for displaying and recording video as well as for creating camera alarms. Click on the *Camera* tab to reveal the following window:
BASIC CAMERA CONTROLS: The Ionit camera settings are as follows:

- **Enable (Enable Camera):** To activate all camera channels on the DVR, click on the *All Camera Enable* box. To activate/deactivate an individual camera channel, check/uncheck the box located just to the left of the *Camera Name* field for the desired camera. Deactivating an individual camera will reduce the number of video image windows displayed on the screen by one. For example, on a 16-camera DVR, if you disable seven cameras, the software will automatically adjust the viewing screen to display only the nine enabled video windows.

  **NOTE:** A camera will not be recorded, nor can it be monitored, unless it is enabled.

- **Record (Enable Recording):** To set all cameras for recording, check the *All Record* box. To set individual cameras for recording, check the box in the column titled “R” (i.e., Record) for the desired cameras. The Ionit system default has the Record feature activated for all cameras.

- **Display (Display Image):** When activated, this feature displays the camera images being recorded and/or monitored. The Ionit system default has the Display feature activated for all cameras. To “hide” individual cameras without affecting recording uncheck the box in the column titled “D” (i.e., Display) for the
desired cameras. A black Working screen will now appear in place of the video image. The video image is still being recorded (provided that the Record setting for the camera is activated). To display all cameras, click the All Display box.

- **Audio (Enable Audio Recording):** To enable audio for different camera channels, check the box in the column titled “A” (i.e., Audio) for the desired cameras.

  **NOTE:** Only cameras channels 1 and 2 on each Ionit board (4 camera channels per board) record audio full time. However, you can also select one camera from channels 3 or 4 to begin audio recording.

- **Video Lost (Check Video Lost):** To set all cameras to alert the user when the camera has lost video signal and is no longer transmitting video to the recorder, check the All Video Lost box. A red Check Video Lost screen will display when video signal is lost. To select this feature for individual cameras, check the box in the column titled “L” (i.e., Lost Video) for the desired cameras. The Ionit system default has the Check Video Lost feature activated for all cameras.

- **Alarm (Enable Alarm):** To enable the alarm feature for a particular camera, check the Alarm box for that camera. This will enable the Alarm Setup icon. Click on the Alarm Setup icon to input specific alarm settings. (See below for more details).

- **Camera Name Setup:** Each camera is assigned a default name based on its camera and board location (e.g., Camera 11 refers to Camera 1 on Board 1; while Camera 34 refers to Camera 3 on Board 4). To change the name of a camera, input a name into the Camera Name field.

- **PTZ Control Select:** This feature allows you to set up and control a Pan/Tilt/Zoom (PTZ) camera by selecting a PTZ control under PTZ Control Select dropdown. See the PTZ Operations section for details on PTZ Setup.

- **Image Setting:** The Image Setting feature allows you to adjust: i) the image quality for a particular camera; and ii) the motion sensitivity for an alarm trigger. To access these settings, click on the Image Setup icon for the desired camera.

- **Image Quality:** To adjust the image quality of a camera, click and drag the image quality bar to achieve the desired image quality.

  **NOTE:** Increasing the image quality from the default setting will decrease the compression ratio for that camera and decrease the DVR’s video data storage capacity. Decreasing the image quality setting from its default setting will have the opposite effect.

- **Sensitivity:** This feature adjusts the motion sensitivity of an alarm. See below for a full description.
INDIVIDUAL CAMERA ALARM SETTINGS: Each camera has independent alarm settings capable of detecting motion, memorializing the alarm event and alerting users to the alarm event’s occurrence.

- **Enabling the Alarm Detection Feature:** To enable the alarm feature for a particular camera, check the box next to the Alarm Setup icon for the desired camera. To enable the alarm feature for all cameras, check the box for All Alarm Enable.

- **Creating an Alarm Detection Area:** To create an alarm motion detection area for a particular camera image:
  - Gain control the camera you wish to create an alarm for by left clicking on the camera’s image. A “hand” icon in the upper right corner of the video image will confirm that you have control of that camera.
  - Left click and hold at the spot on the camera image where you want the upper left corner of the motion detection area to be located.
  - With the left mouse button still engaged, create the top and right side of the alarm detection area by dragging the mouse to the right, then down, then releasing the mouse.
  - The outline of a green alarm box will now appear on the screen.
  - You can create multiple alarm detection areas for each camera.
  - If the location of the newly created alarm box is not satisfactory, first erase the alarm box by clicking on the camera image and clicking the Unmask icon from the Image Function icons on the main screen, then create a new box as described above.
  - Colors for the alarm detection area have the following meaning:
    - Green -- Indicates that the alarm is set but no alarm is triggered.
    - Red -- An alarm has been triggered.
    - Blue – An alarm has been triggered but the alarm is not enabled.

- **Advanced Alarm Settings:** Click on the Alarm Setup icon for the desired alarm-enabled camera to reveal the following screen:
The Alarm Setup screen provides access to the following features:

- **Alarm Event Period**: To adjust the time that the alarm remains activated, input a time (in seconds) into the Alarm Event Period box. The default alarm event period is 180 seconds. The minimum time is 10 seconds. **NOTE**: A second alarm will not activate until the initial alarm is completed.

- **Alarm Trigger Sensitivity**: The sensitivity of a camera alarm (i.e., the amount of motion that is required to trigger an alarm) can be adjusted in one of two ways.

- **Alarm Sensitivity Setting**: Check a camera’s Alarm box and click on the Image Setup icon. Using the Motion Detection Sensitivity scroll bar, click and drag the bar. **NOTE**: Various factors affect alarm sensitivity, including camera type, lens distance and lighting conditions. First test alarm sensitivity using the default setting, and then make incremental adjustments to achieve the desired sensitivity. Setting the motion sensitivity too high can lead to false alarms; setting the sensitivity too low can lead to under-detection of alarm events.

- **Alarm Changed Pictures Setting**: Below the alarm sensitivity setting is a field for the number of the changed pictures (frames) required before an alarm is triggered. An alarm will be triggered only if the motion variations exceed the number of changed frames. Thus, entering a low number (e.g., 1) will result in high motion sensitivity, while entering a high number (e.g., 5) will result in low motion sensitivity.

- **Alarm Schedule**: To activate an alarm by a pre-programmed schedule, click the Schedule button to open the Alarm Schedule Window. To add a new alarm, click the New button. Then choose the desired Repeat Mode: i) once only, ii) every day, iii) every week or iv) every month. If you select Every Day, Week or Month, you must enter a Start Date and Time and an End Date and Time into the "From" and "To" fields respectively.
If the scheduled recording time includes 12:00 a.m. (midnight), two scheduled recording times must be set. For example, enter 6:00 p.m. to 9:00 a.m. as follows: 6:00 p.m. to 11:59:59 p.m. and 12:00 a.m. to 9:00 a.m.

In the event of schedule conflicts, the first programmed schedule will override (i.e., cancel out) the schedule(s) in conflict.

To edit or delete an existing alarm schedule, highlight the desired schedule entry and click on the appropriate Edit/Delete function icon.

- **Trigger Warning Sound**: To play an audible alarm when an alarm is triggered, check the Play Warning Sound box, click the Select icon and select the desired sound.

- **Take Pictures on Alarm**: To take one or more snapshot images upon an alarm trigger, check the Take Pictures box and enter the number of snapshots desired.

  **NOTE**: These images are captured in JPEG format (.jpg) and are stored in the Pictures folder located in the Files Mode playback file tree hierarchy in the folder for the day that the images were originally created. Remember, JPEG images can consume large amounts of disk space and will impact the overall storage space.

- **Alarm Output Port**: To control a local site output device upon an alarm trigger, check the **Alarm Output Port** control box, click the **Setup** icon and a **Setting Output** control panel will appear. See Input/Output Device Setup section for further instructions.

- **Send Remote Alarms**: To send an alarm to a remote location upon alarm trigger:
  - Check the Remote Alarm box.
  - Click the **Setup** icon and a **Remote Alarm Setup** window will appear.
  - Select **New**.
  - Select the desired **Remote Type** (Telephone, Pager or Computer) using the drop-down menu.
  - For remote alarm transmission to a computer:
    - Input Remote Name. This requires first adding a new entry for the desired remote computer in the System Setting’s Address Book folder. (For system Type, select: IP.)
    - Select Remote Name: Return to the Remote Name window in the Alarm Setup and browse for the newly created Remote Name by clicking on the browse icon (three dots) and selecting the appropriate name.
    - Choose desired alarm format: Live Video, Auto Send Alarmed Video or Remote Sound.
    - Click OK.
- For remote alarm transmission to a telephone or pager, check the corresponding box and enter the required telephone or pager information.

- **Alarm Log:** To access the Alarm and User Logs, select the Log button located in the *System Settings* panel. When a local Ionit alarm is triggered or when an alarm is received from a remote recorder, the alarm data will be saved in the alarm log. The *Alarm Log* will display the alarm time, host name, camera location and alarm type. In addition, the log tracks confirmations or verifications that the alarm has been checked. The Ionit system enables authorized users to view the *Alarm Log* locally and remotely.

**C) HOST SETUP**

The *Host* folder contains various settings related to global system operations. Click on the *Host* tab to reveal the following screen:
The *Host* folder contains the following features:

- **Automatically Launch IonitPro+:** Automatically launches the Ionit recording software when the DVR is powered on. The Ionit system is defaulted with this feature activated.

- **Automatically Record:** Automatically begins recording when the Ionit recording software is launched. The Ionit system is defaulted with this feature activated.

- **Automatically Connect to Server:** Automatically connects the Ionit recording software to the Ionit Server software when the recording software is launched. The system will automatically connect it to the same Ionit server that was last connected to. If the Ionit server cannot be found, the system will continue a connection attempt until the Ionit server is launched.

- **Automatically Power Off the System:** Automatically powers off the DVR when the System Administrator exits the Ionit recording software.

- **Automatically Reset the System:** To periodically automatically restart the Ionit system, check the Automatically Reset the System box. Click the Setup icon to schedule the reset for once a day, once a week or once a month.

  **NOTE:** This feature is designed to decrease the risk of lockups and enhance system stability in certain applications. Consult an Ionit representative before enabling this feature.

- **Optional Warning Sound:** Set the Ionit system to trigger an alarm sound in the following specific situations: i) when the “host” connection is lost; ii) when a local log-in fails; or iii) when a remote log-in fails.

- **Modem Dial Timeout:** This feature allows you to set the length (in seconds) that a modem will stop dialing if unable to establish a connection. The Ionit default length is 120 seconds.

- **Modem Answer Timeout:** This feature allows you to set the length (in seconds) that a modem will disconnect when one modem does not receive any signal from the other. The Ionit default length is 120 seconds.

- **Video File Length:** To set the recording length for all video files, enter the desired number of minutes (10 to 120 minutes). The Ionit default is 60 minutes. Ionit recommends 60 minute file lengths for simplified file searches and decreased file download times.

- **Auto Scan Interval:** To set the amount of time the system stays on each enlarged image while in Auto Scan mode, enter the desired number of seconds into the Autoscan Interval box. The Ionit default length is 30 seconds.

- **Auto Logout Interval:**
- **Live Audio**: Check this box to enable live audio capabilities for the system.

  **NOTE**: When enabling this feature you must also set up the audio feature for each individual camera.

- **Watermark**: Check this box to add a watermark to recorded images. Watermark will appear on both live and recorded images.

- **Display Encoding Status**: Check this box to display the recording speed for a selected camera.

- **Optional Snapshot and File Clip Path**: This allows you to immediately save clips and pictures directly to a destination of your choice. For example, if you take a picture (or make a clip), you can direct that picture directly to a Memory Stick or to My Documents vs. sending it automatically to the “Files Mode” folder.

- **Pop up Alarm Log When Alarm**: This feature will display the alarm log over top of the video every time there is an alarm.

- **Enlarge Alarmed Window**: When this is activated, the camera that has an alarm associated with it will enlarge when the alarm is triggered.

- **Web Camera Service**: This needs to be selected if (and only if) you want to use Internet Explorer ® and Windows Media Player ® to view your cameras remotely.

- **My Channels Auto Scan**: This feature will scan your “My channels”. Thus if you set up two 4 channel views, it will scan between them.
D) E-MAIL SETUP

E-Mail setup enables an Ionit system to transmit e-mail notifications of alarm events. To activate the e-mail function, select the E-Mail tab from the System Settings folders and the following screen will appear:

![System setup (IONPROPLUS) screen]

The E-Mail folder includes the following fields:

- **Mail Server**: The mail server can be any e-mail server, as long as it is accessible on the network.
- **E-mail From**: Enter a valid e-mail address that will identify the ionit DVR.
- **E-mail To**: Enter the e-mail address for the recipient.
- **E-mail Retry Time:** Enter the number of times the Ionit DVR should attempt delivery.

- **E-mail Retry Interval:** Enter the desired time delay between attempted deliveries.

- **Mail Server Authorization:** If your mail server requires a User Name and Password to access the server, check the Mail Server Authorization box and enter the User Name and Password.

- **Modem Connection:** If the e-mail delivery method is via modem, set the Connection Select window to Dial-up Connection and input a User Name and Password.

- **Camera Trigger:** Enter the cameras that will trigger e-mail notification.

  **NOTE:** In order to be able to select a particular camera in the e-mail setup, you must first enable the alarm feature for that camera.

- **Alarm Notification Types:**
  - For “Text Only” notification activate the camera only.
  - For “Video” notification check the box for “V” next to the desired camera.
  - For “Picture” notification check the box for “P” next to the desired camera.

  **NOTE:** Picture will be transmitted as J-PEG file.

- **Input Trigger:** Select this function to allow for e-mail notification when an input device is triggered.
E) USER SETUP

The User folder enables the System Administrator to add, edit and delete authorized system users. Click on the User tab in the System Settings folders to reveal a window listing authorized users. The System Administrator’s User Name will appear in the User window at the top of the list of users (identified by a red icon of a person’s head). Individual users will not be able to see this list.

When launching the Ionit system for the first time after installation, the Ionit recording software will prompt you for a User Name and Password for the System Administrator (i.e., the user with the highest system privileges). The Ionit system cannot be started nor can the system controls be accessed until the System Administrator as been established.

NOTE: After the System Administrator’s User Name and Password are set, the User Name cannot be changed without uninstalling/reinstalling the software; however, the Password can be changed.

To add a new user and establish individual user’s permitted operations, click on New to reveal the following screen:

In the New User setup window input the new User Name and Password. Screen allows you to customize permitted operations for each new user. For each new user, select authorized operations from the following list by placing a check the appropriate box(es):
- **Start/Stop**: Allows user to start and stop recording.
- **System**: Allows user to access System Settings folders and Video Configuration function.
- **Guard**: Allows user to access Unmask (motion detection), Audio and Snapshot functions.
- **Log**: Allows user access to Alarm Log and User Log.
- **Playback**: Allows user to access Playback, Search, Pictures, Text and Text Color functions.
- **I/O**: Allows user to access Input/Output device functions.
- **PTZ**: Allows user to access PTZ control and speed dome camera control functions.
- **E-map**: Allows user to access E-map functions.
- **Remote Access**: Allows user to access remote access functions.
- **Camera Selection**: Allows user to view images for selected cameras.

**NOTE**: User will not be able to view cameras that are not selected in the audit.

- **Editing User**: To alter a user’s permitted operations and/or password, select the user’s name and click *Edit*. Only the System Administrator can alter a user’s permitted operations. A user can alter his/her own password, but is not permitted to alter authorized operations.
- **Delete User**: Select the user to be deleted and click *Delete* (available to System Administrator only).
F) DATABASE SETUP

The Database folder is used to specify the location (i.e., hard drive and directory) where video files are to be stored. Click the Database tab in the System Settings folders to access the following screen:

- **Drive Paths**: Drives reserved for data storage should appear in the Database folder as "enabled." For systems built after 05/01/2004 the C: drive on all rack-mount systems is a dedicated O/S drive not intended for use storing video data; this drive should therefore appear as "disabled" in the Database folder. For Ionit software versions 7.0 and newer, the C: drive is automatically disabled.

- **Add Database**: For Ionit software versions 7.0 and newer, all formatted drives (excluding the C: drive) are automatically enabled; therefore it is not necessary to add a database. To add a new database for earlier software versions:
  - Select New and enter a name for the new hard drive;
  - Click the browse “…” icon to set up the hard disk drive and directory;
  - Select the desired drive and directory. Click OK to finish setup.

**NOTE**: The default reserved space on a single hard drive is 1000MB. For units where the C: drive stores both the O/S and video data, Ionit recommends increasing the reserved space to 3000MB.
Enable/Disable Drive: To enable/disable a drive (i.e., allow/disallow video data to be written to the drive), in the Database folder highlight the desired drive and click Edit, then check/uncheck the Enable box.

Recycle Data: To configure a data drive to over-write data as the drive becomes full (on a first-in, first-out basis), highlight the desired drive, click Edit, then click the Recycle box. NOTE: The Ionit system default has the Recycle feature enabled.

Alarm for Full Drive: To trigger an alarm when a drive is full, highlight the desired drive, then click Edit, then click the Alarm box. Select a warning sound from the alarm sound bank. Click OK to finish the setup. Setup can be performed only once for each hard drive.

Edit/Delete: To edit or delete a database entry, select the desired database and click the appropriate icon. NOTE: Only the System Administrator can delete a database.

G) ADDRESS BOOK SETUP

The Address Book folder enables you to set up remote access to Ionit DVRs and remote clients via IP addresses and/or telephone connections. Click on the Address Book tab in the System Settings folders to access the following screen:
**Adding an Address:** To add a new entry to the *Address Book*, click *New*. The following *New Address* dialogue window will appear prompting you to enter the *Name*, *Type* and *Phone/IP* number for the new entry.

![New address window](image)

- **Adding New Server:** When adding the address for a local or remote Ionit system or a remote Ionit client:
  - Enter a name as you want it to appear in the *Address Book*. The name does not have to be the same as the DNS or any other system name.
  - For the *Type* field, select *Server* from the drop-down menu.
  - For the *Phone No./IP* field, enter the phone number/IP address for the system you wish to connect to.
  - Click OK, then OK again.

- **Adding New Remote IP:** When adding an address for sending a remote alarm to an Ionit system:
  - Enter the name of the remote Ionit system via LAN or Internet (case sensitive and must match the name of the remote system).
  - For *Type*, select *IP* from the dropdown menu.
  - For *Phone No./IP*, enter the phone number/IP address for the system you wish to send the alarm to.
  - Click OK, then OK again.

- **Adding a Modem:** When using modem communication for remote access or alarm:
  - Enter the desired name of modem.
  - For *Type*, select *Modem* from the drop-down menu.
  - For *Phone No./IP*, enter the remote connection’s phone number/IP address.
  - Click OK, then OK again.

- **Edit/Delete Address Entry:** Edit/delete *Address Book* entries by highlighting the entry and then clicking on the desired edit/delete function.
H) INPUT/OUTPUT (I/O) DEVICE

Ionit systems can integrate with external devices such as key card access systems or fire alarm systems. Ionit makes this integration possible through an I/O device connected to the serial port in the Ionit system. The I/O device receives a signal and will trigger an alarm in the Ionit system. Click on the I/O Device tab in the Systems Settings folders to access the following screen:

Adding I/O Devices: There are two types of Input/Output devices: I/O devices and PTZ cameras. In the I/O Device window and click New to access the following setup window:
Enter a device name. This name is for ease of recognition and is independent of any system settings.

Select the proper device Type from the drop-down menu. This is the driver or protocol for the camera or I/O device.

Select a COM port.

Input the device Address (hexadecimal and must exactly match the device’s address settings).

Click OK, then OK again.

Configure an I/O Device: Double click on a listed device to access the Edit TTY window.

Output Port Signal Type Setup: To set up or edit an output port select the desired output port and an output port window will appear.

- **Output Port Name**: Input a name or signal format to be assigned to the output port to be used as a common output port.
- **Use as a PTZ Port**: If using the output port to control a PTZ device, activate the PTZ control and select the PTZ control function.
- **Port Type**: Select the type of signal to be sent to the device. There are 5 different signal types (default is Signal 1):
  - Signal 1 (Low to High/Off to On)
  - Signal 2 (High to Low/On to Off)
  - Pulse 1 (Positive pulse)
  - Pulse 2 (Negative pulse)
  - Toggle (For switching ON and OFF the external device. If external device is ON user can control the output port to turn it OFF. If external device is OFF user can control the output port to turn it ON).

**NOTE**: You can also set the frequency of the pulse and number of pulses. For the Low and High Period settings, the default frequency is 1 second while the upper limit is 999 seconds. For the Pulse Number setting the default number is 1 while the upper limit is 99.

Input Port Setup: To set up or edit an input port, select an input port to open the Input Port window.

- **Input Port Name**: Enter name for input port.
- **Port Type**: Trigger an alarm or turn on/off alarm (i.e., when this port is triggered the alarm status will turn off if it was previously on, and vice versa).
- **Schedule**: Check box for Activate by Scheduled Table to activate port alarm by schedule. Then create desired schedule. Schedule setup is the same as for camera alarm schedule setup.
- **Alarm Action**: Select desired alarm action.
- **Warning Sound:** Check the box for *Play Warning Sound*, click the ".." icon for a directory of alarm sounds, select the desired sound and click OK. The sound name will appear in the *Playing Alarm Sound* field.

- **Record:** Check the box for *Start Recording*, select the desired camera number and an Input Alarm Camera Setup dialog window will appear.

- **Trigger to Preset:** If the selected camera is a dome camera and you want it to move to a preset point upon triggering event, check the *Trigger to Preset* box and enter the *Trigger Preset* field. Make sure the PTZ settings have been made during camera setup. If you do not want the PTZ to move away from the triggered preset point, do not check the *Dwell* box.

- **Alarm Output Port:** This may be used to drive the output devices to output signals. Click *Setup* to select desired output device’s group and output points.

**Edit/Delete:** To edit/delete an I/O device, click on the desired entry and click on edit/delete function. **NOTE:** Only the System Administrator can delete an I/O device.

### I) MY CHANNELS SETUP

The *My Channels* folder allows you to customize the camera views at the host DVR or at a remote viewing station. *My Channels* will allow a user to view one or more cameras from different Ionit recorders using the same viewing screen. To set up the *My Channels* feature:

1) Connect the remote computer to the Ionit DVR. You must be connected to the recorder from the remote workstation before you can set up the My Channels function.

2) Select the *My Channels* tab from the *System Settings* folders, then click on *New*.

3) In the *New My Channels* window, create a customized viewing screen by naming the customized configuration (e.g., All Exits) and then selecting the number of cameras for this view (4, 9, or 16 cameras).
4) Assign camera positions (A through P) by using the pull-down menus for the Host and Camera fields.

- The Host field allows you to select the Ionit system you want to pull a camera from. **NOTE:** Only connected host systems will appear in this pull-down.
- The Camera field enables you to select the cameras available on the particular host that you have selected.

5) After selecting the desired cameras, click OK.

6) To view screen created in My Channels, click on the button to the left of the System Settings panel to reveal the system Control Panel. Make sure local/host system is connected to system(s) that video is being pulled from.

7) Select the Host/My Channels icon. Click the down arrow to change to My Channels view. All My Channels views created will be displayed here. Click on the desired My Channels view.

**NOTE:** To view remote images the user must have proper operations permission.

J) E-MAP SETUP

To set up the E-Map function, click the System Settings icon, select the E-Map tab, then click on New to access a New Map window.

- Input a name for the map (e.g., Floor 1, Basement).
Press the Select button to import the map file. **NOTE:** The imported map file must be a bitmap file format (.jpg), with a resolution of 640x480. Click OK. To add a new map level, highlight the original map name and click New.

**Adding Cameras:** To add cameras to the map, click on the camera icon in the upper left corner of the newly created map. The cursor will change to a plus (+) sign. Move the cursor to the desired camera location and left click to fix the camera position.

Double click on the camera icon and select the desired camera using the following fields: *Host Name, Camera Board* and *Camera Channel*.

**Level Change Icon:** Double click on the “double arrow” icon in the upper left corner of the newly created map to add a “level” change button. The cursor will change to a plus (+) sign. Move the cursor to the desired level change location and left click to fix the level change position. This button will now enable you to access a second designated e-map (e.g., next higher or lower floor).

**Edit/Delete Cameras:** Double click on the desired camera and select from *Edit* or *Delete* options.
E-Map Operations: Select the *E-Map* function from the System Settings icons to produce the first-level e-map. Use the map tree to select other level maps.

- Grey camera icon with light bulb ON means camera is recording.
- Grey camera icon with light bulb OFF means camera is not recording.
- Grey camera with universal “DO NOT” symbol (red circle bisected by red line) means there is a problem with the camera setup--check host, board ID and camera ID. If this occurs during remote monitoring mode, make sure the host name is identical and that you are connected with the appropriate Ionit system.
- Grey camera with exclamation mark means an alarm has been triggered on that camera.
- Green camera with light bulb ON means the selected camera is recording.
- Green camera with light bulb OFF means the selected camera is not recording.

K) SOUND BANK SETUP

To set up or add a sound, click the **System Settings** icon and select the **Sound Bank** tab to reveal a list of sound files.

**New Sound:** To add a new sound file, click **New** and a **New Sound** window will appear. Provide a name for the sound file and then click **Select**. Choose the desired sound file...
and click Open. Click Preview to ensure the selected file is the desired one. Click OK to complete the setup.

**Edit/Delete Sound File:** To edit a sound file, highlight the desired sound file entry and select the desired function. **NOTE:** Only the System Administrator can delete a sound file.

**Preview:** To preview a sound file, select the desired file entry and click Preview.

**NOTE:** The Voice Modem field (with values YES and NO) shows whether the sound file can be transmitted to a telephone through a modem.

**NOTE:** The file to be transmitted to a telephone must be in the format of PCM 8000Hz, 16-bit, mono.

**L) PROGRAM (SCHEDULED RECORDING) SETUP**

To set up scheduled recording for one or more cameras, select the Program tab from the System Settings folders, then click New. The following window will appear:

- **Enter New Program Schedule:**
  - Enter a Start Date and Time and an End Date and Time in the “From” and “To” fields respectively. Choose the appropriate Repeat Mode to record either: i) once only; ii) once a day (every day); iii) once a week (every week); or iv) once a month (every month).
If the scheduled recording time spans 12:00 a.m. (midnight), two scheduled recording times must be set. For example, enter 6:00 p.m. to 9:00 a.m. as follows: 6:00 p.m. to 11:59:59 p.m. and 12:00 a.m. to 9:00 a.m.

**NOTE:** In the event of a schedule conflict, the first programmed schedule overrides all others, i.e. other schedules recording and audio recording are all cancelled.

- Choose a Program mode from the following options: **Recording** (normal video recording mode), **Audio Recording** and **Snapshot** (takes snapshots at a predetermined time interval).
- Select desired cameras for scheduled recording.
- After entering required information, click OK.

- **Edit/Delete Recording Program Schedule:** To edit/delete a schedule, click on the desired entry and select the desired function. **NOTE:** Only the System Administrator can delete a recording program schedule.

### 4. VIDEO FILE SEARCH/PLAYBACK

The Ionit system enables you to simultaneously play back multiple video files. Ionit offers three ways to search for and play back video:

**A) PLAYBACK WITH INSTANT PREVIEW**

1) To instantly play back video from a specific camera, right click on the desired camera view, select **Preview** and the following box will appear:

![Preview dialog box](image)

2) Input the number of minutes (1 to 99) you desire to go back, click OK and an IonitPlayer will appear playing the desired video. Follow the same procedure to retrieve additional cameras.

**B) PLAYBACK BY TIME AND DATE**

On the main screen click the **Play** icon to open the Video Playback panel.
Use the Video Playback panel to search for a desired video file by a specific date, time and location. **NOTE:** This feature searches the hard drive(s) on the DVR or PC that you are physically at.

**Search by Time:** Click on the *Search by Time* option and input the desired time and date (to reference a calendar, click on the down arrow to right of date insert window) Now select the camera or cameras—up to four—that you wish to playback. Then click on *Play* button and each camera selected will be retrieved in a separate IonitPlayer.

**NOTE:** If you are are connected to other DVRs or have previously downloaded video files from another video file, use the *Host Name* dropdown menu to search the desired host computer.

**Search by Date:** Click on the *Search by Date* option and click on the drop-down menu. Use the calendar to select a specific day, month and year. Then select desired cameras (up to 4) and click OK. Each channel selected will be retrieved and played in a separate IonitPlayer.

**NOTE:** This search mode will retrieve the earliest video that exists for that camera on the day you have selected. For this reason, you may find the Search by Time more helpful in retrieving desired video files.

**C) PLAYBACK VIA FILES MODE**

To search in *Files Mode*, first click the *Play* button on the main screen, then click the *Files Mode* icon on far right of the date and time screen. A split screen will appear. The left side contains a file tree. The right side will display any video files contained in the specific day’s folder selected from the file tree.

The file tree organizes all stored video files, making it easier to navigate and retrieve files. Video files can be located and reviewed from both local and remote Ionit recorders. You can also search alarm and user logs located on local and remote computers, provided the user has the proper permissions.
File-Tree Hierarchy Overview: The file tree hierarchy is as follows:

- **Level 1 -- Host**: The top level is the name of the host system, meaning the name of the ionit DVR or remote client that you are at. If the user is connected to multiple ionit recorders, each of the ionit recorders will be listed here. The first name is always the DVR/remote client that you are physically at.

- **Level 2 -- Database**: The second level is the database. Because ionit recorders can save video files to multiple hard drives, there can be multiple databases listed under each host. For ion "desktop" units, data/video will be listed under the C: drive. For Ionit 3U "rack-mount" units, data and video will be located under the D: drive. If the unit has multiple data drives, these other drives will appear as well (e.g., E: drive, F: drive, etc).

- **Level 3 -- Date**: The third level lists the date of each folder. Ionit systems save a new video and log folder each day.

- **Level 4 -- Host name**: The fourth level again lists a host name, however, this is the name of the host from where the saved files are recorded from. Thus, if a user views and records cameras from a remote location, those files will be listed here under the host name of the remote computer. Otherwise, the user will see only the local host name.

- **Level 5 – Archive Files**: The fifth level consists of five archive file names: Video; Log; Picture; Clips and Alarm.
  - **Video**—contains all normally recorded video files for that particular day.
- **Log**—contains user log for that particular day.
- **Picture**—contains all Snapshots you have created for that particular day.
- **Clips**—contains all edited video clips you have created for that particular day.
- **Alarm**—contains all alarm clips created from alarm events occurring on that particular day.

**NOTE:** Each *Date* folder initially contains: i) a *Video* file, which contains all video for the day; and ii) a *Log* file, which logs system access for that day. Three additional files—*Alarm*, *Clips* and *Pictures*—will also appear in the Date folder as these categories of video files are generated.

**Viewing and Retrieving a File:** To view and retrieve video files from a particular day:

1. Click on + sign next to IonitPro+ Host, then Desktop DVR.
2. Under the D: drive, select the *Date* folder (e.g., 2005/06/09) that corresponds to the origin date of the video file(s) to be retrieved.
3. Click on the *Video* folder for that day.
4. All video files will be displayed on the right side.
5. To view a particular file, double click on that file listing or highlight and click *Open* icon on the *Files Mode* Toolbar (see below).

**Files Mode Toolbar:** Across the top of the *Files Mode* playback window is a toolbar containing the following functions: *Open*, *Download*, *Export* and *Delete*. To perform each function, select the file then click the desired command button.

- **Open**: Opens the file(s) you have selected (i.e., highlighted). Up to 4 files can be played simultaneously.
- **Download**: Downloads selected file(s) from a remote location to the local computer.
- **Export**: Exports selected file(s) to a desired location on the host computer.
- **Delete**: Deletes selected file(s). **NOTE:** Only a System Administrator can delete a video file.
5. IONITPLAYER OPERATIONS

The i-Player contains two distinct feature set panels: a Main Playback Panel for standard video playback and an Advanced Playback Panel for creating and saving video clips and snapshots. To access the Advanced Playback Panel, click on the “down arrow” at the bottom center of the Main Playback Panel. All retrieved video files will be played back via the Ionit video player shown below:
A) PLAYBACK PANEL

The i-Player's Main Playback Panel contains the following features:

- **Stop**: stops the current video playback.
- **Play**: Functions the same as the Play button of a traditional video player.
- **Pause**: Functions the same as the Pause button of a traditional video player. To continue video playback, click this button again or click the Play button.
- **Backward Search**: Functions the same as the Rewind button of a traditional video player. One click rewinds video 160 frames.
- **Forward Search**: Functions the same as the Forward button of a traditional video player. One click advances video 160 frames.
- **Frame Advance**: Advances video one frame at a time, pausing each time.
- **Frame Rewind**: Rewinds video one frame at a time, pausing each time.
- **Enlarge Image Size**: Enlarges the size of the video image.
- **Reduce Image Size**: Reduces the size of the video image.
- **Fast Play**: Clicking on the dots on the perimeter of the Play icon will advance increase the video play speed.
- **Slow Play**: Clicking on the dots on the perimeter of the Play icon will slow the video play speed.
- **Time Scroll Bar**: At the top of the iPlayer is a scroll bar that allows you to quickly advance through a video file by clicking and dragging the scroll pointer.

- **Text**: The i-Player will display the following text on the video image:
  - Camera name (upper left corner)
  - Start date/time of the video file being played back.
  - End date/time of the video file being played back.
  - Current date/time within the video file being played back.

**New Playback features**

1. **Slider**: During playback, you can smoothly control the position of video using the slider.

2. **Quad View and Search**: you can use the i-Player to search you Hard Drive and play multiple cameras in time synchronization and keep them synched as you use the slider or fast forward, slow play, frame advance…
Select “Search sub folders”, this will search all folders within the folder you browse to.
B) ADVANCED PLAYBACK PANEL

The i-Player’s Advanced Playback Panel contains the following features:

- **Start Video Clip:** Click this button during video playback to start a video clip.
- **End Video Clip:** Click this button to end the video clip.
- **Save Video Clip:** Saves video clip to the Pictures file (in Files Mode) for the day on which the video was originally created.
- **Play New Clip:** Plays back the clip just created.
- **Snapshot:** Takes a still image from the video file and saves the image to that day’s Pictures file in the Files Mode file tree.
- **Caption:** Hides the camera text that shows the camera name and time for the particular camera selected.
- **Caption Color:** Enables you to select the desired color for the camera text for the particular camera selected.

C) CREATING VIDEO CLIPS

To create a smaller segment of a video file, i.e., a video "clip", use the clip editing tools on the Advanced Playback Panel:

1) Locate the beginning of the desired clip.
2) While the video file is playing, click the **Start Clip** (open scissors) icon.
3) Either allow the video to advance the desired length on its own, or use advancing features (**Time Scroll Bar**, **Fast Forward Button**) to advance the file to the desired end of clip.
4) Click the **Stop Clip** (close scissors) icon.
5) Save the newly created clip by clicking the **Save** button. (Clip is now saved in **Files Mode** under the **Clips** file for the day on which the video was originally created.)
6) Preview the newly created clip by clicking the **Playback** button.
D) COPYING FILES TO CD

These instructions apply to Ionit systems using WindowsXP®. Ionit updates these instructions from time to time. Check [www.ionitus.com](http://www.ionitus.com) for updates.

1) Locate the file you want to copy onto a CD.

2) From the main screen, click `Play`, then `Files Mode`. Navigating the file tree on the left side of the screen, click the + sign next to `IonitPro+ Host`, then select the `Host` and `Drive` to access the folder for the desired day. Select the desired subfolder, i.e., `Video, Alarm, Clips` or `Pictures`.

3) Highlight the video file(s) that you wish to burn and click `Export` on the toolbar at top of the screen.

4) Double click on “C:” drive, highlight the folder on the “C:” drive named “Archived Video Clips” and click OK.

**NOTE:** If exporting a single file, you will be prompted to name the file; if exporting multiple files at once, system will assign default file names using time and date of file.

**NOTE:** Ionit systems built before 06/01/05 this folder is not pre-existing. Ionit recommends creating a similar folder on your C: drive.
5) Insert CD-R and close this window.

6) Press the Windows key on your keyboard and the following window will appear:
7) Select “Archived Video Clips” folder and the following window will appear:

8) Right click on the files you want to copy and click “Send To” CD-RW Drive. Right click on the IonitPlayer software and click “Sent To” CD-RW Drive.

**NOTE:** Playing a video file requires the use of the IonitPlayer. Ionit recommends copying the IonitPlayer software onto all CDs.

9) A “pop up” message should appear informing you that you have files waiting to be written to a CD. If so, click on this message to access the CD drive. If not, browse for the CD drive using Windows.

10) The following window will appear listing the video files and IonitPlayer software that you have previously selected to burn to the CD:
11) Click “Write these files to CD.”

12) A CD Writing Wizard screen will appear and ask you to name the CD. Click Next, then Finish and CD will eject.
E) VIEWING VIDEO FILES WITH THE STANDALONE IONITPLAYER

1) Open the IonitPlayer software and the following screen will appear:

2) Click File then click Open.

3) On the left side, select the drive that the video is saved on, or the CD ROM drive if viewing video from a previously burned CD. The video file will appear on right side. Highlight and then open.
6. REMOTE ACCESS VIA LAN, WAN OR INTERNET

A) DVR/Computer Network Settings

1) Obtain the static (fixed) IP address, Subnet Mask and Gateway (if needed) from the IT manager (See router support if using WAN)

2) Hit Windows Button on keyboard; click Network Connections; right click on LAN; click on Properties; and double click on Internet Protocol (TCP/IP).
3) Input the static IP address, Subnet mask and Gateway (click on Advanced for the gateway), then click OK all the way out.
B) Ionit Server Software

1) Minimize the ionit DVR software to reveal server software window. Make sure server software is running in the background. DO NOT CLOSE server software: when networking, server software must remain running at all times.

**IMPORTANT: 2005 SYSTEMS AND 7.0 or higher skip Step 2:**

2) Software versions prior to 2.x and earlier require entering the User Name in the Server Software as well. To do this:
   - From the server software window (if not running, launch from the server software desktop icon) click **File**, then **Log In**.
   - Enter the default User Name and Password: User Name: server Password: server.
   - Click **User** information, then right click on **Users** and click **New User**.
   - Enter User Names and Passwords (case sensitive).

C) Ionit DVR Software Settings for Networking

1) Connecting DVR and Server Software:
   - (a) Click **Set** icon and select the **Address Book** tab, then click **New**.
   - (b) Enter the name of the location where the DVR resides (e.g., Building A). This name does not need to be the same as the DNS information.
   - (c) In the **Type** field, select **Server** from the drop-down menu.
   - (d) In the **Phone No./IP** field, enter the same IP address as in Step A; click **OK**.

2) **Input remote clients** and/or other local users: Click **User** tab; click **New**; input the User Name and Password (lower case only; letters or numbers). (e.g., User Name: **john**  Password: **smith**).
   - **NOTE:** Make sure you click the OK button--if the “X” button is used to exit your settings will not be saved.

3) Click the **Link** icon (bottom of screen by the **Set** icon).
D) Remote Software Setup

1) Place the ionit CD in the remote computer—wizard should automatically launch. If not, browse the CD, go to the Software folder and run the proper setup file.
2) Follow on-screen installation instructions, selecting software for Remote users.
3) After wizard is complete, close the CD software and double click on the new blue ionitPRO+ icon on Desktop.
4) Enter the System Administrator User Name and Password for the remote client. (e.g., User Name: john; Password: smith).

NOTE: The same information must also be entered in the recording software’s User tab per Step A.

NOTE: At the remote client, only the remote client System Administrator can close and/or minimize the Ionit software. Other Users added at the remote client will not have the authority to close and/or minimize the Ionit software.

5) Click the Set icon; click Address Book; click New.
6) Enter the name of the location where the DVR resides (e.g., Building A).
7) For the Type field, select Server from the drop-down menu.
8) For the Phone No./IP field, enter the same IP address as in sections 6.A. and 6.C.; click OK; click Close.

NOTE: if using WAN, see configuring router for NAT instructions.

9) Click the Link icon (bottom of screen by the Set button).
10) Double click on the name created in 6.C. The word “Connected” will appear under Status. Click OK. If status does not show “Connected,” see below for troubleshooting remote connections.
11) Click Display icon (just to the left of the Link icon). A control panel will appear displaying all systems connected to the ionit server software. Double click on the desired computer name (e.g., IONITDVR). Blue screens will appear. Click the Record icon (bottom right) and Remote Channel Select window will appear. Select desired options and click OK.

NOTE: Selecting Record (versus Monitor) causes the video you are watching to be recorded to the remote PC’s hard drive. Selecting either Record or Monitor at the remote client DOES NOT affect recording at the DVR.

7. Troubleshooting Remote Connections
Try these troubleshoots before calling ionit technical support. For clarification, use the following terms when troubleshooting:

- **DVR**: The subject ionit DVR unit (runs both recording software and server software).
- **Recording Software**: The ionit recording software on the DVR (delivers live video).
- **Server Software**: The Ionit server software on the DVR (window has white screen with term “Connections” at the top).
- **Remote Client**: The remote PC with ionit Recording Software on it.
- **Connect**: Linking the Remote Client recording software to the Server Software.

**Issue 1**: The Remote Client connects to the Server Software, but the DVR name does not appear on the Recording Software’s control panel.

![Image of ionitPRO+ control panel]

**Solution**: Ensure that the Recording Software is “linked” to the Server Software by clicking the Link icon and checking for the term “Connected” under status. If “Connected” does not appear, double click on name of the DVR. If “Connected” still does not appear under status, check to make sure you have the IP address for the DVR properly entered in the Recording Software’s Address Book. Then go to the Link icon and double click on name of DVR.
Issue 2: You are able to connect to Server Software and see DVR, but get “Access Denied” or “Enter User Name and Password.”

Solution: Make sure Remote Client’s User Name and Password is in the Recording Software. From the DVR’s main screen, from the System Settings folders select the User tab. If Remote Client is not listed, click New and enter the Remote Client as a User (case sensitive).

Issue 3: The Remote Client will not connect to the Server Software.

Solution: Double check the IP address in the Remote Client’s Address Book (should be the IP address of the DVR). Try to “ping” the DVR as follows: On the Remote Client, click on the Windows Start button, click Run, then type in the letters “cmd”.
At the command prompt window, type: ping xxx.xxx.xxx.xxx (where xxx.xxx.xxx.xxx is the IP address of the DVR that you are “pinging”).

You should receive a message confirming “4 Sent and 4 Received.” If you receive a message stating “Destination Host Unreachable,” check the network cables for the DVR and the Remote Client. If cables are okay, contact your IT department or Ionit technical support.

8. UPDATING IONIT SYSTEM DRIVERS AND SOFTWARE

If you are upgrading a remote client, click here.

A) IONIT DVR SOFTWARE UPDATE

IMPORTANT: Before installing or uninstalling an Ionit video capture card, check with your Installer (integrator) or your authorized Ionit representative. Unauthorized and/or improper installation can damage the recorder and will void the system warranty.

1) Uninstall the current Ionit software. NOTE: If performing a clean install Ionit recommends writing down the following information from the ionit software before upgrading: IP addresses entered in the Address Book; user names; camera names; alarms and/or schedules.

(a) Close all Ionit software programs (both server and recording software. In Windows, go to Control Panel, then Add/Remove Programs, then highlight ionitPro+ and click Remove. This will uninstall the current software.
(b) If instructed by technician to perform a "clean install" then go to the ionitPro+ folder (located on your C: drive under Program Files) and delete all files EXCEPT THE DATABASE FOLDER.

2) Load the Ionit 7.1 software.
3) Update the drivers.

(a) Right click on My Computer (on desktop).
(b) Click on Properties.

• Click on Hardware tab.
• Click on Device Manager.

4) Locate the current driver.
(a) Expand Sound, Video and Game Controllers. NOTE: There are two listings with this heading--select the one with the picture of a computer monitor).
(b) You will see a driver listed (e.g., 7.08 or 7.09). Right click on this driver.
5) Click on *Update Driver.*

6) Select “Install from a list or specific location (Advanced)” then click *Next.*

7) Step 7: Select “Don't search, I will choose the driver to install.”

8) Step 8: Click on “Have Disk...”
9) Step 9: Click “Browse…”

10) Open “Video Card Drivers” folder, then double click on “vgdev file.”

Next screen appears
11) Highlight ionitPro+ 7.11 and click Next.

12) FOR SYSTEMS WITH MORE THEN 1 CARD/DEVICE repeat Steps 3 through 7 and then Step 11 (skipping Steps 8-10).

13) FOR SYSTEMS THAT USE THE C: DRIVE FOR STORAGE (IonPro+ and IonitPro+ systems built prior to 06/01/04), open the Ionit software and make sure you see video. If not, go to the System Settings folders, click on the Database Edit tab, highlight the C: Drive, click Edit and enable the C: Drive.

14) Close the Ionit software. To ensure that the automatic video folder deletion process functions properly, you must move your existing video folder from old Database folder on C: drive (C:/Program Files/IonitPro+/Database) to the newly created Database (C:/database). Open My Computer, click on the C: Local Disk, then open the Program Files folder, open the ionitPRO+ folder, open the Database folder. Video folders for individual days will appear (e.g., d20050102). Drag (or cut) these folders and drop into the new Database folder located at C:/database (you will see this folder when you open the C: drive from My Computer).

15) Restart the Ionit software and allow system to record. Then check to make sure video is recording to the new C: Database folder on the C: drive.

B) REMOTE CLIENT SOFTWARE UPDATE

1) Obtain the DVR’s name and IP address from the Address Book (in the Ionit software, click on Set, then click the Address Book tab).

2) Close the Ionit software program and uninstall the current Ionit software as follows: In Windows, go to Control Panel, then Add/Remove Programs, then highlight ionitPro+ and click Remove.

3) Install the Ionit 7.1 software. Run the setup wizard (ionitpro+ 7.1 exe file).

4) After the setup wizard is complete, click on the Ionit recording software (blue) icon, enter the remote client’s User Name and Password (including confirmation). From the System Settings folders select the Address Book tab, then click New and enter “ionit” in the Name field. In the Device Type field select Server from the dropdown menu, then enter the IP address for the DVR (obtained in Step 1). Software operates and functions the same as previous versions.
9. ROUTER CONFIGURATION

A) Enter static IP address on the DVR (IP Address; Subnet Mask; Default Gateway; Preferred DNS Server (obtain from ISP)).

![Internet Protocol (TCP/IP) Properties dialog box]

- Obtain an IP address automatically
- Use the following IP address:
  - IP address: 192.168.1.2
  - Subnet mask: 255.255.255.0
  - Default gateway: 192.168.1.1

- Obtain DNS server address automatically
- Use the following DNS server addresses:
  - Preferred DNS server: 4.2.2.1
  - Alternate DNS server: 4.2.2.2

B) Configure the router.

1) Name the Application (e.g., CAMS).
2) Set the ports in your firewall/router.
3) For the Ionit recording software, open ports 48100 to 48103.
4) For the Ionit browser software, open port 5100.
5) Direct ports to the DVR’s IP address (e.g., 192.168.1.2)
6) Enable both protocols.
C) Set up the Ionit software.

1) At the DVR enter the internal address (e.g., 192.168.1.2).
2) At the Remote Client, enter the router (DNS) address in the Address Book.
10. PTZ OPERATIONS

PTZ Signal Conversion Requirements: To operate a PTZ through the Ionit software, you must use an A52 converter available through Ionit. This device converts signal between the camera and the DVR from RS-232 to RS422/485. Wiring from the A52 to the camera is camera-specific. Consult your PTZ’s user manual for wiring instructions.

Installing the Ionit Dome PTZ: Wiring instructions for the Ionit dome PTZ are as follows:

1) Wire the A52 converter to the dome (using a twisted-pair data wire (e.g., red and black).
2) One twisted-pair wire (e.g., red) connects to the yellow wire from the dome Data+ and into the 1st port on the A52 converter.
3) The other twisted-pair wire (e.g., black) connects to the orange wire from the dome RS-485- to the 2nd port on the A52 converter. (R- and R+ on the camera; T- and T+ are for the next camera down the line.)
4) Use the cable provided to connect the A52 converter to the Ionit DVR by connecting the RS-232 port on the A52 converter to one of the DVR’s COM ports (9-pin serial).

NOTE: Most Ionit DVRs only have one RS-232, 9-pin COM port.

![Diagram of PTZ installation](image)

Ionit Software PTZ Settings: From the System Settings folders, select the I/O Device tab, then select New and the following screen will appear:

![New TTY window](image)

- Name the PTZ (e.g., ionitptz0)
- Use drop-down menu to select the Device Type (i.e., the driver for the particular PTZ. IMPORTANT: To operate PTZs through the Ionit software you must select the proper driver for the PTZ camera(s) being used. See below for a chart.
containing the PTZ cameras supported by the Ionit software and their respective driver names as they appear in the Device Type drop-down menu.

- Select COM port.
- Select PTZ address (see hexadecimal chart below, must match address on the camera).

In System Settings folders, go to Camera tab and select the new PTZ control for the proper camera. Click OK.

- To the far left of the Set icon is the Control Panel icon 🛠️. Click on the icon to reveal a control panel on the right side of the screen.
- Click the PTZ icon [Image]. You should now have control of the camera.
- To rename the Preset positions, in System Settings go to the I/O Device tab, double click on the PTZ device you created, then double click on the numbers at the bottom of this window and rename the positions.

PTZs Supported by Ionit Software: The following chart contains the PTZ cameras supported by the Ionit software, and their respective driver names as they appear in the Ionit software:

<table>
<thead>
<tr>
<th>PTZ Manufacturer</th>
<th>Corresponding Driver Name</th>
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</thead>
<tbody>
<tr>
<td>Ionit (indoor and outdoor)</td>
<td>Ionit</td>
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<tr>
<td>Everfocus</td>
<td>Eastel</td>
</tr>
<tr>
<td>Panasonic</td>
<td>WV-CS850</td>
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<tr>
<td>Lilin</td>
<td>PIH717X</td>
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<tr>
<td>Dynacolor</td>
<td>CA720</td>
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<tr>
<td>Pelco D (2400, 4800, 9600)</td>
<td>Pelco D</td>
</tr>
<tr>
<td>Pelco P (2400, 4800, 9600)</td>
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</tr>
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<td>Eastel</td>
<td>Eastel</td>
</tr>
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<td>Dentec</td>
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<td>Sampo</td>
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<td>Philips</td>
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<tr>
<td>Mikami</td>
<td>PTC103A</td>
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<tr>
<td>Sensormatic</td>
<td>Sensormatic</td>
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</table>
HEXDECIMAL CHART FOR PTZ:

You can use the Microsoft ® Calculator to do this conversion:
Put the Hexadecimal # in the ionit software. The “Address” is what the camera setting is, the Hexadecimal # is what you put in the ionit software. These are just samples, use calculator to go higher if needed.

<table>
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<tr>
<th>Address</th>
<th>Hex #</th>
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<th>Hex #</th>
<th>Address</th>
<th>Hex #</th>
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</table>
11. IONIT BROWSER VIEWER SOFTWARE

Ionit software versions 7.0 and higher include browser viewer software. This software enables you to access cameras remotely from anywhere in the world via an Internet browser (i.e., without the Ionit remote viewing software). Instructions for using the browser software are as follows:

A) Download the Ionit browser patch onto the remote client (either from the Ionit software disc that ships with the DVR or from the Ionit website at www.ionitusa.com) and run the wizard. (click here)

B) Make sure the web browser feature is activated in the Ionit recording software: Click the System Settings icon; select the Host tab; and make sure the box for "Web Camera Service" (bottom right side of window) has a check in it.

C) Make sure the Ionit DVR has a network connection with a static IP address.

D) Open Internet Explorer, and in the address field (where you normally type www.ionitusa.com) type the following: vgtp://xxx.xxx.xxx.xxx/1 (where xxx.xxx.xxx.xxx is the fixed IP address for the Ionit DVR that you want to view).

E) The “/1” portion of the address represents the camera number that you want to view. Enter “/1” to view Camera 1; enter “/16” to view camera 16. You can only select and view one camera at a time.

F) Windows Media Player will launch and prompt you for a User Name and Password. NOTE: This same User Name and Password must be entered the Ionit DVR recording software.

Tip: Instead of entering a new IP address in Internet Explorer, consider using Hyperlinks.

12. RESTORING THE OPERATING SYSTEM TO FACTORY DEFAULT SETTINGS

Ionit systems are equipped with recovery software that enables you to restore your operating system to factory default settings in the event that your system is subjected to corrupt files, a Windows® failure, BIOS issues, viruses or deleted O/S files.

IMPORTANT: The recovery process will delete and restore the O/S drive. All data will be lost on the C: drive. For Ionit rack-mount systems built after 05/01/04 the C: drive is dedicated for the O/S and is not used to store video data. The system recovery process will only erase and restore the O/S drive and will not erase dedicated video data drive(s).

Instructions for performing a system recovery (estimated restore time is 20 minutes) are as follows:

A) Reboot the Ionit DVR.

B) As soon as the system starts to power up start hitting the F4 key on your keyboard until the Phoenix recovery software screen appears.

C) Select Applications.

D) Select FirstWare Recover.

E) Select Launch.
F) Select either *Recover Boot Partition* or *Recover Entire Drive*. Ionit recommends recovering the entire drive. You will lose all data on that drive.

G) Restore software will boot the DVR once it is done.

H) Load the appropriate Ionit software version. **NOTE:** If you have not previously performed a software upgrade on this system, use the Ionit software disk that shipped with the system and reload the software. Otherwise, load the software version that the system was last upgraded to.

I) Launch the Ionit software.