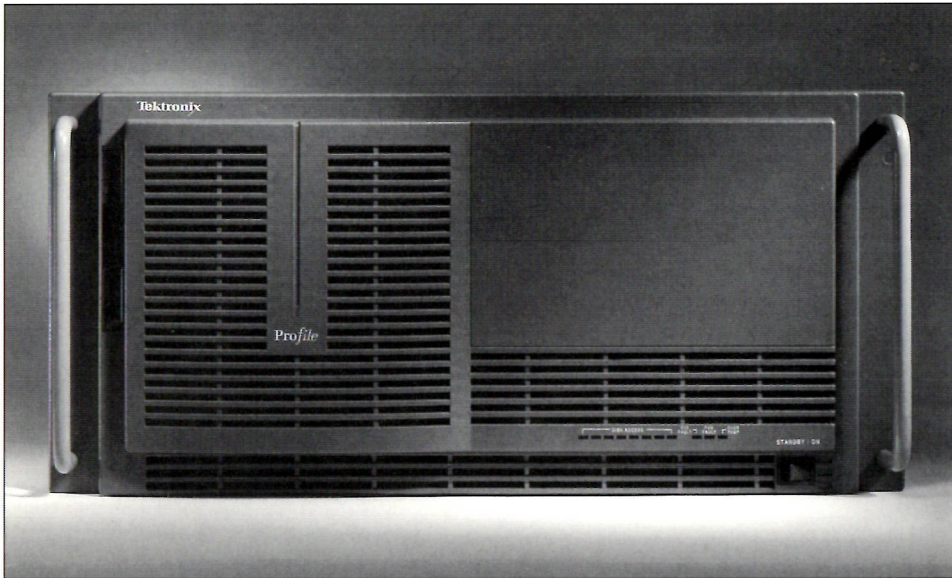


Tektronix



Profile[™]

Profile™ Professional Disk Recorder PDR 100



The Profile™ PDR 100 provides broadcast-studio-quality video and audio manipulation and storage in a reliable system that has modular flexibility. The platform contains four independent disk recorder channels that can either play or record and provides random access to all stored information through any of the channels.

System Description

The PDR 100 supports both 525/59.94 NTSC and 625/50 PAL systems. It contains a passive EISA motherboard with an integral 32 x 32 CCIR601 component digital video routing system. The EISA bus master is an off-the-shelf i486DX2/66 processor board used for running Windows NT applications.

The PDR 100 stores video by using motion JPEG compression and SCSI-2 fast/wide disk control with high-performance, off-the-shelf disk drives. The architecture allows for up to four channels of simultaneous access

to the disk array. The symmetrical nature of JPEG allows all channels to be configured for either compressing or decompressing video. This allows one or more channels to write to the disk array at the same time others are reading.

Video interfaces for the PDR 100 include both analog composite (NTSC or PAL) and serial digital components. Video formats are converted to parallel digital component for internal use. Audio is input or output through dedicated analog I/O channels. The analog audio is converted to digital using 16-bit linear PCM, sampled at 48 kHz and routed over the EISA bus.

Open Platform

The PDR 100 is an open platform, which not only adds flexibility for future expansion, but also makes it easy for developers to port applications software to the system. Tektronix offers a source development kit for this purpose.

Modular Design

The modular design of the PDR 100 makes it easy to upgrade when new features are added or new technological improvements occur, such as new compression techniques, larger capacity drives, or new I/O formats.

Off-the-Shelf Components

Wherever possible, the PDR 100 uses off-the-shelf components. The i486 processor system board and SVGA board are standard commercial products, as are the 340-MB IDE drive and the 3.5-in. floppy drive that support the processor board. Disk drives used to store audio and video are standard off-the-shelf units.

Intelligent Compression™

Using high data rate motion JPEG with Tektronix Intelligent Compression™, video quality is maintained and storage times are maximized. With video that starts at Betacam SP VTR quality, storage time is between five and six minutes per gigabyte (GB) of disk storage (using two channels of audio). Depending upon the number of internal disk drives and the desired compression, storage time can vary from approximately 45 minutes to approximately three hours. Almost nine hours of total storage is available when an external expansion chassis is used.

Four Simultaneous Channels

The PDR 100 provides simultaneous read and/or write access to two or four video codec channels, depending upon how many are installed. Because the four channels are not associated with specific physical disk drives, program material recorded on one channel can be accessed almost immediately by any other channel. This feature is critical for time delay applications and for occasions when quick changes to a commercial break are required.

All Channels Bi-directional

Each channel is bi-directional and can be configured as either a record or playback channel. This makes it possible to use the same channel for recording during off times and for playback during commercial breaks.

Vertical Interval Recording

Vertical interval information, beginning at line eight, is recorded with the active picture

information. This preserves all closed-captioning, teletext, and transmission test signals. This feature is critical in play-to-air applications. Without this feature, vertical interval information must be reinserted at the output of the recording device.

Integral Video Router

An internal 32 x 32 CCIR601 8-bit parallel digital component router moves video signals between devices within the PDR 100 platform. Many switching functions that would otherwise require an external device are eliminated, saving the cost of additional hardware and the need for external wiring and system timing.

Time Code

The PDR 100 can record Vertical Interval Time Code (VITC) and/or Longitudinal Time Code (LTC). It can also generate an internal time code that can be output as either VITC or LTC or recorded on a timecode track.

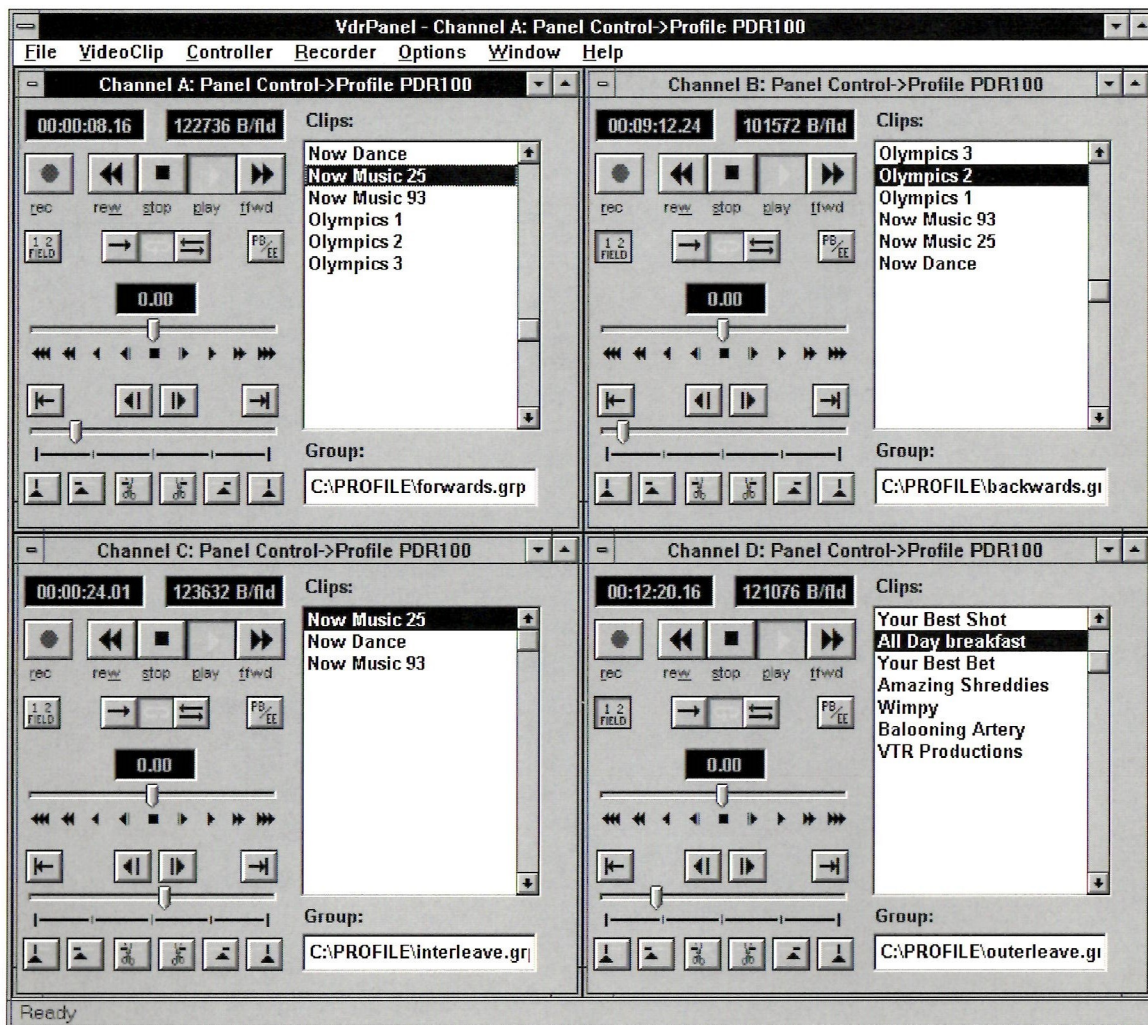
Control Graphical User Interface (GUI)

The GUI comes standard with the PDR 100 and brings not only the GUI control to the VDRs, but also a method for controlling each of the VDRs through separate RS-422 ports.

The GUI interface is a Windows NT-based application and follows its operating conventions. This application has the standard types of controls found on video tape recorders such as play, record, jog, and shuttle, as well as menus for selecting video clips, the controller protocol and the video compression ratio, and assembling groups of video clips and other setup functions. An SVGA output is supplied for connection to an optional monitor for viewing the GUI.

Warranty

A one-year warranty on parts and labor minimizes cost of ownership. The warranty includes both hardware and software.



Profile Standard Configurations

The PDR 100 is a dual standard product. It is software configurable to operate in 525/59.94 or 625/50 television standards. The standard product includes the following:

- 17-slot EISA motherboard
- i486/66 processor card with 32 MB of DRAM
- System hard disk drive
- 3.5-in. high-density floppy disk drive
- Windows NT 3.5 operating system
- SCSI-2 disk controller with two video CODEC channels
- 16.8 GB of video storage (4 x 4.2-GB drives)
- Reference genlock input and four-channel LTC read/write
- 8-channel RS-422 interface card and break-out panel
- 32 x 32 component parallel video router (part of motherboard)
- VDR panel software
- Mouse and keyboard
- SVGA driver card
- RS-422 control protocols, including Profile™ protocol and VTR emulation protocol

The PDR 100 may be ordered with any one of the standard options listed below.

- Option 20 — Adds two serial digital component video inputs and outputs and eight channels of audio I/O to the PDR 100. Provides two video disk recorders with 16.8 GB of video/audio storage.
- Option 21 — Includes the same as Option 20, plus four additional 4.2-GB hard drives. Provides two video recorders with a total of 33.6 GB of video/audio storage.
- Option 22 — Adds one composite analog input, four composite analog outputs (a fifth composite output provides a copy of output four with a timecode burn-in window), and eight channels of audio

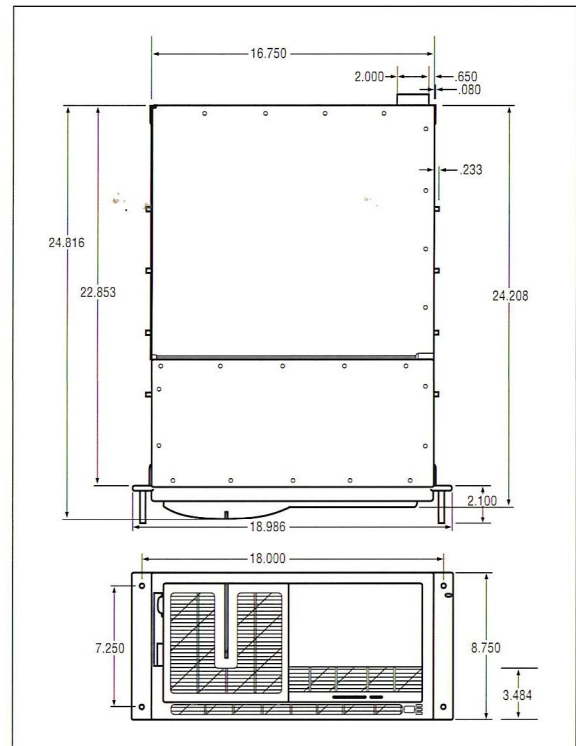
I/O to the PDR 100. Provides two video disk recorders with 16.8 GB of video/audio storage.

- Option 23 — Includes the same as Option 22, plus four additional 4.2-GB hard drives. Provides two video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 24 — Includes the same as Option 21, and adds four composite analog outputs (a fifth composite output provides a copy of output four with a timecode burn-in window). Only four channels of analog audio I/O are provided instead of eight. Provides two video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 25 — Includes the same as Option 23, but includes four channels of analog audio I/O instead of eight. Provides two video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 26 — Includes the same as Option 25, but adds two component serial digital inputs and outputs and deletes the dual standard composite analog input. Provides two video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 40 — Adds four component serial digital inputs and outputs and sixteen channels of analog audio I/O, two additional disk recorders, and four more 4.2-GB disk drives to the PDR 100. Provides four video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 41 — Adds two component serial digital inputs and outputs and eight channels of analog audio I/O, two additional disk recorders, and four more 4.2-GB disk drives to the PDR 100. Provides four video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 42 — Adds one dual standard composite input, four composite analog outputs (a fifth composite output provides a copy of output four with a timecode burn-in window), 16 channels of analog audio I/O, two additional disk recorders, and four more 4.2-GB disk drives to the PDR 100. Provides four video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 43 — Includes the same as Option 42, but adds a second dual standard composite input. Provides four video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 44 — Adds two component serial inputs and outputs, eight channels of analog audio I/O, four composite analog outputs (a fifth composite output provides a copy of output four with a timecode burn-in window), two additional disk recorders, and four more 4.2-GB disk drives to the PDR 100. Provides four video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 45 — Includes the same as Option 42, but has eight channels of analog audio I/O instead of sixteen. Provides four video disk recorders with a total of 33.6 GB of video/audio storage.
- Option 46 — Adds two component serial digital inputs and outputs (each with four channels of embedded AES/EBU audio I/O), two additional disk recorders, and four more 4.2-GB disk drives to the PDR 100. Provides four video disk recorders with a total of 33.6 GB of video/audio storage.
- Option TD — Adds the program time delay application. This application software for the PDR 100 system will allow the user to record a stream of video and delay its playback. The length of the delay is limited only by the capacity of available record time on the PDR 100. Introduction of this option is expected in Q196.

PDR 100 Characteristics	Reference Genlock	Locks to nominal NTSC or PAL color black signal. Amplitude ± 3 dB from nominal and SCH phase within 40° .
	Time Code (Longitudinal)	Channels — four separate read/write channels. Input Impedance — 20 kohms. Input Amp. (MIN.) — 0.1 V p-p, differential. Input Amp. (MAX) — 2.5 V p-p, differential.
	Storage Time	45 minutes to nearly three hours with internal drives. Almost nine hours with external expansion. Times vary depending on compression factor and the size and number of disk drives.
	SVGA Output	1024 x 768 for GUI display.
Environmental Characteristics	Operating Temperature —	0°C to $+40^\circ\text{C}$.
	Storage Temperature —	-40°C to $+75^\circ\text{C}$.
	Operating Altitude —	to 15,000 feet (4572 meters).
	Storage Altitude —	to 50,000 feet (15,240 meters).
	Power Supply	1184 VA (750 watts).
	Warranty	One year parts and labor. Includes hardware and software.

Physical

Dimensions —
 Height — 8.750 in. (218.44 mm).
 Width — 18.986 in. (482.25 mm).
 Depth — 24.816 in. (630.33 mm).
Weight — 65 lb (29.55 kg).



Ordering Information

PDR 100
Professional
Disk Recorder

When ordering, please use exact nomenclature given here:
 Includes power cord, rack slides, RS-422 break out panel, user manual, installation manual, and RS-422 user manual.

Optional Accessories

- PDR0F1M** — 17-in. SVGA monitor.
- XLR 100** — Audio Breakout and Bypass unit. Converts the 25-pin "D" type audio connectors on up to four PDR0F1As to 4 male (output) and 4 female (input) XLR connectors, a total of 16 inputs and outputs. Also capable of bypassing the input to outputs in the event of power failure or error in the PDR 100.
- 174-3249-00** — Cable to connect PDR 100 audio connectors to XLR connectors. Eight feet in length. Can also be used with LTC reader/writer connector on reference genlock board.
- 174-3481-00** — Cable to connect PDR 100 audio connectors to tinned wire connection. Twenty feet in length.
- PDX 103** — Disk expansion unit
 Option 01 — Eight drives onto two SCSI-2 channels.
 Option 02 — Sixteen drives onto two SCSI-2 channels.
 Option 03 — Eight drives onto one SCSI-2 channel.



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Specify Profile[®]
 from your
 video system
 integrator.

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Tektronix

Profile™ Professional Disk Recorder Product Support



Support for your Profile™ Professional Disk Recorder (PDR 100) begins with your purchase. Product support starts with a two-year warranty and is enhanced by a comprehensive support plan that may be extended beyond the warranty period. Along with excellent documentation, product diagnostics and access to our Worldwide Service Centers, we have established an emergency help desk for after-hour assistance. Also included is access to an electronic bulletin board to review the latest product information and updates.

This same comprehensive support may be extended beyond the product warranty through the fifth year of product life, ensuring your Profile is operating with the latest enhancements and continued reliability. To receive

this continued support, specify "Option U9 Extended Warranty" when placing your order.

Training is also offered to provide your personnel with the necessary skills to use the Tektronix support tools needed to maintain optimum operating efficiency. Classes are offered on a regular basis with custom training available on request. Students completing the class will be able to diagnose and repair the Profile by using module exchange and available Tektronix support tools. To pre-register for training classes, specify "Option 1T Hardware Training" when placing your order.

Whatever your needs, Tektronix is here to help. If you have special support requirements, please contact one of our Profile Support Representatives and we will work with you to meet those needs.

Two-Year Comprehensive Warranty

- Parts
- Emergency After-Hours Support
- Depot Repair
- Tektronix Application Updates

Product Hardware Support Training

Product Support Assistance

- Telephone Support
- Electronic Support Services
- Application Engineers

Worldwide Service Centers

Extended Warranty Option

- Product Support for Years Three through Five

Summary of Support Offers

Warranty Support

Two-Year Coverage Period. This warranty covers all parts and labor when the unit is returned to a Profile Service Center, or replacement parts and assemblies for customer self-service, plus the following:

- After-Hours Emergency Hotline Support, (503) 685-2345. *English speaking only.*
- Replacement parts or exchange assemblies shipped express from Tektronix within 24 hours. (Most parts shipped next-day air if package service is available, subject to customs.)
- Return-to-depot service that includes all parts and labor, including return shipping.
- Worldwide product support from Profile Support Centers.
- Access to electronic support services: Tektronix Television Division BBS (503-627-4413) and Internet (WWW.tek.com).
- Updates for Tektronix applications.

Extended Product Warranty: Option U9

Extends product support for years three through five. This extended warranty covers all parts and labor when unit is returned to a Profile Service Center, or replacement parts and assemblies for customer self-service, plus the following:

- After-Hours Emergency Hotline Support, (503) 685-2345. *English speaking only.*
- Replacement parts or exchange assemblies shipped express from Tektronix within 24 hours. (Most parts shipped next-day air if package service is available, subject to customs.)
- Return-to-depot service that includes all parts and labor, including return shipping.
- Worldwide product support from Profile Support Centers.
- Access to electronic support services: Tektronix Television Division BBS (503-627-4413) and Internet (WWW.tek.com).
- Updates for Tektronix applications.

Profile Product Hardware Support Training: Option 1T

Hands-On Service Training. Successful completion will enable the student to diagnose and repair the Profile by using module exchange and available Tektronix support tools. Training classes include:

- Product operation.
- Windows NT essentials.
- Product diagnostics.
- Assembly/Disassembly techniques and practice.
- H/W and S/W update process.
- Troubleshooting and repair techniques with hands-on labs.

Successful completion will enable the student to diagnose and repair the Profile by using module exchange and available Tektronix support tools.

Profile Worldwide Support Centers:

Toll-Free Number – USA	1 800-TEK-WIDE	Electronic Support Services	
Sales/Application Support		USA – TV Division BBS	(503) 627-4413
USA – Beaverton, Oregon	(503) 627-3984	(Supports 14,400 modem)	
United Kingdom – Marlow	44 (1628) 403300	Internet – Video Systems	WWW.tek.com
Australia – Sydney	61 (2) 888-7066		
Hong Kong	852 (2) 598-6188		
Korea	82 (2) 528-5299		
Canada	(416) 747-5000		
Brazil	55 (11) 543-1911		
Japan (Sony Tek)	81 (3) 3448-4680		
Hardware Support			
USA – Beaverton, Oregon	(503) 627-7878		
United Kingdom – Marlow	44 (1628) 403300		
Australia – Sydney	61 (2) 888-7066		
Hong Kong	852 (2) 598-6188		
Korea	82 (2) 528-5299		
Emergency After-Hours Support 24 Hours, Seven Days a Week			
USA – Wilsonville, Oregon	(503) 685-2345		



Specify Profile™
from your
video system
integrator.

**For further information, contact:
U.S.A., Asia, Australia, Canada, Europe,
Central & South America, Africa, Japan,
Mexico**

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