

PRODUCT MANUAL

Installation, Configuration, and Operation Instructions



END-TO-END Solutions for
Broadcast & Streaming

LEIGHTRONIX

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Thank you for purchasing a PEGvault-SD broadcast digital video encoder. The PEGvault-SD makes it simple to digitally record any video source with the push of a button. The PEGvault-SD records industry-standard MPEG-2 files for use with a LEIGHTRONIX NEXUS series server/controller (UltraNEXUS and NEXUS), LGX-SVOD, or a compatible third party server or storage location. The PEGvault-SD can also be integrated with a LEIGHTRONIX Internet streaming video-on-demand application, allowing you to record files optimized for a LEIGHTRONIX streaming Web site.

For even greater flexibility, the PEGvault-SD also includes a Web interface that can be used to operate your PEGvault-SD record and transfer features from any location while also providing administrative options for setting up file transfer destinations, changing recording quality presets, managing files on the PEGvault's internal hard drive, and accessing the system's log files.

PACKING LIST

- (1) PEGvault-SD Digital Video Encoder
- (1) *PEGvault-SD Manual*
- (1) Part #10-5574, Infrared, Wireless Remote Control
- (2) AAA Batteries for Remote Control
- (1) Part #10-0311, AC Power Cord, 6 ft.
- (1) Part #10-4856, CAT 5e Ethernet Cable, 7 ft.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that product heat.
9. Do not defeat the safety purpose of the grounding-type plug. A grounding-type plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. When the apparatus is turned off, certain components in the power supply and system board remain energized. In order to remove all electrical power from the apparatus, unplug the power cord from the MAINS socket outlet.



To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.



This apparatus must be connected to a MAINS socket outlet with a protective earthing connection.

FRONT PANEL



Keypad

The four PEGvault-SD arrow keys are used to display status information as well as for the entry of TCP/IP network addresses. If you hold down an arrow key for more than one second, it begins to scroll through all of the available options. Release the key when the desired option is displayed.

The front panel keypad also turns the PEGvault-SD on/off. Note that the PEGvault-SD automatically turns on when the unit is plugged in. When held for four seconds, the red "X" button turns off the PEGvault-SD. If the PEGvault-SD has been turned off, press the green check push button for two seconds to turn the unit back on.



BEFORE unplugging or removing power from the PEGvault-SD, shut down the unit from its front panel.

LEDs

The PEGvault-SD front panel has two status, light-emitting diodes (LEDs) for at-a-glance feedback. The "Record" LED lights up when the PEGvault-SD is encoding. The "Play" LED is not currently used by the PEGvault-SD.

Display

The PEGvault-SD display shows status and password-protected TCP/IP address entry screens. Once the PEGvault-SD has been booted up, press the up or down arrows on the keypad to display the following status screens:

Serial Number & Firmware Version

```
11/03 12:00:00PM  
SN: B923D1 V01.00
```

Firmware Date

```
11/03 12:00:00PM  
FW B1t: 10/31/08
```

IP Address

```
11/03 12:00:00PM  
IP: 10.9.0.1
```

PEGvault-SD Identification

```
11/03 12:00:00PM  
ID: PEGvault-SD
```

Processor Temperature

```
11/03 12:00:00PM  
Temp: 42°C
```

MPEG Encoder Status

```
11/03 12:00:00PM  
Recorder Stopped
```

Transfer Status

Indicates file transfer destination and progress. If more than one destination is selected for a transfer, the screen only shows the first destination to which the PEGvault-SD sends the file. Changes to "Send Idle" when there are no active file transfers.

```
11/03 12:00:00PM  
NX: 0.8591GB 2%
```

Bios Date

```
11/03 12:00:00PM  
Bios: 02/14/08
```

PStat Firmware Version

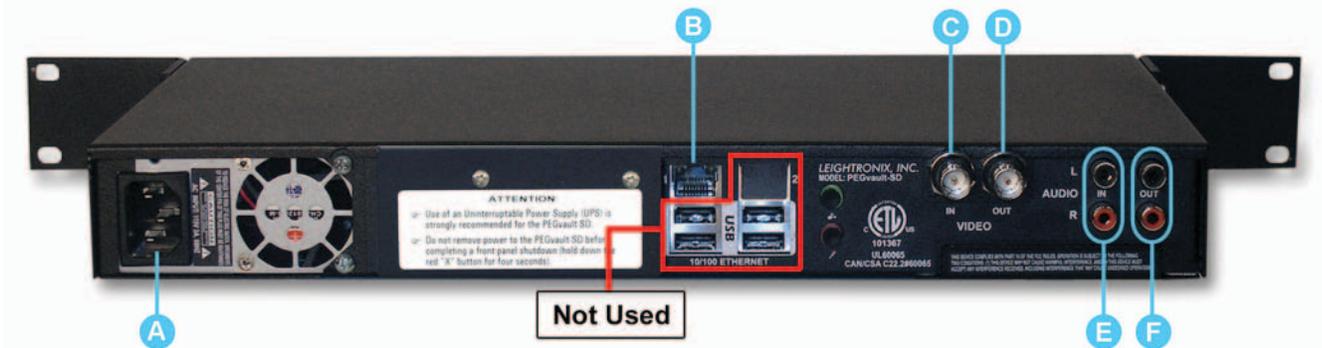
Displays the firmware version for the infrared remote control and front panel status LEDs.

```
11/03 12:00:00PM  
PStat Ver: 66.03
```

BACK PANEL

There are two versions of the PEGvault-SD, which have different back panels, supported network connectivity speeds, and internal hard drive sizes. The original PEGvault-SD, no longer available, has a back panel matching the first of the pictures shown below, supports 10/100 BASE-T Ethernet, and has a 120 GB internal hard drive. The current PEGvault-SD model, version 2, has a back panel matching the second picture below, supports 10/100/1000 or gigabit BASE-T Ethernet, and has a 250 GB internal hard drive.

Original PEGvault-SD Back Panel



The original PEGvault-SD back panel, includes, from left to right, top to bottom:

- | | |
|--|--|
| <ul style="list-style-type: none"> A: Power cord connector B: 1 RJ-45, 10/100 BASE-T Ethernet port with corresponding LED indicators C: 1 BNC video input connector | <ul style="list-style-type: none"> D: 1 BNC video output connector E: 2 RCA audio input connectors (left & right) F: 2 RCA audio output connectors (left & right) |
|--|--|

Version 2 of the PEGvault-SD Back Panel



The current PEGvault-SD back panel, includes, from left to right, top to bottom:

- | | |
|--|--|
| <ul style="list-style-type: none"> A: Power cord connector B: 9-pin male RS-232 DTE connector for live video production switcher in PolyOptix camera control system C: 9-pin male RS-232 DTE connector for PolyOptix camera control D: 1 RJ-45, 10/100/1000 BASE-T Ethernet port with corresponding LED indicators | <ul style="list-style-type: none"> E: 1 BNC video input connector F: 1 BNC video output connector G: 2 RCA audio input connectors (left & right) H: 2 RCA audio output connectors (left & right) |
|--|--|

HARDWARE SETUP

1. Install it.

The PEGvault-SD may be left as a standalone, tabletop unit or mounted into a rack as follows:

- a. Insert the PEGvault-SD into the rack, aligning the holes of the unit's mounting bracket with those of the rack.
- b. Secure the PEGvault-SD to the rack with user-supplied rack screws.



Leave empty rack spaces above and below the PEGvault-SD. The PEGvault-SD should not have anything stacked on top of it.

2. Plug it in.

Attach your network, power, and signal wiring to the PEGvault-SD according to the instructions below:

1. Connect the included power cable to the PEGvault-SD's power cord connector and then plug the other end into an AC power source.



BEFORE unplugging or removing power from the PEGvault-SD, shut down the unit from its front panel (hold down the red "X" button for four seconds).

2. Using a straight-through RJ-45 Ethernet cable, connect the PEGvault-SD Ethernet port to a hub or switch on your TCP/IP network. To check your network connection, look at the Ethernet LEDs above the Ethernet port and compare to the table on the bottom corresponding to your PEGvault-SD's back panel.

NOTE: The PEGvault requires the following network ports:

- 23 Telnet
- 21 FTP Control Connection
- 20 FTP Data (if using third party FTP client in passive mode)
- 80 for the PEGvault-SD and PolyOptix Web interfaces
- 2000 UDP for ePRO-BUS Control

Original PEGvault-SD Ethernet LED Indicators		
LED Position	State	Description
Left	Off	Connection speed is 10Mb/s
	Green	Connection speed is 100Mb/s
Right	Off	Ethernet link not established
	Steady on yellow	Ethernet link established. PEGvault-SD is not transmitting on the network.
	Blinking yellow	Ethernet link established. PEGvault-SD is transmitting on the network.

Version 2 PEGvault-SD Ethernet LED Indicators		
LED Position	State	Description
Right	Off	Connection speed is 10Mb/s
	Green	Connection speed is 100Mb/s
	Orange	Connection speed is 1000Mb/s
Left	Slow blinking yellow	Ethernet link not established
	Fast blinking yellow	Ethernet link established. PEGvault-SD is transmitting on the network.

3. Connect your video/audio signal wiring to the PEGvault-SD as follows:
 - a. Video/Audio Source: this is the resource or signal the PEGvault-SD will record. Connect your video source wiring to the PEGvault-SD's BNC video input and stereo RCA audio inputs.
 - b. Optional Preview Monitor or PEGstream-SD™ live streaming encoder: preview your video on a monitor as it is being recorded by the PEGvault-SD or loop your incoming video source to the LEIGHTRONIX PEGstream-SD and PEG Stream live streaming service to make your video immediately available to Internet viewers. Just connect the monitor or PEGstream-SD to the PEGvault-SD's BNC video output and stereo RCA audio outputs.

3. Enter Your Network Settings.

- a. Power up the PEGvault-SD by pressing the green check button on the front panel for at least two seconds.
- b. From the front panel, enter your password by pressing the right arrow button to display the password entry screen and then the right arrow key five times. If the password is entered correctly, the PEGvault-SD's configuration menu will be displayed (see below).

**Front Panel Password:
five right arrow keys**

```
CONFIG MENU
Edit unit address
```

If the password is entered incorrectly, the front panel display returns to the status screens.

- c. Either enter your PEGvault-SD network addresses manually or use DHCP to automatically configure the addresses according to the following steps:
 - Automatic Network Addressing: enable DHCP on your PEGvault-SD according to the table below. When enabled, DHCP will configure your PEGvault with an IP, subnet mask, and gateway network addresses.

DHCP Configuration Steps	Corresponding Screen Displays
i. From the "CONFIG MENU" screen, press "↑" or "↓" to proceed to the "Edit DHCP" screen. ii. Press "→" to select the screen.	<pre>CONFIG MENU Edit DHCP</pre>
iii. Press "↑" or "↓" to toggle the field value from "DISABLED" to "ENABLED." iv. Press "→" to enter the next screen.	<pre>ENABLE DHCP: ENABLED</pre>
v. Either press "→" again to save your changes or "←" to abort changes.	<pre>Press → to confirm DHCP</pre>

The PEGvault-SD must be powered down and then powered back up to apply any DHCP changes (press the red "X" button for four seconds to turn the unit off and then press the green check button for two seconds to return power).

- Manual Network Address Entry
Obtain an IP address, subnet mask, and a gateway for your PEGvault-SD from your network administrator. Repeat the network configuration steps below to enter your IP, subnet, and gateway network addresses.

Network Address Configuration Steps	Corresponding Screen Displays
i. From the "CONFIG MENU" screen, press "↑" or "↓" to proceed to the desired address screen. ii. Press "→" to select the screen.	<pre>CONFIG MENU Edit unit address</pre>
iii. Press "→" or "←" to position the underscore beneath the editable fields and press "↑" or "↓" to edit the values. iv. Press "→" past all of the editable fields to enter the next screen.	<pre>Enter address 255. 0. 0. 0.</pre>
v. Either press "→" again to save your changes or "←" to abort changes.	<pre>Press → to confirm address</pre>

The PEGvault-SD must be powered down and then powered back up to apply any network address changes (press the red "X" button for four seconds to turn the unit off and then press the green check button for two seconds to return power).

- d. **Optional:** the PEGvault-SD FTP buffer size setting helps to control the rate at which data is transferred to and from the PEGvault. The buffer size defaults to 16 kilobytes, but may be adjusted down to 4 KB or up to 64 KB. If your network equipment can handle a higher rate, edit the setting to 32 or 64 KB for faster transfer times.

To change the FTP buffer size, perform the following:

Network Address Configuration Steps	Corresponding Screen Displays
<p>i. From the "CONFIG MENU" screen, press "↑" or "↓" to proceed to the "Edit FTP TCP Buf" screen.</p> <p>ii. Press "→" to select the screen.</p>	
<p>iii. Press "→" or "←" to position the underscore beneath the editable fields and press "↑" or "↓" to edit the values.</p> <p>iv. Press "→" again to apply change and enter reboot message screen or "←" to abort changes.</p>	
<p>The PEGvault-SD must be powered down and then powered back up to apply any FTP buffer size changes (press the red "X" button for four seconds to turn the unit off and then press the green check button for two seconds to return power).</p>	

INTRODUCTION TO WEB INTERFACE

Your PEGvault-SD includes a Web interface, allowing any authorized user to conveniently set up and check on your PEGvault from the Internet. The PEGvault-SD Web interface is compatible with Internet Explorer, version 7 or higher, Firefox, Safari, and Google Chrome.

Open and Log in

Type your PEGvault-SD's IP address into your Web browser's address bar (i.e., <http://10.255.14.175>). Enter the PEGvault-SD "admin" username and password into the login prompt and click the "Login" button.

NOTE: The username is always "admin" and the factory-default password is the last six digits of your PEGvault's serial number.

Status Indicators on "System Dashboard" Screen

Click the "Dashboard" button to display the "System Dashboard" screen. The Dashboard displays all of the currently configured settings for your PEGvault-SD as well as the unit's operational and storage status.

"System Dashboard" Web Interface Screen

Storage: indicates the total storage capacity of your PEGvault-SD's internal hard drive for the current file record quality preset, as well as how much storage has been used and is currently available on the internal hard drive. This field also shows how many recorded files are currently on the hard drive.

Site Information: customize the "Site Name" and "Site Location" information for your system from the "Site Information" tab on the "System Management" screen. Refer to the "Edit Site Name and Location from the 'System Management' Screen" subsection on the following page for further information.

File Transfers: shows which files are currently being transferred, the transfer destination(s), and the transfer rate.

Record File Settings: shows the user-selected filename and recording quality preset for the current recording session as well as the record time in hours:minutes:seconds:frames. The "Auto Delete" field indicates whether or not your PEGvault-SD has been set up to automatically delete transferred files from its internal hard drive. The "Index Pointers" box displays any video index points set for LEIGHTRONIX streaming video-on-demand applications during the current PEGvault record session.

Destination Configuration: indicates the file destination(s) set up for automatic/manual file transfers and network settings entered for all destinations.

Network Settings: shows the network settings entered into your PEGvault-SD's front panel.

Edit Site Name and Location from the “System Management” Screen

Customize the “Site Name” and “Site Location” on your “System Dashboard” screen for your system. Click the “SYSTEM” button to display the “System Management” screen and then click the “Site Information” tab. Enter a new identification name for your site into the “Site ID” field and a location description in the “Site Location” field.

Click “Apply Changes” to change the information on your “System Dashboard” screen.

“Site Information” Window on “System Dashboard” Screen

Site Information
Site Name: PEGvault-SD
Site Location: City Hall
Serial Number: 090069
Firmware Version: 01.00.00D

“Site Information” Tab on “System Management” Web Interface Screen

The screenshot shows the "System Management" web interface. On the left is a navigation menu with buttons for DASHBOARD, FILES, DESTINATIONS, SYSTEM, LOGS, LOGOUT, Video Recorder, and File Name. The main content area is titled "System Management" and has several tabs: Site Information (selected), User Accounts, Remote Users, System Update, Diagnostics, and ePRO-BUS. The "Site Information" tab contains the following fields: Site ID (LGX PEGVault), Site Location (LEIGHTRONIX, Holt, MI), Time Zone ((GMT-05:00) Eastern Time (US & Canada)), and a checked checkbox for "Automatically adjust clock for daylight savings changes". There is an "Apply Changes" button. Below these are time settings: PEGvault-SD Time (August 31, 2010 10:44:01 AM), Computer Time (August 31, 2010 10:45:03 AM) with a "Set" button, and Manual time (August 31, 2010) with spinners for hours (10), minutes (44), seconds (39), and AM/PM (AM), plus a "Set" button.

Change PEGvault-SD System Time

Click the “SYSTEM” button to display the “System Management” screen and then click the “Site Information” tab. “PEGvault-SD Time” shows the date and time currently on your PEGvault-SD system. To change the PEGvault-SD’s date/time, perform one of the following:

- Sync your PEGvault-SD system’s date and time to your computer’s current date and time by clicking the “Set” button next to the “Computer Time” field.
- Manually change the PEGvault-SD system date and time by editing the “Manual” fields as follows:
 1. Use the up/down arrows to adjust the time fields.
 2. Click on the date field and select a new date in the calendar that appears.
 3. Click the “Set” button to make the changes.

Change the PEGvault-SD Web Interface Password

The admin user account password provides access to your PEGvault-SD’s Web interface. Click the “SYSTEM” button to display the “System Management” screen and then click the “User Accounts” tab. Enter the new password into both fields and then click the “Change Password” button to make the change.

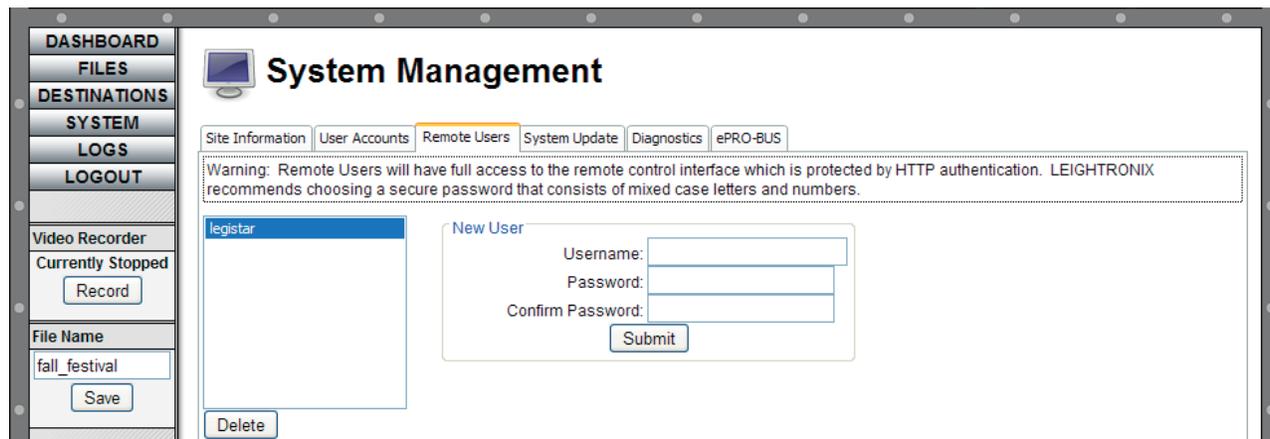
“User Accounts” Tab on “System Management” Web Interface Screen

The screenshot shows the "System Management" web interface with the "User Accounts" tab selected. A warning message is displayed: "Warning: By modifying the admin user account password you will lock out all users until you manually provide the password to them. As the admin account password modifier, this is your responsibility to make sure all 'admin' users know the password." Below the warning are two input fields: "New Password:" and "Confirm Password:". A "Change Password" button is located at the bottom left of the form area.

Create/Delete Remote User Accounts for Users with Supported Third Party Systems

Remote user accounts allow users with supported third party systems to initiate, stop, and check the status of recording on your PEGvault-SD. Click the “SYSTEM” button to display the “System Management” screen and then click the “Remote Users” tab. Enter a username and password into the corresponding fields and then click the “Submit” button to add the account. To delete a remote user account, single click on the user’s name and then click the “Delete” button.

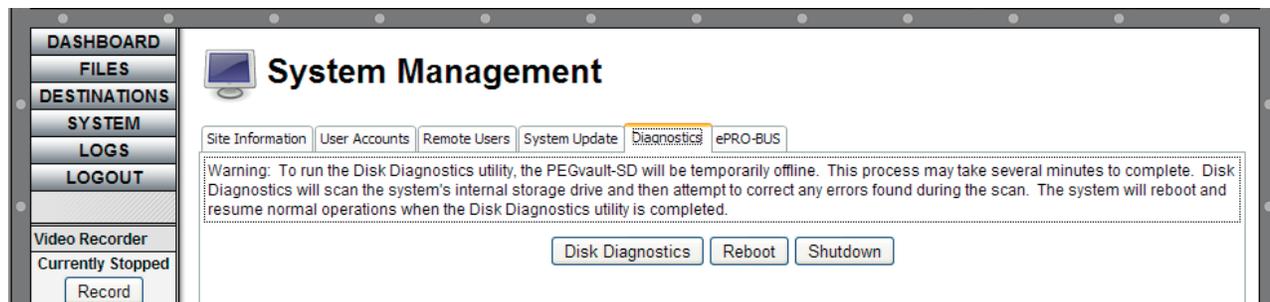
“Remote Users” Tab on “System Management” Web Interface Screen



Reboot/Shut Down

Click the “System” button to display the “System Management” screen and then click the “Diagnostics” tab. Click “Reboot” to power your PEGvault-SD off and then back on or click the “Shutdown” button to only power off your PEGvault.

“Diagnostics” Tab on “System Management” Web Interface Screen



Use Disk Diagnostics to Check Internal Hard Drive

The PEGvault-SD disk diagnostics feature automatically fixes many common File Allocation Table (FAT) errors that may impair or cause data loss on your PEGvault’s internal hard drive. LEIGHTRONIX recommends using the feature on a monthly basis to ensure optimal drive performance as well as any time you discover file/drive errors in your log files or notice drive performance issues due to improper system shutdown or firmware changes.

NOTE: The disk diagnostics process does not fix physical degradation of the hard drive. Contact LEIGHTRONIX Technical Support for further information on servicing your PEGvault’s internal hard drive.

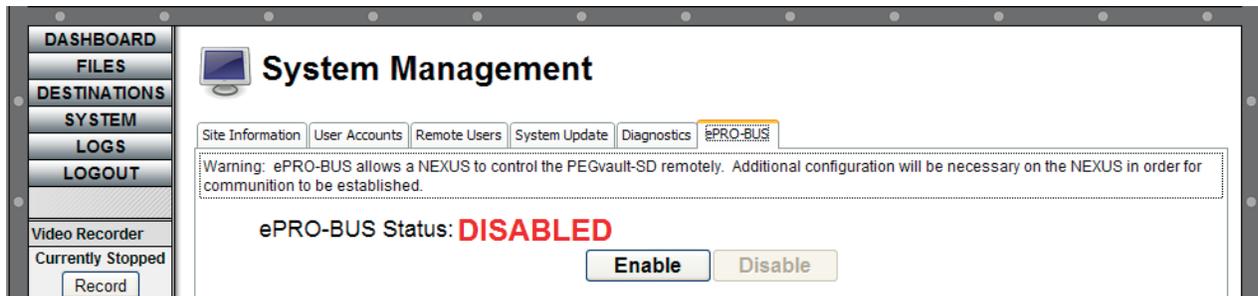
To run the disk diagnostics feature, click the “SYSTEM” button to display the “System Management” screen and then click the “Diagnostics” tab. Click the “Disk Diagnostics” button and then select the popup menu’s “Yes” option to perform the disk check process. When the diagnosis has been completed, a log file describing any errors discovered and actions performed will be added to the “Log Files” page on your PEGvault’s Web interface.

ePRO-BUS Setting

Click the “System” button to display the “System Management” screen and then click the “ePRO-BUS” tab. Click the “Enable” button to allow the PEGvault-SD to receive PRO-BUS control commands over your Ethernet network from a NEXUS series server. Clicking “Disable” will prevent the PEGvault-SD from receiving ePRO-BUS commands.

NOTE: Any PEGvault-SD and NEXUS series server using the ePRO-BUS feature must be assigned a static IP address and made available for UDP on Port 2000.

“ePRO-BUS” Tab on “System Management” Web Interface Screen



FILE TRANSFER & RECORD SETTINGS

Use the PEGvault's Web interface to easily specify file record quality and the destinations you want to receive your recorded files. The settings apply to each recording session until you change them. Access the file transfer and record settings by clicking the "DESTINATIONS" menu button to display the "File Destinations" screen and perform the following steps:

4. Set Up One or More Transfer Destination(s) for Recorded Files

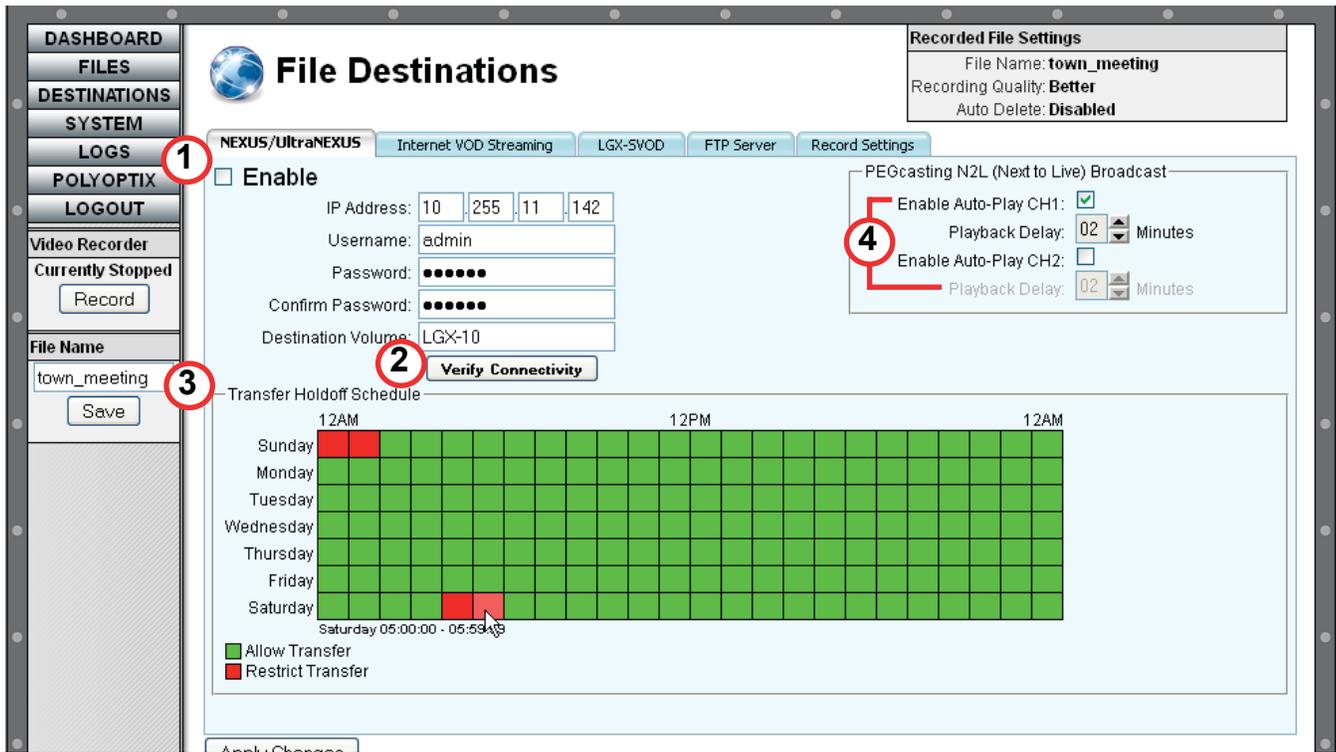
Set up a NEXUS series server/controller, LEIGHTRONIX streaming Web site, LGX-SVOD, and/or third party server with FTP capabilities to receive recorded files from your PEGvault-SD. Enter your file transfer destination configuration settings (IP address, username, password) according to the following subsections and click the "Apply Changes" button when you have finished. If you have a LEIGHTRONIX Internet VOD streaming account (ex., PEG Central), no configuration settings are required. Recorded files may be automatically or manually transferred to one or more destinations, as outlined below.

- **Automatic File Transfers:** files recordings initiated from the Web interface or remote control will be automatically transferred to every destination with the "Enable" setting selected *and* the configuration settings entered. The following settings on the "Destinations"/"Settings" tab may also be used to further control automatic file transfers:
 - ▶ "PEGcasting" option: if enabled, the file will begin transferring to an enabled and configured NEXUS series server 15 seconds after the PEGvault begins recording.
 - ▶ "Automatic Delete" setting: if enabled, the PEGvault-SD will delete any recorded files from its internal, 120GB hard drive following transfers to all enabled and configured destinations.
- **Manual File Transfers:** if no destinations have been enabled and/or the "Automatic Delete" setting has not been selected, the PEGvault-SD will record and store your files on its internal 120GB hard drive. Manually transfer the files later to *configured* destinations through the "File Management" screen (click the "Files" button).

Send Files to NEXUS Series Server (NEXUS/UltraNEXUS)

Send your PEGvault-SD files to any of the storage volumes attached to your NEXUS series server. Enter your NEXUS server's IP address, username, and password along with the name of the volume that you want to store the files. The names of your storage volumes can be viewed in the WinLGX "Storage Manager" window. Complete the remaining settings according to the labeled illustration below.

"NEXUS/UltraNEXUS" Tab on "File Destinations" Web Interface Screen



1 "Enable": check to select your NEXUS series system as an automatic file transfer destination.

2 "Verify Connectivity": after entering your NEXUS series unit's IP address, username, and password, click the "Verify Connectivity" button to ensure your PEGvault-SD can connect to the server.

3 "Transfer Holdoff Schedule": 24-hour timeline allows you to decide which hours of the day your PEGvault will transfer files to your NEXUS series system. Single click each hour segment on the timeline to toggle transfer capabilities on or off (green = on, red = off).

4 "Enable Auto-Play CH": if you have selected the "PEGcasting" option on the "Settings" tab, you may choose to have the transferring file stream automatically begin playing on your NEXUS series system's MPEG Player 1 and/or 2. Select a "Playback Delay" of 2-60 minutes to specify how long after the file stream is transferred that it should begin playing on the selected channel(s).

Send Files to a LEIGHTRONIX Streaming Web Site

The “Internet VOD Streaming” option transfers files to a LEIGHTRONIX streaming video-on-demand Web site. Complete the settings according to the labeled illustration below.

NOTE: If you select “Internet VOD Streaming” as an automatic file transfer destination, your files will be recorded at a VBR of 1.5-2.5 Mb/s for all enabled file transfer destinations.

“Internet VOD Streaming” Tab on “File Destinations” Web Interface Screen

1 Enable

Note: Enabling this destination forces the recorded file quality setting to **Streaming**. See the **File Settings** tab for other quality settings.

2 Transfer Holdoff Schedule

12AM 12PM 12AM

Allow Transfer
Restrict Transfer

1 “Enable”: check to select your LEIGHTRONIX streaming Web site as an automatic file transfer destination.

2 “Transfer Holdoff Schedule”: 24-hour timeline allows you to decide which hours of the day your PEGvault will transfer files to your LEIGHTRONIX streaming Web site. Single click each hour segment on the timeline to toggle transfer capabilities on or off (green = on, red = off).

Apply Changes

Send Files to LGX-SVOD

Enter your LGX-SVOD server’s IP address, username, and password and then complete the remaining settings according to the labeled illustration below.

“LGX-SVOD” Tab on “File Destinations” Web Interface Screen

1 Enable

IP Address: 10 255 11 81

Username: lgxmpegin

Password: ●●●●●●

Confirm Password: ●●●●●●

2 Verify Connectivity

1 “Enable”: check to select your LGX-SVOD as an automatic file transfer destination.

2 “Verify Connectivity”: after entering your LGX-SVOD unit’s IP address, username, and password, click the “Verify Connectivity” button to ensure your PEGvault-SD can connect to the server.

3 “Transfer Holdoff Schedule”: 24-hour timeline allows you to decide which hours of the day your PEGvault will transfer files to your LGX-SVOD. Single click each hour segment on the timeline to toggle transfer capabilities on or off (green = on, red = off).

Send Files to Server with FTP Capabilities

Push your files to another LEIGHTRONIX or third party video server with FTP capabilities. Enter your server's IP address, username, and password along with the name of the destination path. Complete the remaining settings according to the labeled illustration below.

“FTP Server” Tab on “File Destinations” Web Interface Screen

1 “Enable”: check to select your FTP server as an automatic file transfer destination.

2 “Verify Connectivity”: after entering your FTP server’s IP address, username, and password, click the “Verify Connectivity” button to ensure your PEGvault-SD can connect to the server.

3 “Transfer Holdoff Schedule”: 24-hour timeline allows you to decide which hours of the day your PEGvault will transfer files to your server. Single click each hour segment on the timeline to toggle transfer capabilities on or off (green = on, red = off).

5. Select File Record Settings

- a. On the “File Destinations” screen, click the “File Settings” tab to display the record quality and information settings for all file recording sessions shown in the illustration below.

“File Settings” Tab on “File Destinations” Web Interface Screen

- b. In the “File Name” field, enter up to 14 characters (letters, numbers, and underscores only—no spaces). If you use the same filename for more than one recording session, the record date and start time will be appended to the name of each additional recorded file as “yy/mm/dd-hh/mm/ss” (year/month/day-hours/minutes/seconds).
NOTE: Alternatively, you may enter the new filename into the “File Name” box in the lefthand column of the PEGvault-SD Web interface. Click the “Save” button to make the change. The new name will appear in the “File Name” field on the “File Settings” tab.
- c. Select a “File Quality” recording preset for your files. Each recording quality preset represents a range of bit rates within which the file will be recorded.
NOTE: If you selected a LEIGHTRONIX streaming Web site (“Internet VOD Streaming”) as an automatic file transfer destination, your files will be recorded at the “Streaming” setting for all selected file destinations. The “Good,” “Better,” and “Best” file record quality settings will be ignored.
- d. If you want your PEGvault-SD files to be transferred to your NEXUS series server 15 seconds after the files begin recording, select the “Enable” “PEGcasting” option. To use the PEGcasting Next to Live autoplay feature for simulated live broadcasting, you must still complete the “PEGcasting N2L” configuration settings on the “NEXUS/UltraNEXUS” tab.
- e. If you want your recorded files deleted from the PEGvault’s internal hard drive after each transfer, select the “Enable” “Automatic Delete” option. The “Disable” option will cause your recorded files to stay on the hard drive until you manually delete them from the “File Management” screen.
- f. Click the “Apply Changes” button to make the changes or “Cancel” to abort.

RECORDING

6. Record!

Start/Stop recording from the wireless remote control, front panel, or PEGvault-SD Web interface according to the following steps:

Record with Remote Control

- a. Ensure the PEGvault-SD has been turned on.
- b. Push the “REC” button on the wireless remote to start recording.
- c. LEIGHTRONIX LGX-SVOD and Internet VOD Streaming Service Users
Only: add video index points for use in PEG Central or other LEIGHTRONIX VOD streaming application. Index points appear as links next to the published video in the streaming application’s player window, allowing viewers to quickly move to points of interest within the video.

To create an index point, press the the “INDEX” button on the remote control. The PEGvault-SD will name the index point with the current date/time and the hours:minutes:seconds into the video that the index point marks. Create additional index points at key intervals in the recording with each push of the “INDEX” button.

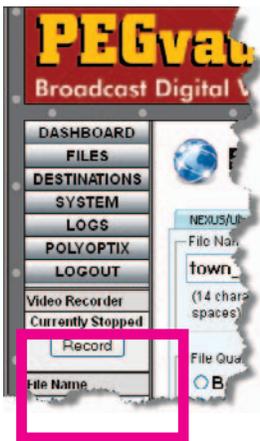
- d. When you want to end the recording session, push the “STOP” button on the wireless remote. If a file destination was configured and enabled in the Web interface, your recorded file will be automatically transferred to the destination.



Record from the Front Panel

On your PEGvault-SD’s front panel, press the green check push button to begin recording. To stop the recording session, press the red “X” button on the front panel.

Web Interface
"Video Recorder" Controls



Record with Web Interface

- a. Enter your PEGvault-SD's IP address into the address bar of Internet Explorer, version 7 or higher, Firefox, Safari, or Google Chrome.
- b. Enter your PEGvault-SD's username and password into the login prompt and click the "Login" button.
- c. Under the menu buttons, click the "Video Recorder" "Record" button to begin recording.
- d. LEIGHTRONIX LGX-SVOD and Internet VOD Streaming Service Users Only: add video index points for use in PEG Central or other LEIGHTRONIX VOD streaming application. Index points appear as links next to the published video in the streaming application's player window, allowing viewers to quickly move to points of interest within the video.

Either enter a custom name (20 characters maximum) for your index points into the name field below the "Stop" record button or leave it blank and the PEGvault-SD will use the current date/time as the name. Each index point also indicates the hours:minutes:seconds into the video that it marks. When you have chosen your naming method, click the "Set Index" button to add an index point to the recording file. Create additional index points at key intervals in the recording with each click of the "Set Index" button. If a custom name was entered, each additional index point will be assigned the same custom name until the name field is reset. To add an index point with a new custom name, click the "Clear Index" button and then type a new name into the name field before clicking the "Set Index" button.

- e. To end the recording session, click the "Stop" recording button. If a file destination was configured and enabled in the Web interface, your recorded file will be automatically transferred to the destination.

FILE MANAGEMENT

The “File Management” screen displays a recorded file listing and transfer queue, allowing you to manually transfer files, stop file transfers, and manage any files stored on the PEGvault-SD’s internal hard drive. Recorded files are stored on the PEGvault’s internal hard drive if the “Automatic Delete” record file setting has been disabled and/or no file destinations have been enabled, giving you the option to rename, delete, and manually transfer files from the “File Management” screen. Click the “Files” menu button to display the screen and then perform any of the following steps, as needed:

“File Management” Web Interface Screen

PEGvault-SD
Broadcast Digital Video Encoder

File Management

File	Size	Status
12345678901234.mpg	60.05MB	
12345678901234091027-102611.mpg	2.33MB	
12345678901234091027-103134.mpg	20.56MB	
12345678901234091027-103227.mpg	384KB	
12345678901234091027-103228.mpg	0B	
council_meetin.mpg	80.15MB	
council_mtg.mpg	1.45GB	
council_mtg091027-160713.mpg	89.6MB	
council_mtg091027-163039.mpg	20MB	
council_mtg091029-160143.mpg	6.69MB	
council_mtg091029-160518.mpg	10.05MB	
Meeting-2009-07-10-104048.mpg	17.24MB	
Meeting-2009-09-15-123606.mpg	29.93GB	
Meeting-2009-10-20-105648.mpg	6.48MB	
Meeting-2009-10-20-110217.mpg	4.6MB	
Meeting-2009-10-20-110618.mpg	5.22MB	
Meeting-2009-10-20-120725.mpg	3.96MB	
Meeting-2009-10-20-120850.mpg	602.81MB	

Added Date/Time	File	NEXUS	SVOD	PEG	FTP	Delete
October 29, 2009 12:26:27	council_mtg.mpg					

Rename Delete Add Remove Remove All

● = Currently Recording ● = Pending Transfer ⚙ = Currently Transferring ✓ = Completed Transfer

Rename Files on Hard Drive

Under the “Video Files” listing, either single click on the file you would like to rename and then click the “Rename” button or just right click on the file and select “Rename” from the menu that appears. In the “Rename File” window that appears, enter a new filename of up to 27 alphanumeric characters, no spaces, and click “Ok” to accept the change or “Cancel” to abort.

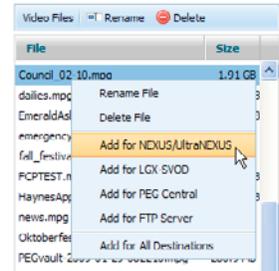
Delete Files from Hard Drive/Transfer Queue

- **Hard Drive:** under the “Video Files” listing, either single click on the file you would like to delete and then click the “Delete” button or just right click on the file and select “Delete File” from the pop-up menu. Click “Yes” when prompted to delete the file or “No” to abort.
- **Transfer Queue:** to delete a single file under “Video Transfers,” either single click on the file you would like to delete and then click the “Remove” button or just right click on the file and select “Remove Transfer” from the pop-up menu. To remove all files from the transfer catalog, either single click on a file and then click the “Remove All” button or just right click on the file and select “Remove All Transfers” from the pop-up menu. Click “Yes” when prompted to delete the file(s) or “No” to abort.

Manually Transfer Recorded Files

Under the “Video Files” listing, either single click on the file you would like to transfer and click the “Add” button to transfer the file to your configured destination(s) or right click on the file and select a file transfer destination(s) from the pop-up menu. Ensure you have entered the configuration settings for the selected destination(s) on the “File Destinations” screen.

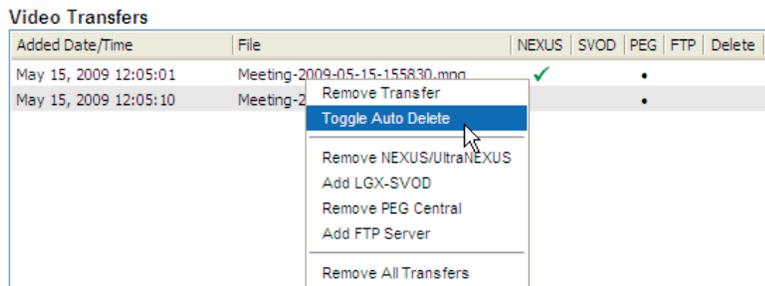
Popup Menu for “Video Files” Listing on the “File Management” Screen



Change File Transfer Destinations

Change the destination of any file in the “Video Transfers” queue by right clicking on the file and selecting one of the add/remove options in the popup menu. The remove options de-select current file transfer destinations, while the add options transfer the file to the corresponding destinations. Ensure you have entered the configuration settings for the selected destination(s) on the “File Destinations” screen.

Popup Menu for “Video Transfers” Listing on the “File Management” Screen



Enable/Disable Auto Delete

Use the “Toggle Auto Delete” option to turn “Delete” on and off for the selected file.

LOG FILES

The PEGvault-SD keeps track of everything done to or by it in internal log files which are accessible from the Web interface. Click the “LOGS” menu button to display the list of current PEGvault-SD logs on the “Log Files” screen.

“EVENTS.LOG” Selected on “Log Files” Web Interface Screen

The screenshot shows the PEGvault-SD web interface. On the left is a navigation menu with options: DASHBOARD, FILES, DESTINATIONS, SYSTEM, LOGS, POLYOPTIX, LOGOUT, Video Recorder, Currently Stopped (with a Record button), and File Name (with a Save button). The main area is titled "Log Files" and contains a table of log files:

Name	Size	Date Created	Date Modified
EVENTS.LOG	3.97 MB	12/31/2002 07:12:08 PM	02/08/2012 10:32:40 AM
pkgsrch.log	269 B	10/25/2011 09:37:32 AM	11/02/2011 09:12:30 AM
pvse011014_full.log	57.71 KB	10/25/2011 09:37:32 AM	11/02/2011 09:12:30 AM
	57.57 KB	11/02/2011 03:40:06 AM	11/02/2011 05:42:04 AM

Below the table is a search box with "Find:" and buttons for "Go", "Next", and "Previous". A detailed log entry for "EVENTS.LOG" is shown below, with columns for Date/Time, Severity, Source, and Message:

Date/Time	Severity	Source	Message
01/01/2002 12:12:09 AM	0	Diagnostic	Created Event Log file c:\log\EVENTS.LOG, SN:, Ver:09.01.00D, IP:10.9.3.16, SM:255.0.0
01/01/2002 12:12:16 AM	0	Schedule	Starting system clock/RTC sync thread
01/01/2002 12:12:16 AM	0	MPEG	Found MPEG board 1 (Composite), VenID:4444, DevID:0803, SubVenID:FFFF, SubDevID:00
01/01/2002 12:12:17 AM	0	MPEG	Player 1 video CCRF:Disabled
01/01/2002 12:12:17 AM	0	MPEG	Recorder 1 Firmware Version 02050041
01/01/2002 12:12:17 AM	0	MPEG	Player 1 Firmware Version 02030017
01/01/2002 12:12:17 AM	0	MPEG	Player 1 video values:7B AC 42
01/01/2002 12:12:18 AM	2	Diagnostic	Startup, Last Running: 01/06/2000 7:07:12 PM, Number of Startups: 24
01/01/2002 12:12:18 AM	0	Diagnostic	Not checking for master TI or PC addr, no Gateway configured
01/01/2002 12:12:34 AM	0	Stream	LGX-TS Record start: FILE-20020101001234.mpg
01/01/2002 12:12:38 AM	0	Diagnostic	MPGO Temp:33C
01/01/2002 12:13:35 AM	0	Stream	LGX-TS play file: d:\mpeg\file-20020101001234.mpg
01/01/2002 12:13:40 AM	0	Stream	Begin Orderly Shutdown
01/01/2002 12:13:40 AM	1	MPEG	Recorder 1 received shutdown message, stopping capture of file d:\mpeg\FILE-200201010
01/01/2002 12:13:40 AM	0	Stream	Orderly Shutdown Complete
01/01/2002 12:23:35 AM	0	Diagnostic	Opened Event Log file c:\log\EVENTS.LOG, SN:, Ver:09.01.00D, IP:10.9.3.16, SM:255.0.0

At the bottom of the log entry area are buttons for "Save Log" and "Delete Log".

Open a Log File

From the top panel on the “Log Files” screen, single click on the desired log file to select it and then click the “Save Log” button to display an open/save file dialog box. Either open or save the selected log file on your computer or network as a .txt or Excel® file.

Search a Log File

Search for specific entries within either of the event or firmware logs. From the top panel on the “Log Files” screen, single click the desired log file to display the “Find” box and corresponding log information. Enter your search term into the “Find” box and click “Go” to filter out any entries not containing the search term. Use the “Previous” and “Next” buttons to move up and down between entries in the log file.

Delete a Log File

From the top panel on the “Log Files” screen, single click the desired log file to select it and then click the “Delete Log” button. A popup box will appear, asking whether or not you wish to delete the file. Click “Yes” to delete or “No” to abort.

The types of PEGvault-SD log files are as follows:

- **Event Logs:** the event logs track PEGvault-SD operations, including recording sessions, file transfers, and

PEGvault status. Single click either **“EVENTS.LOG”** to select the most current file of PEGvault-SD actions or **“OLDEVNTS.LOG”** to view archived PEGvault actions. When selected, both event logs display the screen shown in the illustration below. The event logs provide a description of each action under **“Message,”** along with the action’s date and time, severity, and type (**“Source”**).

The PEGvault will continually write to the **“EVENTS.LOG”** file until it reaches 7 MB. Once **“EVENTS.LOG”** reaches 7 MB, the PEGvault-SD will rename it to **“OLDEVNTS.LOG”** (deleting the previous **“OLDEVNTS.LOG”**) and then display a new **“EVENTS.LOG”** on the **“Log Files”** screen. This ongoing cycle ensures that recent events are always logged.

- **Firmware Logs:** the PEGvault-SD creates log files that specifically track firmware installations. The **“pkgsrch.log”** file verifies whether the PEGvault-SD firmware file has been uploaded onto your PEGvault, while the **“pvsdxxxxx_full.log”** records information about the actual installation of firmware on the PEGvault. Separate **“pkgsrch.log”** and **“pvsdxxxxx_full.log”** firmware log files are created each time you perform a PEGvault-SD firmware update. Previous firmware log files are not overwritten when new firmware updates are performed.

“pkgsrch.log” Selected on “Log Files” Web Interface Screen

The screenshot shows the 'Log Files' web interface. On the left is a navigation menu with options: DASHBOARD, FILES, DESTINATIONS, SYSTEM, LOGS, POLYOPTIX, LOGOUT, Video Recorder, Currently Stopped (with a Record button), and File Name (with a Save button). The main area is titled 'Log Files' and contains a table with columns: Name, Size, Date Created, and Date Modified. The table lists several log files, with 'pkgsrch.log' highlighted in blue. Below the table is a search bar with 'Find:' and buttons for 'Go', 'Next', and 'Previous'. At the bottom, there is a detailed log entry table with columns: Date/Time, Source, and Message.

Name	Size	Date Created	Date Modified
EVENTS.LOG	3.97 MB	12/31/2002 07:12:08 PM	02/08/2012 10:32:40 AM
pkgsrch.log	269 B	10/25/2011 09:37:32 AM	11/02/2011 09:12:30 AM
pvsd011514_full.log	57.71 KB	10/25/2011 09:37:32 AM	11/02/2011 09:12:30 AM
	57.57 KB	11/02/2011 03:40:06 AM	11/02/2011 05:42:04 AM

Date/Time	Source	Message
2011-10-02 13:12:10	PKG_INSTALLER	Searching for package file to install
2011-10-02 13:12:10	PKG_INSTALLER	Checking CRC on file: c:\pvsd011514_db.lpf
2011-10-02 13:12:10	PKG_INSTALLER	CRC OK

“pvsdxxxxx_full.log” Selected on “Log Files” Web Interface Screen

The screenshot shows the 'Log Files' web interface with 'pvsdxxxxx_full.log' selected. The layout is identical to the previous screenshot, but the table below the search bar shows different log messages.

Date/Time	Source	Message
2011-11-02 09:41:47	PKG_INSTALLER	Unpackaging: c:\pvsd011514_full.lpf
2011-11-02 09:41:48	PKG_INSTALLER	Deleting package files
2011-11-02 09:41:48	PKG_INSTALLER	Options data not found in package file

- **Disk Diagnostics Log:** the “scan_C.log” file displays information from the most recent PEGvault-SD hard drive scan performed with the “Disk Diagnostics” utility. The “scan_C.log” file is automatically overwritten each time you run a drive scan.

“scan_C.log” Selected on “Log Files” Web Interface Screen

The screenshot shows a web interface with a sidebar on the left containing menu items: LOGS, POLYOPTIX, LOGOUT, Video Recorder (Currently Stopped), and File Name. The main area displays a table of log files:

NAME	SIZE	DATE CREATED	DATE MODIFIED
pkgsrch.log	269 B	10/25/2011 09:37:32 AM	11/02/2011 09:12:30 AM
pvs011514_full.log	57.57 KB	11/02/2011 03:40:06 AM	11/02/2011 05:42:04 AM
scan_C.log	702 B	02/08/2012 10:49:02 AM	02/08/2012 10:49:02 AM
scan_D.log	852 B	02/08/2012 10:49:32 AM	02/08/2012 10:49:32 AM

The content of the selected 'scan_C.log' file is displayed below the table:

```
Dismounting file system (returned 1)
Reading boot sector...
Comparing redundant FATs
Checking directory and file structure

Checking FAT table...
No lost clusters detected, none freed
Calculating and checking free drive space...

Drive is FAT32
Volume
Volume Serial Number is EF42-32C7

34356756480 bytes total disk space
 62652416 bytes in 10 hidden files
 4259840 bytes in 130 directories
 943587328 bytes in 1482 user files
33419231232 bytes available on disk

 32768 bytes in each allocation unit
1048485 total allocation units on disk
1019874 available allocation units on disk
```

Buttons for 'Save Log' and 'Delete Log' are visible at the bottom of the log content area.

FIRMWARE UPDATES

LEIGHTRONIX places the most current PEGvault-SD firmware files on the LEIGHTRONIX Support Center Web site. Save the update files to an accessible directory on your computer or network.

Once you have downloaded the PEGvault-SD firmware update file from the Support Center, open the PEGvault’s Web interface and click the “SYSTEM” menu button. Select the “System Update” tab and use the “Browse” button to navigate to the saved location of the firmware file. Click the “Update” button to download and install the firmware file onto your PEGvault.

“System Update” Tab on “System Management” Web Interface Screen

The screenshot shows the 'System Management' web interface. The sidebar on the left has menu items: DASHBOARD, FILES, DESTINATIONS, SYSTEM, LOGS, LOGOUT, Video Recorder (Currently Stopped), and File Name. The main area is titled 'System Management' and has several tabs: Site Information, User Accounts, Remote Users, System Update (selected), Diagnostics, and ePRO-BUS. A warning message states: "Warning: The PEGvault-SD will be disabled during the update process." Below the warning, instructions read: "You can get the latest firmware from the LEIGHTRONIX Support Center. Download it to your local system, and then upload it to your PEGvault-SD using this dialog. Click the browse button to find the firmware file you want to upload. Firmware files have a file extension of .lfp." At the bottom, there is a 'Firmware File:' label, an input field, a 'Browse...' button, and an 'Update' button.

SPECIFICATIONS

In no event shall LEIGHTRONIX be liable for any damages whatsoever resulting from loss of use, data, or profits, whether or not advised of the possibility of damage, and on any theory of liability, arising out of or in connection with the use or performance of the PEGvault-SD.

Dimensions	1.75"H x 19"W x 9"D
Weight, without carton or cables	5 lbs.
Front Panel Display	2x16 character liquid crystal display
Keypad	<p>Six push button keypad</p> <ul style="list-style-type: none"> • Four arrow push buttons provide password-protected front panel status and network configuration • Green check button powers on the unit • Red "X" button powers off the unit
Remote Control	<ul style="list-style-type: none"> • Wireless, handheld • Infrared • Uses 2 AAA batteries
Power Input	Three-position IEC power input with removable power cord
Power Supply	Internal 200W power supply with active P.F.C., which accepts 90-264VAC @ 47-63Hz
Compliance/Certifications	<p>Certified and listed as:</p> <ul style="list-style-type: none"> • Audio, Video, and Similar Electronic Apparatus Safety Requirements ANSI/UL 60065, 7th edition • Audio, Video, and Similar Electronic Apparatus Safety Requirements CAN/CSA C22.2 No. 60065:03, 1st edition
Internal Real Time Clock	<p>Type: microprocessor interfaced Reference: crystal controlled, temperature compensated Accuracy: +/- 5 seconds per month</p>
Configuration Storage	<ul style="list-style-type: none"> • Internal battery-backed memory • Data integrity verified • Elements: <ul style="list-style-type: none"> ▶ IP address ▶ Subnet mask ▶ Gateway ▶ User Information
Ethernet Network Host Management	<ul style="list-style-type: none"> • Remote Support: Dial-Up Networking • Network Support Interface: <ul style="list-style-type: none"> ▶ Eight-position, eight-conductor RJ-45 modular jack, 10/100 BASE-T, unshielded twisted pair, Ethernet ▶ Ethernet_II frame type ▶ Protocol: TCP/IP ▶ Services: Telnet, FTP, Web
Firmware	<ul style="list-style-type: none"> • Updateable via Ethernet • Cyclical redundancy check (CRC) verified at time of reprogram
Web Interface	<ul style="list-style-type: none"> • Password-protected • Provides setup for automatic file transfers to one of the following destinations: <ul style="list-style-type: none"> ▶ LEIGHTRONIX UltraNEXUS/NEXUS ▶ Third Party Video Servers ▶ LEIGHTRONIX streaming video-on-demand applications ▶ Any destination with FTP capabilities

Internal Storage	<ul style="list-style-type: none"> • Original PEGvault-SD: 120 GB internal hard drive • Version 2 PEGvault-SD: 250 GB internal hard drive provides 200 GB of digital media storage
Internal MPEG Encoder	<p>The PEGvault-SD creates industry-standard, MPEG-2 video files. The maximum recorded file length allowed by the PEGvault-SD is 23 hours, 59 minutes, and 50 seconds.</p> <p>Digital video recording results are based on a combination of the selected recording quality default and the quality of the input source. Video being fed to the encoder must have stable sync. Input signals with copy protection are not recordable.</p> <p>The PEGvault-SD encoder can capture video at one of the following recording qualities:</p> <ul style="list-style-type: none"> • Selectable File Quality Presets for the LEIGHTRONIX UltraNEXUS/NEXUS, LGX-SVOD, third-party video server, or any other destination with FTP capabilities: <ul style="list-style-type: none"> ▶ Good: VBR of 3.00-5.00 Mb/s, half video resolution (352x480), 192 kb/s audio bit rate, 44.1 kHz audiosample rate ▶ Better: VBR of 4.00-7.00 Mb/s, full video resolution (720x480), 192 kb/s audio bit rate, 44.1 kHz audiosample rate ▶ Best: VBR of 7.00-9.00 Mb/s, full video resolution (720x480), 224 kb/s audio bit rate, 44.1 kHz audiosample rate • Default File Quality for the “Internet VOD streaming” option: VBR of 1.50-2.50 Mb/s, half video resolution (352x480), 160 kb/s audio bit rate, 44.1 kHz audio sample rate <p>NOTE: If you select “Internet VOD Streaming” as an automatic file transfer destination, your files will be recorded at “Streaming” quality for all enabled file transfer destinations.</p>

PRODUCT WARRANTY

LEIGHTRONIX, INC. warrants this digital video PEGvault-SD encoder against defective workmanship or materials for a period of five (5) years from the original date of purchase.

During this warranty period, any parts found to be defective will be replaced at no charge. Labor to repair or replace defective parts will also be performed at no charge during the warranty period.

This warranty does not cover abuse, shipping damage, neglect, tampering by unauthorized personnel, acts of God, damage inadvertently caused by the user, preventive maintenance, or any product whose serial number or "Warranty Void if Removed" sticker is removed or defaced.

The sole responsibility of LEIGHTRONIX shall be to repair or replace in accordance with this warranty. The seller's and manufacturer's only obligation shall be to repair or replace such quantity of the product proved to be defective.

The customer shall bear the cost of shipping products returned to LEIGHTRONIX for warranty repair. The cost for return shipment to the customer will be assumed by LEIGHTRONIX and shipped via an equal priority service shipper prepaid and insured.

Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of, or the inability to use the product. Before using, the user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith.

The warranty and the obligations and liabilities thereunder shall replace all other warranties or guarantees, express or implied.

DECLARATION OF STANDARDS CONFORMITY

FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Changes or modifications to this device not expressly approved by LEIGHTRONIX, INC. could void the user's authority to operate this device.

This equipment is intended to be installed in a controlled environment with restricted access.

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WHITSOFT SLIMFTPD

Portions of the LEIGHTRONIX FTP Server are derived from WhitSoft SlimFTPD.

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