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Profile System Software 2.4.1 Release Notes

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World Wide Web	http://www.tek.com/VND/Support
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Email	ProfileSupport@tek.com
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What's New

>>> *Profile System Software 2.4.1 of Profile System Software requires:*

- *Windows NT 4.0 with Service Pack 3 and the Year 2000 hotfix, or Windows NT 3.51 with Service Pack 4 and its hotfix. You'll find more information about the Windows NT requirement in the section called "Microsoft Windows NT Support" on page 25.*
- *A PDR200 or PDR300 system. PDR100 systems equipped with enhanced disk recorder cards are also supported. Generally, only PDR100 systems with the installed Fibre Channel upgrade are equipped with enhanced disk recorder cards.*

>>> *Do not install Profile System Software 2.4.1 on PDR100 systems which are not equipped with enhanced disk recorder cards.*

>>> *You must have increased enhanced disk recorder memory (RAM) to use the following new features:*

- *MPEG support*
- *32-track audio*
- *Fibre Channel streaming*

Refer to "EDR Memory Requirements" on page 22 for more information.

>>> *If you use third-party applications, check with your vendor before installing or using this software release. If your automation system or third party application does not yet support Profile System Software 2.4.1, Tektronix recommends that you install Profile System Software 2.2.2, which has been qualified by most vendors. You'll find instructions on how to install Profile System Software 2.2.2 in "Version Compatibility" on page 19.*

>>> *Testing of this release under Odetics protocol is ongoing. Tektronix does not recommend this release for use under Odetics protocol at this time. When Tektronix and Odetics have completed this testing, Tektronix and Odetics will announce that this release has been qualified for use.*



Version 2.4.1 contains a number of major enhancements:

- Support for MPEG encoding and decoding with the PDR 300 Video File Server, and the optional Profile MPEG field upgrade kits for the PDR 200. MPEG allows you to store almost twice as much video material in the same amount of disk space when compared to equivalent picture quality Motion-JPEG clips. You can use VdrPanel and Media Manager to record, play back, and manage your MPEG clips. Time Delay, Tool Box Editor, and List Manager do not support MPEG clips in this release.
- 32-track audio. You can now equip your PDR 200 or PDR 300 with two ASPB audio cards. You can allocate the resulting 32 tracks of audio in blocks of four to record asynchronous video channels (different clocks), or serial digital video channels with embedded audio (up to eight audio channels). With synchronous video sources (using the same clock), you can allocate audio channels as you require, up to 16 audio tracks per video channel, provided they are all on the same ASPB. For example, you can now play out eight MPEG video channels, each with four audio tracks, or record four video channels with eight audio channels each.

NOTE: Audio tracks 1 to 16 are located on the ASPB in the lower-numbered slot. Audio tracks 17 to 32 are located on the ASPB in the higher-numbered slot. Be sure to label your external breakout panels (PAC216, XLR216, and BNC216) and associated cables accordingly.

- Scrub audio support allows you to hear audio during off-speed play operations, from -2.0 to +2.0 times normal speed.
- Improved Fibre Channel transfers (streaming) and configuration. A new set of API calls (TekXfr) allow Profile applications to operate on clips as they are being transferred. For example, Profile applications using these new capabilities can transfer a clip as it is being recorded, or play out a clip on the destination machine as soon as the transfer has started. In this release, only Tool Box Editor, and Media Manager use these new capabilities.

Configuration Manager includes a new dialog box for Fibre Channel setup and configuration. You can use this new dialog box instead of the *fcconfig* command to manage your Fibre Channel configuration.

-
- The PRS250/M provides a new Profile RAID storage option with better performance at lower cost. The dual-controller version allows you to use a single RAID chassis to support bandwidths that previously required two PRS200/A chassis. The PRS250/M is fully supported in this release.
 - The new PLS20 Data Tape Drive provides a low-cost way to store your clips on PLS200-compatible tapes. The PLS20 is supported in this release.
 - This release includes optional support for the Ampex DST 312 and DST 412 tape drives, which provide high-speed access to large data tapes. Contact your Tektronix representative for more information on this optional feature.
 - This release supports the optional PDR Emulation Server software. This software allows you to store your clips on a central high-speed server, such as the Silicon Graphics Origin 2000. Contact your Tektronix representative for more information on this optional feature.
 - Evaluation copies of Tool Box Editor, List Manager, and TimeDelay are included with this release for your evaluation. Please note that these applications *do not* support MPEG clips in this release.

You can try out these applications for 60 days. If you choose to purchase them, contact your Tektronix Sales representative. Please note that 60 days after their initial use, these evaluation applications will cease to operate.

- Remote applications capability is now supported, so that you can install Media Manager, Tool Box Editor, or List Manager on any PC running Windows NT, and control the operation of any Profile system connected to the same LAN.
- You can now use VdrPanel to play masters which you create with Tool Box Editor included in Version 2.4.1. You can also use VdrPanel to play masters created by earlier versions of Tool Box Editor, but you must first open them once with the current version of Tool Box Editor to make them compatible.
- New Profile Video File Servers which include internal media disks are now shipped from the factory with a Demo Clips bin in the default dataset. You can play these clips to verify your cabling, as well as your MPEG decoders and JPEG codecs.



- Profile System Software 2.4.1 is now available on a CD-ROM. Table 1 describes the contents of the disc. You can use this disc to install Version 2.4.1 directly by using the optional CD-ROM reader, or through a LAN connection to any PC.

Table 1: Profile Software 2.4.1 CD-ROM Contents

Directory	Description
\Profile-Software\2.4.1	Profile System Software 2.4.1
\Profile-Software\2.2.2	Profile System Software 2.2.2
\NT\full\40sp3	An installable version of Windows NT 4.0 Service Pack 3.
\NT\disks\40sp3	Diskette images of Windows NT 4.0 Service Pack 3. Copy these files to diskettes, then copy the content to a \NT\disks\40sp3 directory on a Profile system.
\NT\hotfix	An installable version of the Windows NT 4.0 Year 2000 hotfix.
\manuals	The Profile Family User Manual and the Profile Release Notes for Version 2.4.1 and Version 2.2.2 in Adobe Acrobat 3.0 format.
\adobe	An installable version of the Adobe Acrobat Reader 3.0

MPEG Support

This release supports the factory-installed MPEG capabilities of the PDR300, and the field upgrade of the PDR200. These capabilities are provided by up to two MPEG cards in a system, each of which may consist of either:

- One encoder and two decoders
- Four decoders

NOTE: Your Profile Video File Server will always include at least two (and perhaps four) JPEG codecs. You can record or play out clips in both formats, provided you do not exceed your system's total bandwidth capabilities.

MPEG encoders and decoders are separate, and can be used concurrently. When you assign an MPEG encoder resource, you are creating a record-only video channel. You must assign a decoder to another video channel to obtain play back resources.

MPEG Software Support in this Release

In addition to full API support for Profile software developers, the following software features are included in this release to help you use the new MPEG capabilities on your Profile Video File Server.

- Configuration Manager now allows you to configure up to 32 audio channels, provided your Profile system is equipped with an optional second ASPB. Configuration Manager also lets you manage the additional video inputs and outputs that you may require for your added MPEG capabilities.
- VdrPanel lets you use MPEG encoders and decoders to create and play out MPEG clips. You can configure resources and set GOP structures and bit rates using the standard configuration dialog boxes for panels or external controllers. ***When MPEG encoders are allocated, channels are record only. Decoders are used for play-only channels.***
- Media Manager allows you to manage your MPEG clips in addition to JPEG clips. You can manage material on the local Profile Video Server, on a remote system, and between systems. You can also use the Transcode command in the Media Manager Tools menu to convert JPEG clips to MPEG, MPEG clips to JPEG, or change the bit-rate of any clip by rerecording without using external connections.



- With the new TekXfr API commands, application developers can stream both JPEG and MPEG clips, but not masters (complex movies).
- Applications using Profile Protocol to control a Profile Video File Server can use the MPEG resources of that system. See “Profile Protocol Configuration for MPEG” on page 8 for more information.

MPEG Software Support NOT Present in this Release

Profile System Software 2.4.1 does not include the following features. Look for enhanced MPEG support in future releases of Profile System Software.

- Tool Box Editor does not load or edit MPEG clips, nor can you allocate MPEG resources (encoders or decoders) for use with Tool Box Editor.
- List Manager will not accept MPEG clips as events on lists, nor can you allocate MPEG resources (encoders or decoders) for use with List Manager.
- TimeDelay can't use MPEG resources (encoders and decoders) for its operation.
- Profile Library Systems (PLS200, PLS20, or Ampex tape drives) do not accept MPEG clips for archiving.
- Insert edits for MPEG clips using the BVW or BVW (insert-edit) controllers in VdrPanel are not possible unless the clip is I-frame only. This type of edit is accomplished by over-recording previously recorded sections of video material. You can't perform insert edits or rerecord clips using the same clip name with clips having longer GOP structures.
- The unsupported PRC100 Configuration Utility does not allocate MPEG resources. You can edit Profile Protocol configuration files to use the PRC100 with MPEG clips, as explained in the following section.
- MPEG clips must not be stored on a Profile system running Profile System Software version 2.2.X or earlier.

Profile Protocol Configuration for MPEG

This release of Profile System Software extends the capabilities of configuration files used for Profile Protocol. The Named Configuration Space (NCS) allows you to use an OpenPort command, followed by a file name, to ease the task of configuring Profile resources.

These configuration files can now allocate MPEG encoders and decoders. You'll find sample configuration files, *mpegDec.cfg* and *mpegEnc.cfg*, in the *c:\profile\configs* directory.

To allocate an MPEG decoder, add a line similar to the following to your configuration file:

```
13-00 //MpegDecoder1
```

You should then link the MPEG decoder to a video output resource, and if desired, link the video input to a video output. Video inputs should not be linked to the MPEG decoder.

To allocate an MPEG encoder, add a line similar to the following line to your configuration file:

```
12-00 //MpegEncoder1
```

The format for MPEG encoders is:

```
12-00 bitrate format GopEnd iPerGOP pPerI bPerIP PixStruct
```

If you don't specify parameters, the default values are used. You can override the defaults in the *.cfg* file, or by using the MPEG API calls. Acceptable values for these parameters are:

Table 2: MPEG Encoder Parameters

Parameter	Acceptable Values	Default
bitrate	between 4000000.0 and 50000000.0	18000000.0
format	422 or 420	422
GopEnd	0=GopOpenEnd 1=GopClosedEnd	1
iPerGOP	Reserved. Must be 1.	1
pPerI	The number of p Pix per I Pix, from 0 to 5.	5
bPerIP	The number of b Pix per IP Pix, from 0 to 2.	2
PixStruct	Reserved. Must be 0.	0



MPEG Closed Captioning Technique

MPEG-2 compression works on macro-blocks of 16 by 16 pixels. If closed captioning information is contained in the same macro-block as active video, the two will be compressed together, which will degrade the closed captioning. By ensuring that only black is compressed with the closed captioning information, the compression degradation is minimized.

Since closed captioning information is placed on line 21 in 525-line video, you should follow these guidelines when recording video with closed captioning information in MPEG format. They will help ensure optimum closed captioning integrity, even at lower bitrates.

1. Set the MPEG encoder to begin encoding at line 6, and end at line 261.
2. Where possible, ensure that lines 6 to 20 contain black.

This technique will allow you to minimize the degradation of closed captioning information at lower bitrates. You may also improve your results by using 4:2:0 encoding at very low bitrates.

Software Installation

You can install this release of Profile System Software 2.4.1 on any Profile Video File Server (PDR 200 or PDR 300), or on any PDR 100 equipped with enhanced disk recorder cards (generally, any PDR 100 with Fibre Channel). Your Profile system must also have the correct version of Windows NT installed (see “What’s New” on page 3).

You can also use these diskettes or the CD-ROM to install Media Manager and Tool Box Editor on a PC running one of the supported versions of Windows NT. Be sure to specify that you’re not installing on a Profile system when the prompt appears on the screen.

NOTE: Time Delay and the two Tool Box applications (Tool Box Editor and List Manager) are optional, extra-cost applications which are provided for your evaluation for 60 days, after which they will cease to operate. You may purchase these applications by contacting your Tektronix Sales representative.

Installing Profile System Software 2.4.1

Profile System Software 2.4.1 is installed at the factory on all current Profile systems. If you're installing a new Profile Video File Server, you do not need to install this software. Refer to the *Profile Family User Manual* to learn how to start using your Profile Video File Server right away.

Follow these steps to upgrade from Profile System Software 2.2 or earlier to Profile System Software 2.4.1.

NOTE: After upgrading from Profile System Software version 1.4.X or earlier, you must run the Profile Disk Utility and create a new file system on the media disks. Use the instructions in the chapter called "Using the Profile Disk Utility" in the Profile Family User Manual. Please note that creating a new file system removes all clips left on the system. After the new file system has been created, restart the system and recapture your material.

>>> ***Do not delete the contents of the c:\profile directory before installing Profile System Software 2.4.1.***

1. Log out of the system to ensure that no applications are running.
2. Hold the Shift key down during start-up to prevent auto-logon as user *profile*.
3. Log in as *administrator*. The default *administrator* password on a Profile system is *triton*.
4. Insert the first *Profile Video File Servers System Software Version 2.4.1* diskette into the disk drive. Run the *a:\setup.exe* program. (Choose **Start | Run**, or **File | Run** from Program Manager.)

NOTE: You can also install Profile System Software 2.4.1 from the CD-ROM. Run \Profile-Software\2.4.1\setup.exe from the appropriate drive, either on the local machine, or from a remote connection using File Manager or Network Neighborhood.

5. Follow the instructions displayed by *setup*.
6. When prompted, confirm whether you are installing the software on a PC or a Profile system.



-
7. After a successful installation, *setup* will shut down and prompt you to restart the system.

Update your emergency repair disk by inserting the floppy disk in the A drive and running *rdisk.exe*.

NOTE: If you wish to manage Profile operation over a network from a remote system, or transfer media to or from a Profile system through Fibre Channel, you must start PortServer on the Profile system before performing these operations.

New Startup Procedures

NOTE: When running Profile System Software 2.4.1, you should not place applications in the Startup group to start them automatically upon login. You must use the supplied pdrstart.bat file, described here, to start applications and services.

Before running any Profile application or after halting PDR Service (**vdrsvc -stop**), you must run the Host Transfer Service (**htssvc**), a program that handles streaming requests. When Profile System Software 2.4.1 was installed, an icon for *pdrstart.bat* was placed in the *All Users* (4.0) or *Common* (3.51) Startup folder or group. This is an icon for the Startup shortcut in *c:\WINNT\Profiles\All Users\Start Menu\Programs\Startup\pdrstart.bat* which simply points at the file *c:\profile\pdrstart.bat*.

After installing Profile System Software 2.4.1, you can add commands—such as `start vdrpanel`—to *c:\profile\pdrstart.bat* if you want to start Profile applications automatically. Place any commands under the line `REM Add Your applications AFTER this line and before the line @GOTO EXIT REM Add your apps BEFORE This Line...` If you currently have any other batch files or icons under either *All Users* or *Common*, remove these files and place the desired commands in *pdrstart.bat*.

If you experience any problems starting some applications on startup, you should try increasing the value of the `sleep` parameter (in seconds) to give other services more time to start.



A copy of the default *c:\profile\pdrstart.bat* follows:

```
@echo off
REM Place this batch file in the startup group
REM This batchfile will start up the htssvc and
REM other apps after the 960 is fully up.
REM
REM Rules: always have "wait960 first"
REM         always have htssvc next
REM         always have the 5 second pause next
REM
REM         then add your own custom startup stuff....
REM
@wait960 360
@if ERRORLEVEL 1 GOTO FAILED
@echo SUCCESS!
start htssvc.exe
sleep 5
REM start portsrvr
REM start portmap
REM start chgserver

REM Add Your applications AFTER this line

@GOTO EXIT  REM Add your apps BEFORE This Line...
:FAILED
@echo FAILURE!
:EXIT
```

Updating EDR Firmware

When you install optional MPEG boards in a PDR200, you must upgrade the firmware in some components on the master enhanced disk recorder (EDR) board *immediately after* installing Profile System Software 2.4.1, but *before* installing the MPEG boards. Updating the firmware in the selected components of this board ensures that software and hardware will function together as expected.

The EDR board must be Revision 2 or higher. You can determine the revision level of the boards by consulting the *Profile log*. For information on reading the Profile logs, see the “Utilities” chapter in the *Profile Family User Manual*.

NOTE: The reprogramming uses the file c:\profile\edr_isp.all. Do not alter this file in any way as it may lead to incorrect programming of parts.

To update firmware:

1. Close any applications that may be running on the system.
2. At a command line, type **vdrcvc -stop** and then press Enter. This stops the PDR Access Service. The service will not stop if all applications have not been shut down.
3. Choose **Start | Programs | PDR Debug Tools | Update EDR Firmware** or double-click the **Update EDR Firmware** icon. A window appears.
4. The program warns you to shut down any applications that may be running and to stop the PDR Access Service. If you have already done so, as instructed in steps 1 and 2, type **y**. Otherwise, type **n**, and return to step 1.
5. The update procedure steps through the reprogramming of the components, giving progress information as it proceeds. It retries up to three times to reprogram parts in the event of verification errors. After reprogramming all parts, a summary is provided that describes what has been done.
6. If parts have failed to program, power down the Profile unit completely, power it up again, and then run the program again; otherwise, just restart the Profile.



Updating Fibre Channel Firmware

To fully benefit from all the Fibre Channel improvements in this release, and to correct many of the Fibre Channel problems that you may have experienced in the past, you should upgrade the microcode on your Fibre Channel board to the current version (1.7.3). To upgrade the Fibre Channel microcode:

1. Close any applications that may be running on the system.
2. At a command line, type **vdrsvc -start** and then press Enter. This starts the PDR Access Service if it is not already started.
3. Choose **Start | Programs | PDR Debug Tools | Update FC Microcode**. A window appears.
4. The program asks if you want to continue. Type **Y**.
5. The program now reads the new image of the microcode from `c:\profile\etc\gfcucode.img`. The program automatically copies the old microcode to the file `c:\profile\etc\gfcucode.old`.
6. Restart the disk recorder in order for the microcode update to take effect.

Upgrading Seagate Microcode

Tektronix strongly recommends that you upgrade the microcode on all your media drives to the latest version. The following table lists the microcode files included in this release. Refer to “Using the Profile Disk Utility” in the *Profile Family User Manual* for instructions on how to load microcode onto your media drives.

Table 3: Profile Microcode Files

Drive type	Model	Microcode File Name
Seagate 4 GB	ST15150	cu4w6001.lod
Seagate 9GB	ST19171	cu9w6004.lod
Seagate 9GB LP	ST39173	c9lp5724.lod
IBM 9GB	DCHS09	ibm9G_51.lod

NOTE: Model numbers may appear with suffixes such as *W* or *WD*. The listed microcode file can be used for all drives with the same model number, regardless of the suffix.

Stargate Serial Driver

This release includes an updated driver for the Stargate serial card. This driver fixes a very occasional problem with the serial driver on system start-up. You should install this driver if you upgrading from Profile System Software earlier than 1.4.X.

1. Log in as *administrator*.
2. Start **Control Panel**.
3. Select **Network | Stargate Driver | Update**.
4. When prompted, provide the path *c:\profile\drivers\stargate*.
5. After the driver is installed, you will be prompted to reboot.

Video Card Drivers

We have included optimized drivers for Profile video cards that may improve performance over the default Windows NT 3.51 drivers and may correct pixel dropouts on your display. If you install either of these drivers, Windows NT notifies you that they are *down-level* drivers. You can safely ignore this message.

You can install these drivers using the Display icon in Control Panel. The drivers are located in:

- *c:\profile\drivers\ultimate* for Profile systems with Ultimate VGA cards.
- *c:\profile\drivers\cirrus* for recent Profile systems with Cirrus-based VGA cards.

NOTE: Windows NT 4.0 includes updated drivers for both Ultimate and Cirrus-based VGA cards. You should use these drivers instead of the ones included in the c:\profile\drivers subdirectories.

List Manager Notes

- Under Resource Manager for List Manager, the field dominance and still-play features are unavailable.
- When changing a channel tab name in Resource Manager for List Manager, you cannot enter spaces.
- The New Events menu item is available under the File menu, not the Edit menu as documented.



Media Manager Notes

- Streamed Fibre Channel copies transfer only the material between clip marks, not the entire media file.
- Do not set the physical read-only switch or tab on a library data tape or cartridge.
- You can only archive JPEG clips, not masters (edited sequences of clips).
- You can only archive JPEG clips, not MPEG clips.
- If Media Manager is running locally on a Profile system with a Profile Library System or Data Tape Drive, remote Media Managers connected to that same Profile system will not show the tape device if the local Media Manager was the first to connect. If a remote Media Manager is the first to connect to the Profile system, the local Media Manager will also show the tape device.
- Clips created with Profile System Software 2.4.1 show the clip's correct video format and length based on the clip's properties. Clips created with Profile System Software versions prior to Version 2.4.1 show the Profile system's current video format, and the clip's timecode (length) is based on the current video format.
- If you lose an Ethernet connection to any system on your network (disconnected cable, for example), you must shut down and restart Media Manager on all systems to reestablish proper communications with all systems on the network.

Version Compatibility

Tektronix strongly recommends that you install Profile System Software 2.4.1 or higher on *all* systems on a video network. This will ensure optimum performance and minimize incompatibilities.

Along with other enhancements and new features, Profile System Software 2.4.1 introduces several improvements to Fibre Channel networking, including a new streaming transfer protocol and new configuration settings. Also, the media file system now supports MPEG clips, in addition to the existing JPEG clips.

NOTE: Profile systems running Version 2.4.1 can not transfer clips to or from Profile systems running Profile System Software versions earlier than 2.2.2.

If you are unable to upgrade all of the Profile systems on a video network to Profile System Software 2.4.1, you must install Version 2.2.2 on all Profile systems on the same video network as Profile systems running Version 2.4.1. Tektronix recommends that you upgrade those systems to Profile System Software 2.2.2 first, then upgrade your other systems to Profile System Software 2.4.1.

You cannot perform streaming Fibre Channel transfers (TekXfr) to or from Profile systems running Version 2.2.2. However, you can transfer files to and from Profile systems running Version 2.2.2 with the *PdrCopyMovie* command, or by using Media Manager.

NOTE: You must not store MPEG clips on Profile systems running Version 2.2.2.

In addition, if you use third-party applications, you must check with your vendor before installing or using Profile System Software 2.4.1. If your automation system or third party application does not yet support Profile System Software 2.4.1, Tektronix recommends that you install Profile System Software 2.2.2, which has been qualified by most vendors. The following section describes how to install Profile System Software 2.2.2.



Installing Profile System Software 2.2.2

If your third-party software application or automation system does not yet support Profile System Software 2.4.1, or if you cannot immediately install Profile System Software 2.4.1 on all systems in your video network, you should install Profile System Software 2.2.2 on all systems which will not be running Version 2.4.1.

NOTE: You must not install Profile System Software 2.2.2 on any Profile system equipped with MPEG boards, or with a second ASPB (32-channel audio). Should you wish to install Profile System Software 2.2.2 such a system, you must first remove the MPEG board or boards, remove the second ASPB, and remove any MPEG clips from the system before installing Profile System Software 2.2.2.

The following instructions explain how to install Profile System Software 2.2.2 on a system which currently has Version 2.4.1 installed.

1. Log out of the system to ensure that no applications are running.
2. Hold the Shift key down during start-up to prevent auto-logon as user *profile*.
3. Log in as *administrator*. The default *administrator* password on a Profile system is *triton*.
4. Delete any MPEG clips from the systems media disks (all internal and external datasets).
5. Remove *pdrstart.bat* from the All Users startup group. This will remove all requests to run *htssvc.exe*, which is not supported by Version 2.2.2.
6. Run the *c:\releases\2.2.2\setup.exe* program. (Choose **Start | Run**, or **File | Run** from Program Manager.)

NOTE: You can also install Profile System Software 2.2.2 from the CD-ROM. Run \Profile-Software\2.2.2\setup.exe from the appropriate drive, either on the local machine, or from a remote connection using File Manager or Network Neighborhood.

7. Follow the instructions displayed by *setup*.
8. When prompted, confirm whether you are installing the software on a PC or a Profile system.

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9. After a successful installation, *setup* will shut down and prompt you to restart the system.
 10. Update your emergency repair disk by inserting the floppy disk in the A drive and running *rdisk.exe*.

NOTE: Fibre Channel configuration settings made in Version 2.4.1 will not be carried over to Version 2.2.2. You must use fcconfig in Version 2.2.2 to configure Fibre Channel.

You'll find complete documentation for Profile System Software 2.2.2 in the *\manuals* directory of the CD-ROM. The Profile Family User Manual and the Profile Release Notes are both available in Adobe Acrobat 3.0 format, as *.pdf* files. If required, you can install Acrobat Reader 3.0 from the *\adobe* directory on the CD-ROM. Run the *.exe* file located in that directory.

You can order printed copies of Version 2.2.2 documents from your Tektronix Sales representative. Use the following part numbers when ordering these manuals.

Table 4: Version 2.2.2 document part numbers

Profile Family User Manual	070-9955-01
Profile 2.2.2 Release Notes	070-9957-04



EDR Memory Requirements

The following new features and planned future enhancements require increased memory on the EDR (enhanced disk recorder) master and slave boards.

- MPEG support
- 32-track audio
- Fibre Channel streaming

Current production of the EDR master and slave boards includes this increased memory, 64 MBytes per board. If you wish to use any of these new features on an older PDR200 that does not have the required memory, you must purchase and install the available EDR memory upgrade kit.

To see the amount of memory you have on the Master and Slave EDR boards, choose **Start | Programs | PDR Debug Tools | PDR Diagnostics | Master EDR** from the Windows NT 4.0 desktop. (PDR Diagnostics are in the PDR Debug Tools group in the Windows NT3.51 Program Manager.) If your system does not have 64 MBytes of memory on both the master and the slave EDR, you will need two service kits— one kit for the Master and one for the Slave—each with two 32 MByte SIMMs.

If you have a large file system, Tektronix recommends that you also upgrade the local i960 memory on the EDR master board to 32 MBytes. You will need one kit for this upgrade, containing one 32 MByte SIMM, replacing the existing 16 Mbyte SIMM.

Contact your Tektronix representative or Tektronix Support to obtain these memory upgrades.

Using Fibre Channel

Profile System Software 2.4.1 supports Fibre Channel Video Networking on Profile systems. You can use the Media Manager application, or the *listnames* and *copymovie* commands to manage your material on the Video Network. Refer to the *Profile Family User Manual* for more details. The following sections provide additional information about Video Networking.

Installing Fibre Channel

You must run *HtsSvc.exe* to use TekXfr commands. *HtsSvc.exe* is started by the *pdrstart.bat* file, as mentioned in “New Startup Procedures” on page 13.

To avoid address conflicts on your video network, you should configure your Fibre Channel settings such as Fibre Channel address **before** you make your Fibre Channel cable connections.

If you’re adding a VideoGateway to your video network, you should complete the installation and configuration of all your Profile systems before adding the VideoGateway. You must connect VideoGateway to an existing, working video network.

Fibre Channel Compatibility

Due to enhancements in Fibre Channel support introduced in Profile System Software 2.4.1, you should install Version 2.4.1 on all systems in your Fibre Channel network, including remote PCs. This will ensure complete compatibility between systems, and make new features available to all units on the network.

Applications written to take advantage of the new TekXfr API commands can benefit from the ability to perform concurrent operations on clips. For example, an application could allow a clip to be transferred to another machine as it is being recorded, or to play out as it is being transferred. Tool Box Editor and Media Manager will allow you to use these new capabilities. Remember that only clips, not masters (complex movies) can be transferred with the TekXfr commands.

If you have installed Profile System Software 2.4.1 and change Fibre Channel configuration settings, then revert to a previous release, the Fibre Channel settings will revert to what they were before the Version 2.4.1 software was installed. Reinstalling the Version 2.4.1 software will restore the configuration settings to the values set from the previous Version 2.4.1 installation, regardless of any configuration changes made while running under the older version.



Concurrent Fibre Channel Copies

Profile Fibre Channel transfers are dependent on system and network bandwidth. You must manage the use of your systems, especially a system used as a server, to ensure acceptable performance.

The Profile video disk recorder assigns the highest priority to audio and video record and playback operations. Any other operations, such as Fibre Channel transfers, will be performed with remaining system bandwidth.

By using the following techniques, you can manage your server's bandwidth to meet your needs.

1. Reduce video input and output channel usage on the server system. Try recording at a lower bit rate (Most recording time), or record and play on fewer channels.
2. Limit to three the number of simultaneous transfers from a single system.

NOTE: In some circumstances, performing four or more simultaneous copy operations from a single system may result in a failed transfer. The clip will not be present on the destination system, and an error message will appear on both the client and the server systems. If this occurs, re-initiate the transfer, making sure that there are no more than three transfers to or from that system at the time of the request.

Only one copy operation (PdrCopyMovie) to a system is permitted at any one time. Applications will usually queue transfers to a system, and the transfers will occur sequentially. If an application displays an error message instead of queuing, wait until the first transfer is complete, then request the next transfer. Media Manager copies one item at a time, queuing additional copy requests until the transfer is complete.

If you use the new TekXfr commands to perform streaming transfers of clips, you can usually perform concurrent transfers of up to three clips to or from a system at faster than real time transfer speeds, depending on the clip bitrate settings. As with any other Fibre Channel operation, you must be aware that video payout and record operations will be allocated bandwidth first.

Microsoft Windows NT Support

Your new Profile video disk recorder is preloaded with all of the required software, including Windows NT 4.0 with Service Pack 3 and the Year 2000 hotfix. The `c:\i386` directory contains all the Windows NT 4.0 installation files that normally would be found on the installation diskettes or on the CD-ROM. Profile administrators can use files in this directory if they need to add drivers or other software to the default installation. Service Pack 3 is located in `c:\i386\nt40sp3`. The year 2000 hotfix is located in `c:\i386\nt40sp3y2k`.

To upgrade to Profile System Software 2.4.1, your Profile system must be running either Windows NT 3.51 or 4.0. The version of Windows NT appears on the screen during system startup.

The following sections explain how to upgrade to Windows NT 3.51 or 4.0. In most areas, Windows NT 3.51 is no longer available, so you should follow the instructions on how to upgrade to Windows NT 4.0

Installing Windows NT 3.51

- Acquire a Windows NT 3.51 diskette upgrade from your local software vendor. The SKU number is 236-074-570; the title is *Microsoft Windows NT Workstation Operating System Version 3.51 Special Step-Up Edition*. If you don't know of a local software vendor, call for recommendations from Tektronix Support.
- Follow the instructions enclosed in the Windows NT upgrade, selecting an Express Setup when prompted.
- Agree to all defaults during setup except one: If you have an older PDR 100 with a Micro-Labs Ultimate TrueColor/XL video card, Install will note that `w32.sys` is older and ask you to confirm overwriting it. **Do not overwrite it.** If you accidentally overwrite this driver, you can reinstall the recommended version by following instructions in `c:\profile\drivers\ultimate\readme.txt`.
- If your Profile does *not* have a network card installed:
 - After installation completes, reboot and log in as *administrator*.
 - From Control Panel, start **Network**, then choose **Add Software | RPC Configuration**.
 - After this is installed, restart the Profile system again.



The upgrade process takes approximately one hour.

Windows NT 3.51 Registry Problem

In Windows NT, a registry stores configuration and application settings. Because of a bug in Windows NT 3.51, its backup registry is not updated properly. This does not affect normal operation of the Profile, but we recommend that you download Service Pack 4 from the Microsoft FTP site. The service pack fixes several problems, including the one with the registry. You can download this fix from:

ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/NT351/ussp4/i386/SP4_351I.EXE

NOTE: If you install Service Pack 4, you must also install the hotfix described in:

<ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt351/hotfixes-postSP4/SMSS-fix/Q148485.txt>

Installing Windows NT 4.0

Due to limited availability of Windows NT 3.51, you may have to upgrade Windows NT 4.0 to run Profile System Software 2.4.1.

Profile System Software 2.4.1 fully supports operation under Windows NT 4.0, provided you also install Service Pack 3. You can download Service Pack 3 from the Microsoft FTP site at:

ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes

For example, U.S. customers can find instructions on how to download Service Pack 3 in:

ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt40/ussp3/

You should also install the Windows NT 4.0 Year 2000 hotfix. You'll find the hotfix on the same Microsoft FTP site. For example, U.S. customers will find the Year 2000 hotfix for Windows NT 4.0 at this location:

ftp://ftp.microsoft.com/bussys/winnt/winnt-public/fixes/usa/nt40/hotfixes-postSP3/y2k-fix/

Windows NT 4.0 may be available on CD-ROM only. If your Profile Disk Recorder is connected to a LAN, you can upgrade your operating system over the network from a remote PC.

If you can't upgrade to Windows NT 4.0 over a network connection, contact Profile Customer Support for information on how to obtain a CD-ROM reader for your Profile system.

NOTE: To ensure a trouble-free transition to Profile System Software 2.4.1 and Windows NT 4.0, be sure to perform the following steps in order. Failure to do so may result in system hangs or uninitialized services.

- 1. Install Profile System Software 2.4.1.***
- 2. Upgrade to Windows NT 4.0.***
- 3. Copy the contents of the \i386 directory on the CD-ROM to the \i386 directory on the Profile system disk.***

If you can't update the contents of the \i386 directory on the Profile system disk, you must remove the directory, as it contains Windows NT 3.51 files which are incompatible with Windows NT 4.0.



4. *If your Profile system is not equipped with a network (LAN) card, follow the instructions in “Upgrading to Windows NT 4.0 Without a LAN Card” on page 28.*
5. *Shut down and restart your system.*

Upgrading to Windows NT 4.0 Without a LAN Card

If you upgrade to Windows NT 4.0 on a Profile system which is not equipped with a LAN card, you must follow this procedure after installing Window NT 4.0 to ensure that all services start correctly.

1. Log in as *administrator*.
2. Choose **Start | Settings | Control Panel**, then double-click the **Network** icon.
3. Click the **Adapter** tab.
4. Select **MS Loopback Adapter**, then click **OK**.
5. Select **Frame Type 802.3**. Click **OK**. When prompted for a path, enter either appropriate Windows NT Setup diskette or the CD-ROM.
6. Click **Close**.
7. Click the **Protocols** tab, then click the **Properties** button, and select the **MS Loopback Adapter** in the drop-down box in the middle of the screen.
8. Enter 192.168.20.2 as the IP address.
9. Click **OK**, then reboot the system when prompted.
10. Accept the following error message during the reboot: “At least one service or driver failed to start.” To prevent this message from appearing during subsequent reboots:
 - a. Start Event Viewer and note that the EtherExpress Driver did not load. This driver is requested by the setting established in this procedure, but is not required for operation without a LAN card.
 - b. Disable the EtherExpress Driver by using **Control Panel | Devices**.
11. Verify your settings by typing `ping 192.168.20.2` or `ping <machine_name>` from the MS-DOS command line.

Known Problems

Please note the following limitations in Profile System Software 2.4.1.

The reference numbers included in some problem descriptions (POL1019, for example) refer to the Tektronix bug-tracking database. Please use these numbers if you contact Tektronix Customer Support about these problems.

Problem	There is no analog audio output on a PDR200.
Workaround	Analog audio outputs are muted by default on the PDR200. Use Configuration Manager (Line Level tab in Analog Audio Output) to unmute the outputs.
Problem	PDR200 analog audio inputs aren't available to applications.
Workaround	When connecting the PAC208 or 216 to the PDR200, be sure to use Configuration Manager to set the desired audio inputs to Analog.
Problem	Windows NT 3.51 won't start or won't allow Profile applications to start when rebooting in a Last Known Good configuration.
Workaround	When using Windows NT 3.51, you must install Service Pack 4 and its hotfix as described in "Windows NT 3.51 Registry Problem" on page 26.
Problem	A PLS200 Library System can't be controlled by more than one device. For example, if a local application is controlling the Library System, a remote serial device is unable to perform any Library tasks.
Workaround	Limit control of the PLS200 to a single device at a time. A future release of Profile System Software will allow for multiple controlling devices.
Problem	When restoring a clip from a PLS200 Library System, the clip can't be played until the restore operation is completed.
Workaround	This is a limitation of this release. The capability will be added in a future release.



Problem	It is difficult to manage space in PLS partitions because the actual clip size may be unknown and the free space in partitions is not visible.
Workaround	New PLS commands have been added that provide the clip size (PlsGetClipSize) and return the free space in a set of partitions (PlsGetPartitionMap).
Problem	Applications placed in the Startup group don't start correctly.
Workaround	All Profile internal software must be initialized and running before starting applications. Use a batch file in the Startup group (such as <i>pdrstart.bat</i> , included with this release) to delay starting the desired applications, or start the applications manually.
Problem	Profile applications may not start, or may perform more slowly than normal.
Workaround	You should limit the total number of local and remote (network or serial control) Profile applications to eight or fewer. Having too many Profile applications running concurrently depletes system resources, and may produce unpredictable results. Try to close unneeded applications whenever possible. Note that due to its design, the Tool Box Editor must be counted as two Profile applications.
Problem	A request for a PdrCopyMovie operation times out without response. Operations such as Fibre Channel copies using Media Manager are slow.
Workaround	Increasing the number of systems connected together with Fibre Channel tends to slow copy operations between systems or to Profile Library Systems. In extreme cases, PdrCopyMovie operations may take several minutes. Try to limit the number of active connections between Profile systems to those you really need at any time.

Problem	Audio pops are audible on the recorded material when some channels in the same audio group are playing and some are recording.
Workaround	<p>Groups of four Profile audio channels (1, 2, 3, and 4, for example) use a common clock to time signals. If you split a group of audio channels and use some for input and some for output (for example, two for input and two for output), either the input or the output will be using a clock which is not synchronized to the corresponding video signal. You should avoid splitting groups of four audio channels wherever possible.</p> <p>If you must split a group of four audio channels, use Profile Configuration Manager to change the audio configuration for those channels. They must all be set to use the System clock.</p>
Problem	<p>Audible pops may be present during insert edits when switching from Playback to E to E on a source deck. The following messages appear in <i>Profile Log</i>:</p> <p><i>Au board 2: Bad average sample count = 822.550000</i></p> <p><i>Au board 2: corrected average sample count = 818.744444</i></p> <p><i>3 missing Jpeg DMA 1800 912353 3512 3526 35133535 6829 3514</i></p>
Workaround	Avoid changing the mode of source machines during record operations. The change in signal timing may adversely affect audio quality.
Problem	Using the Preliminary version of the PRC 100 configuration utility, a “Resources not available” message appears on the PRC 100 display.
Workaround	Re-install the Preliminary version of the PRC 100 Configuration Utility in the <i>c:\profile</i> directory, not the default <i>c:\profile\unsupported</i> directory. When prompted by the setup program, do not overwrite the file <i>mfc42.dll</i> (choose No).



Problem	Audible pops may be present during insert edits while in BVW emulation, with the following error messages in <i>Profile Log</i> : <i>Au board 2: Bad rate src = PLAY_CLK, expected RECORD_CLK</i> <i>Au board 1: Bad rate src = RECORD_CLK, expected PLAY_CLK</i>
Workaround	Using Configuration Manager, change the audio input configuration to use Play Clock in the Select Audio Record Clock Source panel.
Problem	Using Windows NT 4.0, occasionally PDR Access Control won't start when you boot your system. Applications such as VdrPanel will display an error message and will not start.
Workaround	There are three known causes of this problem. <ol style="list-style-type: none">1. VdrPanel starts before PDR Access Control during boot. Restart VdrPanel after PDR Access Control has started.2. You must install Service Pack 3 when using Windows NT 4.0. Refer to "Microsoft Windows NT Support" on page 25 for instruction on how to obtain Service Pack 3 and the Year 2000 hotfix.3. In a networked environment, you must ensure that no two devices have the same name.
Problem	Media Manager locks up and can't be restarted.
Workaround	Use Process Viewer from the PDR Debug group to kill both the <i>mediamgr.exe</i> and <i>vmhwcom.exe</i> processes.
Problem	Video shifts up and black appears at the bottom of the screen when using the optional Mix/Effects card.
Workaround	Set timing to E to E when using the optional Mix/Effects card.

Problem	On some systems, analog composite inputs shift slightly compared to other inputs when using the optional Mix/Effects card.
Workaround	Contact Tektronix Customer Support for the latest information on this problem.
Problem	Free disk space is reduced to an unacceptable level on the Profile system drive, or on a remote PC.
Workaround	You can free up some disk space by carefully deleting unused files. The following files can be safely deleted in the specified situation.

Table 5: Profile files that can be deleted

If you:	You can delete:
Never use Tool Box Editor	c:\profile\tbxdedit.exe c:\profile\tbxdedit.tsf c:\profile\tbxdedit.hlp c:\profile\tbxdedit.cnt
Never use List Manager	c:\profile\listmgr.exe c:\profile\listmgr.tsf c:\profile\listmgr.hlp c:\profile\listmgr.cnt c:\profile\evntsch.dll c:\profile\teksch.dll c:\profile\schedrv.dll c:\profile*.mmf
Never use Time Delay	c:\profile\tdelay.exe c:\profile\tdelay.tsf c:\profile\tdelay.hlp c:\profile\tdelay.cnt
Installed on a PC	c:\profile\diag*.* c:\profile*.96d on the PC only



Problem An MPEG encoder/decoder or decoder-only board does not work, and the following messages appear in *Profile Log*

*pci_mhb_get: timeout err at get start
for handle 0x4 boardNo 1 procNo 1 size 5*

*pci_mhb_get: timeout err at get start
for handle 0x3 boardNo 1 procNo 0 size 5*

Workaround You must run the Update EDR Firmware utility to download the latest version of EDR firmware to the board.

Problem You can't create a new clip, even though there's disk space available. For example, VdrPanel won't provide a new clip name.

Workaround Check the number of files in the *c:\pdrmovie_db* directory structure. If that number is large (close to 2500), you may have reached the set limit of clips for your system.

The number of clips on a system is limited by a registry entry. If you need to record more clips, you can use *regedt32.exe* to increase that limit. The limit is set by Max Movies under the *\Software\Tektronix\Profile\PdrMovie* key located in the HKEY_LOCAL_MACHINE section of the registry. If you create complex movies (masters) from applications such as the Tool Box Editor, you may also have to modify Max Media References. Note that increasing these limits allocates more Windows NT disk space for the clip database.

Please contact your third-party software vendor or Tektronix Customer Support before changing these registry entries.

Problem Applications in the Startup group don't run, or display error messages.

Workaround In Version 2.4.1, *htssvc* must be started before other applications can run. Use *pdrstart.bat* to manage the starting order of your applications. You'll find more information about *pdrstart.bat* in "New Startup Procedures" on page 13.

Problem	Media Manager won't start, and a message mentioning <i>vmhwcom</i> appears on the screen.
Workaround	The Profile System Software 2.4.1 installation program was unable to register <i>vmhwcom</i> . To do this manually, enter the following commands at the MS-DOS prompt: <i>regsvr32 vmhwcomproxy.dll</i> <i>vmhwcom /regserver</i>
Problem	When you assign both MPEG and JPEG resources to a panel in VdrPanel, playback of clips produces unexpected results.
Workaround	You may not assign both JPEG <i>and</i> MPEG resources for single panel. This type of operation is not supported. A channel (panel) must use either JPEG <i>or</i> MPEG, not both.
Problem	Changing a recording from open-ended to loop, then playing the clip in loop mode in another panel results in the playback overtaking the recording and displaying black (POL1019).
Workaround	Avoid changing a recording from open-ended to loop.
Problem	Remote operations fail between Profile systems or PCs running Profile System Software versions 2.2 and 2.4.1.
Workaround	Version 2.4.1 does not support operation with systems running versions earlier than 2.2.2. While Tektronix recommends that all systems running together be upgraded to Version 2.4.1, you may contact Tektronix Support to obtain 2.2.2 if you require a version of 2.2.X that is compatible with the current version.
Problem	Using Louth protocol, the Skip command may cause one or two erroneous frames to be displayed (POL891).
Workaround	There is no current workaround for this problem. Please report any occurrence of this problem to Tektronix Support.



Problem	Using Louth automation, you see Lost Connection error messages.
Workaround	This release does not support more than four connections with MS-DOS-based Louth automation. The number of RS 422 ports which can operate with the Windows NT version of the Louth server has not been established.
Problem	When starting Disk Utility, an Unable to Connect to Service message appears, and the application does not start.
Workaround	You must be logged on as Administrator to run Disk Utility. In addition, all other applications and services must be shut down before running Disk Utility. Some applications and services take a long time to shut down. Wait a minute, then try starting Disk Utility again.
Problem	The Clear button in the Fibre Channel Configuration dialog box in System Configuration clears the Fibre Channel address immediately, even if you choose Cancel to close the dialog box (POL1094).
Workaround	Avoid pressing the Clear button unless you want to change the address. If you inadvertently press Clear, you can retrieve the Fibre Channel information from <i>Profile.log</i> .
Problem	On some systems, the analog audio output occasionally becomes muted (POL1099)
Workaround	In Configuration Manager, choose Audio Output, then Line Level. Check and then clear the Mute box. The audio will be unmuted.
Problem	The Transcode utility in Media Manager will not transcode locked clips (POL1102).
Workaround	Use VdrPanel to unlock clips before transcoding them.
Problem	Switching between asynchronous video sources when recording MPEG clips with long GOP structure results in black frames being recorded.
Workaround	If you can't synchronize your video sources, avoid switching between sources while recording, or use I-frame only.

Problem	Occasionally, serial digital video outputs may momentarily have no signal when you start VdrPanel. This only occurs when the video channel is set to E to E, and Auto-Timing is disabled (POL1112).
Workaround	Wait a few seconds for the serial digital output to initialize. You can avoid this problem by enabling auto-timing on that video channel.
Problem	When selecting SerialUA (rev 0) Video I/O Tests VITC Tests in PAL mode, the selected test will fail for either channel.
Workaround	Prior to running PAL mode tests, the system must be configured for PAL mode using Configuration Manager. Note that when this is done, the NTSC tests will fail.
Problem	When selecting SerialUA (rev 0) Video I/O Tests EDH Tests in PAL mode, the selected test will fail for either channel.
Workaround	Prior to running PAL mode tests, the system must be configured for PAL mode using Configuration Manager. Note that when this is done, the NTSC tests will fail.

