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THE WORLD'S LEADING PROFESSIONAL AUDIO WORKSTATION NOW HAS MAJOR NEW FEATURES, DRAMATICALLY IMPROVED PERFORMANCE, AND LOWER SYSTEM PRICES.

YOU MIGHT CALL THAT IMPRESSIVE.

Welcome To Pro Tools™ 2.0: A New, Advanced User Interface

What's New...

Among the dozens of new features and enhancements:

- Fast, no-wait waveform overviews while recording.
- Time-stamping of regions.
- Bigger, brighter, faster, and more accurate on-screen VU metering.
- Accurate "signal present" indication with on-screen VUs in RECORD READY mode.
- Dramatically improved sonic performance for parametric equalizers.
- More extensive UNDO options.
- Support for Opcode's Studio 5™ and Mark of the Unicorn's MIDI Time Piece™ FAST mode.
- Improved MIDI controller chasing and MIDI metronome functions.
- MIDI sequence file export.
- Graphic, breakpoint-style automation editing for audio and MIDI events.
- Copy-and-paste of automation between audio tracks.
- Enhanced grouping and editing of stereo or multiple tracks.
- Improved scrubbing.
- Extra gain-staging (up to +6dB on track and I/O gains).
- New session management features.
- Improved transport control, with GO TO END command.
- Pro Tools can generate SMPTE Linear Time Code and serve as a sync master (using Digidesign's optional SMPTE Slave Driver).
- Import and conform of MIDI sequences to existing tempo maps.

And scheduled to be available in 1993:

- Import of EDLs, with conform.
- Machine control.
- Punch-in and -out on the fly.
- Compatibility with the Digidesign TDM Digital Audio Bus — which will deliver 256 channels of 24-bit communication between Pro Tools cards; third-party cards from Lexicon, Apogee Electronics, and others; and will even allow you to route and automate your existing analog and digital gear within this powerful, all-digital environment.
- A new, affordable CD recorder.
- A non-proprietary network option.
- And much more!

No-compromise power and performance. Continued development. Exceptional value. Unparalleled support. These are just some of the reasons why more Digidesign Pro Tools systems are in use around the world than all other competing systems combined.

Now, there is another reason for Pro Tools to continue to be the industry standard for audio post, music recording, and broadcast production: Pro Tools 2.0, a simple-to-install software upgrade for existing Pro Tools systems. Created by listening closely to our customers' needs, 2.0 combines full-featured recording, mixing, signal processing, automation, and advanced waveform and event editing — all in one integrated program. There's nothing else as fast, powerful, flexible, or complete.

See our Advanced User Interface today at your nearest Digidesign Professional Products Dealer. While we call it Pro Tools 2.0, you might call it exactly what you need.

Ongoing Third-Party Development & Supporting Digidesign Products

At Digidesign, we believe the best systems are also the most open systems. Which is why, with our support, so many third-party developers have chosen to develop a wide range of Pro Tools-compatible software and hardware. Their products include:

- Integrated MIDI/digital audio sequencers (Studio Vision™ from Opcode; CuBase Audio™ from Steinberg; Digital Performer™ from Mark of the Unicorn).
- Digidesign TDM Digital Audio Bus-compatible cards (such as the NuVerb™ from Lexicon, and an interface system from Apogee Electronics). Cards from other manufacturers are in development.
- The MicroLynx™ synchronizer from TimeLine Vista (available with a custom Pro Tools interface card).
- Mezzo™ storage and archive systems, from Grey Matter Response.
- The multi-fader CS-10 Control Station™ from JL Cooper Electronics.

Of course, great support begins at home. Our own cast of available supporting technology includes:

- The SMPTE Slave Driver™ and Video Slave Driver™ synchronizers (detailed on the back page).
- The Digidesign Expansion Chassis™, a 12-slot NuBus chassis for Digidesign cards.
- The new SampleCell II™, a 32-voice RAM-based sample playback card with up to 32MB of RAM.
- Sound Designer™ II — the recording industry's standard for advanced stereo editing software — which brings to Pro Tools such features as time compression/expansion; pitch shifting; normalization; extensive dynamics processing; and much more.
- DINR™, the Digidesign Intelligent Noise Reduction™ system. Within weeks of its release, DINR became the world's best-selling digital noise reduction system. Our first "plug-in" option for Sound Designer II, DINR effectively removes tape hiss, ventilation noise, hum, buzz — and virtually any other broadband or pitched noise — in real time, without additional hardware.
- And other technologies in development, such as the Digidesign TDM Digital Audio Bus™, a variety of Digidesign cards for the Bus, and new plug-in software modules.

PRO TOOLS 2.0

Slip/Shuffle/Spot/Grid modes. Use Slip mode to move regions freely within a track, even overlap other regions. Shuffle mode lines up regions end-to-end for rapid assembly. Use Spot mode for amazingly fast, one-step spotting of audio to picture. Grid mode automatically quantizes your edits to the nearest beat, second, or frame.

The Display Scale arrows allow you to adjust the waveform display.

Quick, high-quality varispeed scrubbing (similar to rocking a reel of tape against tape heads) is available in forward and reverse. Allows for locating edit and other points with pinpoint accuracy.

The Zoomer lets you view audio waveforms at any resolution, down to the individual sample.

The Trimmer allows you to "fine tune" your selection.

The Selector is used to define regions of audio and MIDI.

The Grabber moves regions and tracks. Moves can be quantized with Grid mode.

The Time Scale indicator lets you view a session in Minutes, Seconds, Bars & Beats, SMPTE time code, or Feet & Frames.

Selection and Position indicators show you exactly where you are in your session.

Track volume and mute changes can be automated quickly and accurately with click-and-drag "breakpoint" editing. Faders and other automatable controls move on-screen to match changes.

Nudge/Grid selector indicates value selected for Grid quantization. Regions may also be "nudged" by this amount using the +/- keys.

Track panning changes can also be automated graphically with click-and-drag "breakpoint" editing.

Current Time indicator.

Each Audio Track is a graphic playlist with controls for volume, panning, solo/mute, and voice priority, giving you visual feedback for rapid, accurate editing.

Time stamping allows regions to retain original SMPTE location information, which allows for quick return to position and easy identification.

The Edit window allows each Audio Track to be viewed individually in waveform, or block format.

Audio (top) and MIDI (bottom) Regions Lists. Regions can be dragged from these lists and placed in any respective audio or MIDI track.

Select across multiple tracks of audio and MIDI.

Multiple MIDI Tracks can be edited in blocks along with audio.

Each Audio Track offers high-quality equalizer options, including high-shelf, low-shelf, peak/notch, high-pass, and low-pass. Two separate EQs are available per track.

In addition to transport controls, the Transport window gives you 10 instant and nameable autolocation points, Punch In/Out indicators, and an Online command.

Four- and 8-channel systems offer four auxiliary sends per track (not shown).

Each module in the Mixer window gives you total control over EQ, panning, solo/mute/record enable/automation record enable status, output channel assignment and level, and voice priority (for virtual tracks). Most of the Mixer window controls (except for the track fader and VU meter) may also be viewed and controlled from the Edit window.

Pro Tools' post-fader VU meters are fast and extremely accurate. Meters indicate signal present, level before clipping, and clipping status.

Pro Tools In Audio Post-Production

If you work in audio post-production for film or video, chances are you already work with a Pro Tools system, or know someone who does. After all, post professionals have made Pro Tools the most popular professional workstation in Hollywood, New York, Toronto, London — practically wherever audio post takes place — and they've done so for a good reason: Nothing edits, processes, syncs up, and spots audio to picture with as much speed, ease, and power.

You can identify sync points within any audio region to spot music, dialog, sound effects and foley instantly. To spot the events, simply locate your visual cue point — at which point a SMPTE time can be captured via an LTC or VITC reader, or if you wish, may be entered manually. Then, in Auto Spot mode, simply drag sound elements out of the Regions List, and they're automatically spotted to the captured SMPTE time. Once the element is in place, slipping, nudging, trimming and backtiming is a rapid, simple, and accurate process. And thanks to 2.0's new time-stamping feature, regions can be returned instantly to their original times.

Many post professionals know how useful a MIDI sampler can be for storing and triggering sound effects while locked to picture. Which is why the perfect post companion to Pro Tools is our new SampleCell II card. With 32 voices, up to 32MB of RAM, and a library of thousands of sounds and instruments, SampleCell II is not only the world's most powerful sample playback device — it also brings the power of integrated hard disk recording and RAM playback to the post studio. And starting in 1993, a collection of powerful "Post Tools" features will be available for Pro Tools, including CMX EDL import and conform, machine control, and more.

Pro Tools In Broadcast Production

In 1988, Digidesign's original break-through direct-to disk recording and editing system, Sound Tools, changed the rules for broadcast production. Leaving their razor blades in the bathroom, thousands of radio engineers, producers, and even on-air talent learned first-hand how Digidesign's approach to random-access recording brings creativity, speed, and a better bottom line to broadcast production. Then, in 1991, Pro Tools made affordable and easy-to-use multichannel random-access broadcast production a reality.

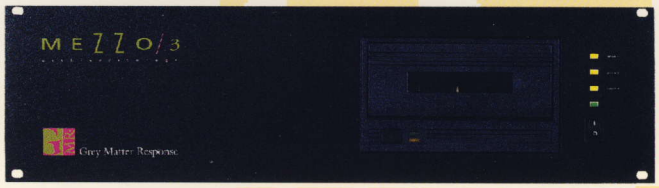
Now, Pro Tools 2.0 is better in every way. And it's even simpler and faster to use. Engineers and non-engineers alike will find 2.0 a friendly and productive environment. Which means commercials, station IDs, jingles, and entire programs come together faster than you could ever imagine.

Pro Tools is a modular system, so we let you buy what you need when you need it. But that doesn't mean compromise: Even a core 4-channel Pro Tools system can record up to 64 virtual tracks, and as many alternate takes as your hard disk can hold.

Broadcasters the world over depend upon Digidesign. People at places such as WGBH (Boston), WNET (New York), Radio France, NBC Television (USA), Nippon Broadcasting (Japan), the ABC Radio Network (USA), the CBC (Canada), the BBC (UK), and many others. Find out how you too can depend upon us for your needs.

Backup Options

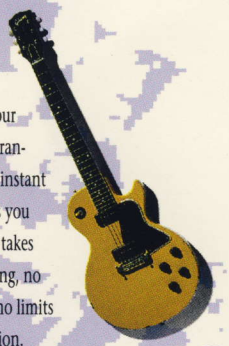
Pro Tools offers a variety of backup options, using any Macintosh-compatible storage system (8mm tape, data DAT, optical, etc), or a Digidesign-recommended archive device from Grey Matter Response, Dynatek, and others. Pro Tools also includes DATa™ software, which backs up audio files — plus edit and session info — to DAT cassette (a more affordable and reliable medium than analog tape), using any audio DAT recorder.



New from third-party developer Grey Matter Response is the Mezzo™ series of archive systems for Pro Tools. Using a DAT or 8mm tape Mezzo, and GMR's Mezzo Media™ software, you can archive and reload files in the background, while you work. And that's a great way to work.

Pro Tools In Music Production

Pro Tools provides the quickest path from inspiration to finished digital master, and does so with critically acclaimed audio quality. Record up to 16 channels simultaneously. Using 2.0's precise editing tools, you can build a perfect track from dozens or even hundreds of takes — giving you total creative control over your music. Best of all, 2.0's random-access design and instant waveform overview lets you stack and edit multiple takes instantly — no rewinding, no razor blade tricks, and no limits but your own imagination.



Our unique Grid Mode editing allows you to make fast and accurate edits. If you know the tempo, or if you can tap it, you can even create a grid that's referenced to bars and beats.

If you compose with a MIDI sequencer, or need to do intensive MIDI editing, you'll want to consider one of the digital audio sequencers designed for Pro Tools (Studio Vision™ from Opcode Systems, Cubase Audio™ from Steinberg or Digital Performer™ from Mark of the Unicorn). Of course, you can also record MIDI directly into Pro Tools, or import a Standard MIDI file from any popular Macintosh sequencer.

By uniting MIDI and digital audio, Pro Tools gives you the best of both worlds - without the inconvenience, delays, and hassles normally associated by synchronizing MIDI to tape.

And if you do need to synchronize to tape, Pro Tools can act either as a fast-locking slave to incoming time code — or as a master deck — using the optional SMPTE Slave Driver.

In fact, studios which choose to retain their multitrack tape recorders (for archived work, on-going projects, compatibility with other tape-based studios, or ease of transition), find Pro Tools to be a powerful and flexible companion to tape. Flying tape tracks into Pro Tools for "impossible" edits; powerful DSP facilities (including our optional DINR); tracking overdubs without wearing the master tape — all of this and more is yours when you sync Pro Tools to an existing tape deck.

Simply, if you make music, nothing makes as much sense — technically, sonically, creatively, and cost-effectively — as Pro Tools.

Pro Tools System Requirements & Specifications

Computer Requirements

Standard NuBus-equipped Macintosh computer. The Mac IIci is the minimum recommended model, although other models (such as the original Mac II) may be a good choice when equipped with an accelerator. Contact Digidesign for more information about CPU requirements and approved accelerators.

RAM

Eight megabytes minimum.

System Software

System 7.0 (with Tune-up) or higher.

Hard Disk Drives

Each mono track will require five Megabytes/minute at 44.1kHz. With one hard drive per four channels:

- Minimal access time: 18ms or faster.
- Minimal transfer rate: 800 KBytes/second.

With one hard drive per eight channels:

- Minimal access time: 12ms or faster.
- Minimal transfer rate: 1,200 KBytes/second.

Optical Drives

Approved optical drives for archiving and 2-channel recording and playback are available from Grey Matter Response, Dynatek, Pinnacle, and others.

Computer Monitor

Color monitors are highly recommended for use with Pro Tools. Grey scale monitors are also acceptable. One-bit, or monochrome, monitors are compatible.

Selected Available Peripherals

- Digidesign SMPTE Slave Driver (for LTC sync).
- Digidesign Video Slave Driver (for reference to black burst/house sync).
- Digidesign Expansion Chassis (with 12 NuBus slots, for use with all current Digidesign cards)
- MIDI interface (for integrated MIDI/digital audio sequencing, or MIDI event record/playback).
- Digidesign Sound Designer II and DINR software.

Specifications

Pro Tools Audio Interface

- Sample Rates: 44.1kHz or 48kHz; user-selectable.
- Analog-to-Digital Converter: 1-Bit Delta-Sigma; 64x Oversampling; 16-bit output.
- Digital-to-Analog Converter: 18-Bit; 8x Oversampling.
- Frequency Response: 20Hz – 20kHz, ± 1dB.
- Signal-to-Noise Ratio: >93dB A/D; >108dB D/A.
- Analog Levels: +4dBm nominal (14dBm headroom).
- Maximum Analog I/O Levels: +24dBm.
- THD + N: 0.005% A/D; 0.003% D/A.
- Digital I/Os: AES/EBU (XLR) or S/PDIF (RCA), user-selectable.
- Analog Audio Connectors: Balanced XLR, pin 2 hot.
- Power Requirements: 100, 120, 220, 240 VAC (auto-switching, 50 – 60Hz); 16 watts.
- Dimensions: 1U External Rackmount device; 19"x 1.75" x 8.5"; nice black finish; 5 lbs (3 kg).

Pro Tools Audio Card™

- Card Specifications: Macintosh II NuBus card, installable in any Macintosh II- or Quadra-series CPU NuBus slot. Macintosh IIsi requires Apple NuBus adapter. Each card processes four discrete channels of phase-synchronous 16-bit audio.
- Digital Signal Processing: Two Motorola 56001 processors per Audio Card.
- Slot Requirements: Slot independent; can be installed in any NuBus slot; up to four cards may be used simultaneously (providing enough NuBus slots are available).
- NuBus Power Consumption: 9.55 watts

Pro Tools System Accelerator™

(improves system performance; required for all 8-, 12-, and 16-channel Pro Tools systems)

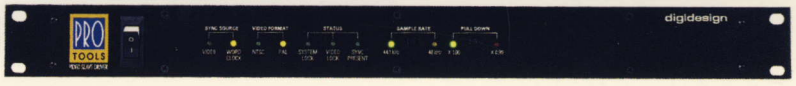
- Card Specifications: Macintosh II NuBus card, installable in any Macintosh II- or Quadra-series CPU NuBus slot. Macintosh IIsi requires Apple NuBus adapter and Digidesign Expansion Chassis to accommodate the System Accelerator, and to run an 8-, 12-, or 16-channel Pro Tools system.
- Processors: Motorola 20mHz 68020 (CPU); 40mHz SCSI II processor (SCSI Processor).
- Connector: Standard 25-pin SCSI interface.
- Slot Requirements: Slot independent, can be installed in any NuBus slot
- NuBus Power Consumption: 5 watts.

The Pro Tools Audio Interface. *Since its release, the Pro Tools Audio Interface has been lauded by critics and users alike for its superb audio quality. Each Pro Tools Audio Interface provides four channels of high-quality, balanced +4dBm analog inputs and outputs; using four Audio Interfaces, Pro Tools 2.0 can route up to 64 virtual tracks through 16 discrete analog outputs. Each Audio Interface also has two assignable channels of AES/EBU and S/PDIF digital I/Os, for connection to other digital devices, such as DAT decks and digital effects processors.*

Connection to respective Pro Tools Audio Cards is via a proprietary, high-bandwidth data path. Slave clock I/Os are provided for synchronization to our SMPTE and Video Slave Drivers, as well as other synchronizers, such as TimeLine Vista's Pro Tools-compatible MicroLynx.

Pro Tools Modular Synchronization Options. *For Pro Tools users who require digital synchronization to audio and video recorders — or any other varying or stable source of linear time code — our* ***SMPTE Slave Driver*** *is the highest-quality solution on the market. Equipped with an ultra-low-jitter clock by Apogee Electronics, the SMPTE Slave Driver reads incoming LTC and calculates any speed deviations. Location information is then passed onto Pro Tools via the Mac's serial port (or via a MIDI connection if a separate MIDI interface is being used). Speed information is passed to Pro Tools via a direct "Superclock" connection to Pro Tools' sample rate clock — without requiring Pro Tools to perform sample rate conversion. This way, perfect sync can be established in playback or record, while retaining Pro Tools' optimum audio quality. And since it also generates time code, the SMPTE Slave Driver allows Pro Tools to serve as an extremely stable master sync source, complete with programmable varispeed (adjustable in percentage, parts per million, or even musical semitones). Listen to Pro Tools in use with the SMPTE Slave Driver, even under adverse sync conditions, and compare its sonic performance with that of any other synchronized workstation: You'll hear why the SMPTE Slave Driver is the highest quality sync solution available.*

Our ***Video Slave Driver*** *allows post-production users to resolve Pro Tools to black burst video (house sync), or to an external word clock. In this manner, the Video Slave Driver provides Pro Tools' speed reference, while the SMPTE Slave Driver (or a third-party SMPTE-MIDI converter) provides location information.*



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PRO TOOLS 2.0

WE CALL IT PRO TOOLS™ 2.0