Digidesign Pro Tools HD 7 Software FIELD TEST
by **Barry Rudolph**

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Pro Tools HD 7 is an elegant and refined upgrade that combines greatly enhanced processing capabilities with tighter integration of audio recording/editing/mixing and MIDI sequencing. Version 7 is a paid upgrade you can buy online and requires an iLok dongle. The LE version still relies on serial number authorization. As in version 6, PT 7 is for both MAC OS X and Windows XP and for this review I installed version 7.1cs6 into a MAC G5 Quadcore with 4.5GB of RAM running OS 10.4.6, HD3 PCIe cards and a single HD192 I/O unit.

Interface Lift NOT!
On launch of a session, the first thing you'll notice is the reorganized set of drop down menus. I found this reshuffling to make sense even though, occasionally, I would have to hunt around for little used commands.

New menus called Track, Region, and Event have

Looking For plug-ins
Maxim.dpm

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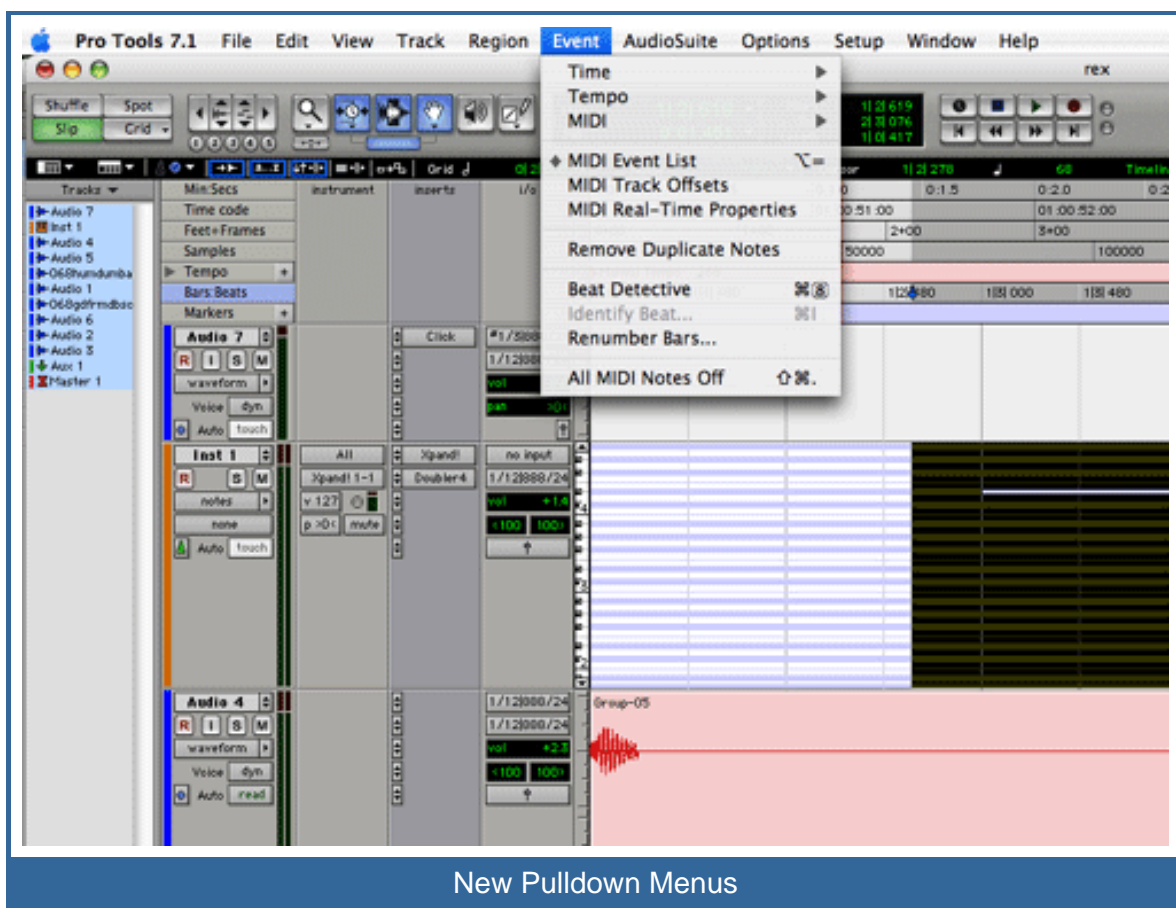
Version 7.1
PRO TOOLS HD 7

Pro Tools 7 Start Up Screen

replaced the Movie and MIDI menus. Track has everything to do with tracks--creating, deleting, duplicating, grouping, split to mono etc. Region, when a track region is selected in the Edit window, controls its properties including a new feature called Region Grouping (More Later). Event is where most MIDI commands, Tempo manipulations and Beat Detective now live.

The shorter File menu, in addition to its usual Open/Save dialogs, has Import for movies, session data, region groups, audio, audio from Quicktime™ movie, MIDI to track and MIDI to region. File is also where export session data as text and OMF export occurs.

The Setup menu is the same as Session Setup except that it now contains the controls for offsetting movies to timecode, the MIDI interface setup and click settings. Also new is the resizable I/O window--a big help for users of large systems with many I/O boxes. In general most of the dialogs and contextual menus are redesigned with many subtle changes that make life a lot easier. Apart from the very small icons added to sections of the Edit window when using certain new features, overall the interface looks the same.

New Pulldown Menus

**Goodbye HTDM, Hello Improved RTAS Performance**
One of the first dialogs I got when instantiating a plug-in was something like: "This plug-in could not be made active because this version of Pro Tools does not support HTDM plug-ins. If you cannot convert the plug-in to RTAS, please contact the manufacturer for an updated version."

Digidesign claims a 150% RTAS performance improvement in PT|HD 7 TDM and LE systems as long as you are running a dual-processor or dual-core computer. Increasing the number and types of plug-ins possible has rendered (for other reasons too) the HTDM format obsolete. I had no problems because plug-in developers have a RTAS version of their wares anyway. If you start up an old session that used HTDM plugs, generally a RTAS version will replace them. Otherwise you'll have to check with the plug-in manufacturer for an updated PT 7 version.

RTAS plug-ins can be used just like TDM versions--including on the Master Fader and when setting up effects with mono inputs and stereo outputs. Side-chain processing also now works within RTAS in TDM systems. The one caveat is that RTAS plugs use track voice DSP to connect to the TDM Mixer--using two inputs and two outputs of a stereo RTAS effect would require using four voices. To keep appraised, the revised System Usage Activity Monitor

window now indicates the number of TDM voices in use. With my HD3 system if I'm mixing a 48-track production, I normally run it in 64-voice mode allowing 16 extra voices for RTAS plugs.

For my totally unscientific test of improved RTAS performance I played 49 tracks of mono audio, set RTAS processors to 4 (The Quadcore MAC allotted all four processors to handle RTAS processing), CPU usage limit at 95% (max), 96 voices using two DSP processors, sample rate at 44.1kHz, and DAE Playback buffer at Level 2 (default). I was able to instantiate 96 RTAS IK Multimedia's TrackS EQ and 96 D-Verbs with more to go if I wanted--and apart from my 24-bit TDM mixer at 78%, I still had all my TDM DSP resources remaining! The PCI meter was at half way and the CPU was up about one third with 58 of 512 Time slots used.
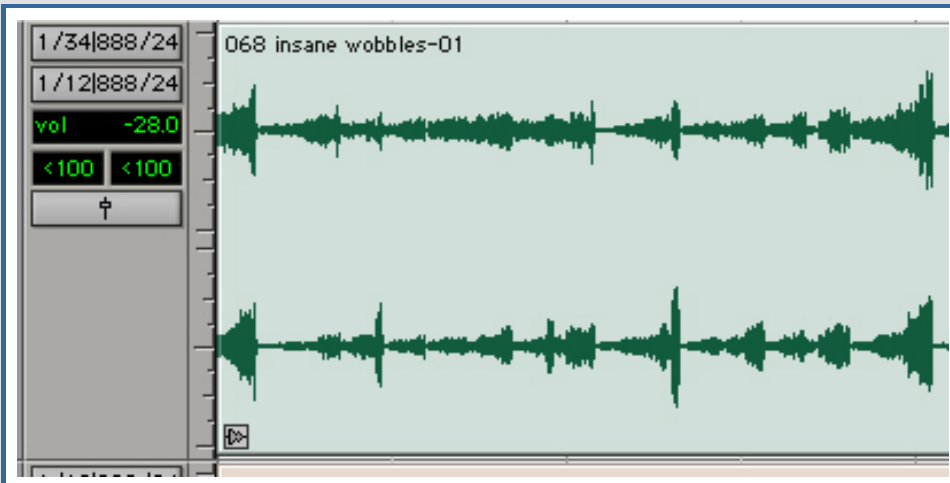
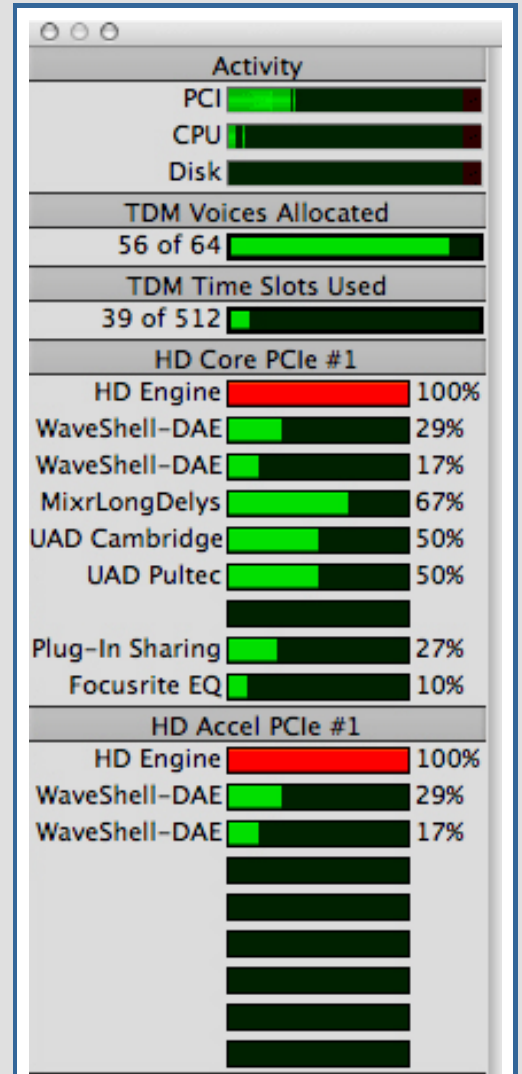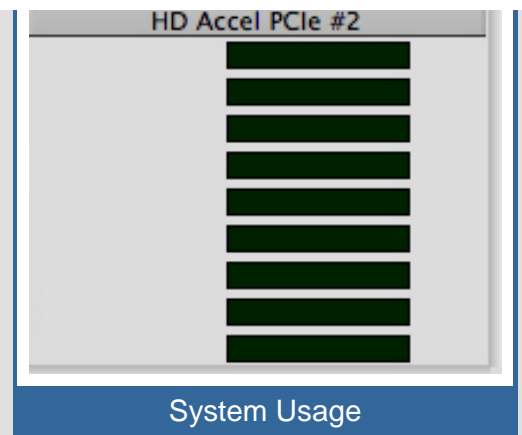
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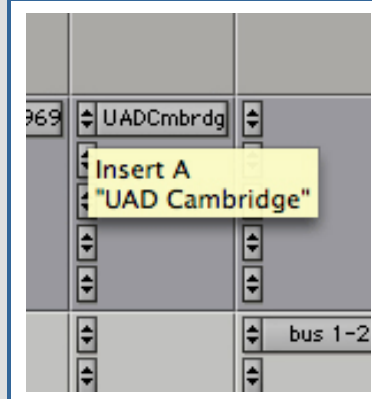
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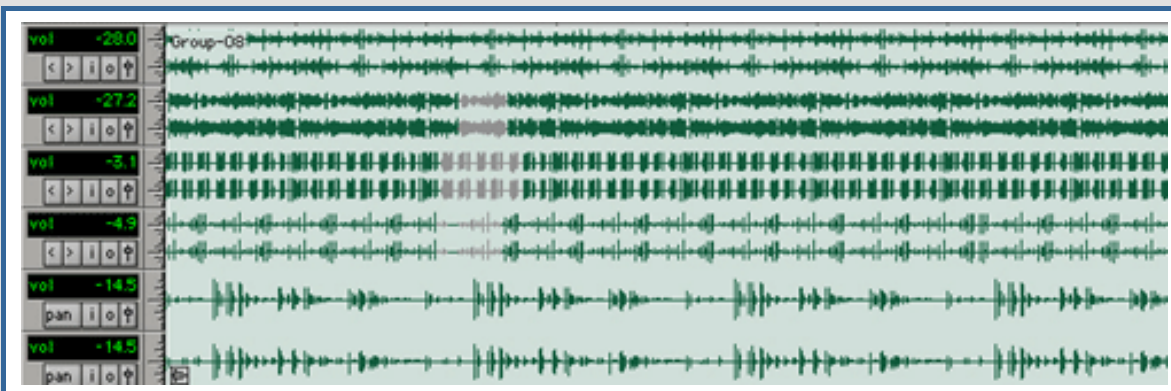
Region Groups Grouped

Because More Is More Some totally new features are: up to 160 channels of I/O at up to 96kHz; up

to ten sends per track, in two blocks of five, with drag and drop copy of send assignment and

settings; up to 999 marker/memory locations; Tool Tip bubbles on/off that show, when you mouse over, both the function and details such as which plug-in you have inserted (love this). Mixer fader range is now fixed at +12dB and Bounce-To-Disk is a keyboard shortcut: Command +Option+B. The built-in DigiBase™ file management system supports MIDI data and Red Book audio CD import for PC users. Speaking of PCs, PT 7 uses the same non-backward compatible . ptf session file format on both PCs and MAC platforms.

Pro Tools will import and use REX and ACID files. I pulled .rx2 loop files directly from the finder window onto a tempo-based session audio track without any conversion. The loop audio shows up as a Region Group with tempo information imbedded.

HD Accel PCIe #2

System Usage

Regions And Region Groups

Both audio and MIDI regions now show up together in a single region list in the right side drawer of the Edit window. The default is to sort by type with audio at the top. Tracks of all types, Audio, Instrument Tracks (More later), MIDI, Aux or Master Fader are listed in the left side drawer under Tracks.

Region groups are collections of audio and/or MIDI regions. A region group can be thought of as a single track. Region grouping is a good tool when working on edit-intensive sessions--songs with chopped up and quantized multi-tracked drum kits. Normally tracks with many regions should be locked to keep the edits intact or (if they are audio) consolidated into a contiguous file. With region grouping you can ungroup any time if you have to tweak an edit and then regroup to "fly" the entire region group anywhere.

You can group audio with MIDI tracks and you can group together multiple region groups--great when working with large track count sessions. You can loop a region group and know all the internal edits remain intact. A small icon is added to the lower left corner identifies the beginning of a region group and small arrow at the end if you have set them to loop around. A selectable crossfading function smoothes out any bumps between the head and tail of the looped region group. With REX loops, you only have to change the tempo (using time compression/expansion) once at the start of the first file--all the rest change automatically. Unlike a mix group, all tracks within a region group retain their track mixer automation independence--cool beans!

MIDI MIDI MIDI

Although PT|HD 7 still does not have a graphical MIDI events editor page where all MIDI data and tracks are viewed at once, MIDI editing, sequencing and operation garnered special attention in this upgrade. It all starts with the new Instrument track.

An Instrument Track Channel strip combines an Aux track with a MIDI track. There are record enable, mute and solo buttons, volume and pan faders, sends, inserts, automation, delay comp, VU meters and I/O like an audio channel but also, MIDI input/output selectors, velocity meter that indicates MIDI data input to that channel only, MIDI mute, pan and volume controls. MIDI volume and track mixer volume are separate adjustments. MIDI instruments insert into an Instrument track like effect plug-ins.

Like any other track feature under the View menu, an Instrument track view is offered in both the Edit and Mix Windows. In the Edit window, the Instrument's piano keyboard (like a MIDI track) shows eight octaves (in Extreme) and you can click to show only a single note--saving vertical space--i.e. if only a kick drum plays one MIDI note on that track. You can also audition (without changing or adding) any note by clicking and holding the Command key.

Real Tme MIDI Control
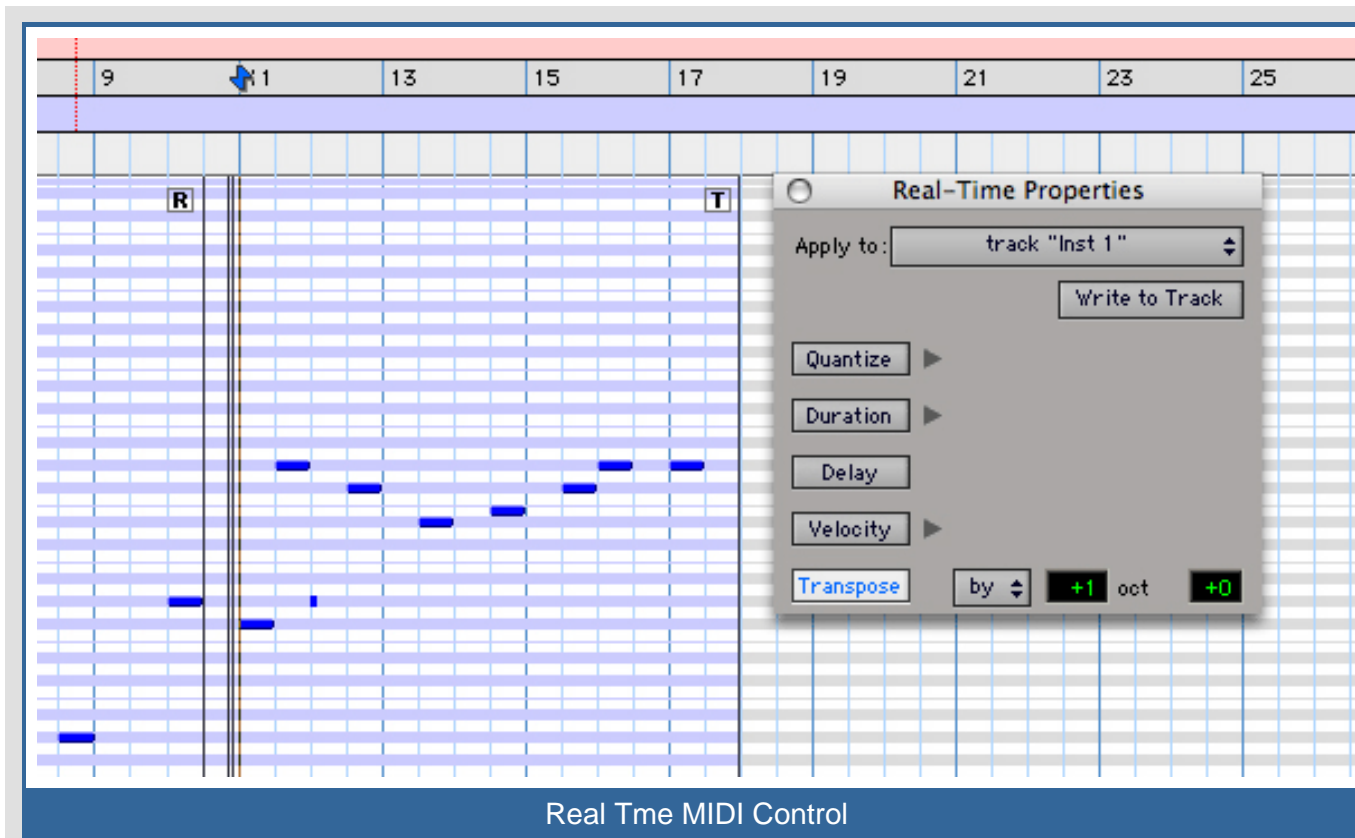
Pro Tools 7 introduces real-time MIDI operation governed by the Real-Time Properties window under the Event pull down. Real-Time sets parameters such as note duration, delay, velocity, transpose, and quantize with a choice of groove templates from the MPC, Logic, Cubase and Feel Injector. The updated Input Quantize window also has these groove templates.

You can apply these parameters to all MIDI regions or individual regions as needed 'on the fly.' I found that you could "audition" the changes on a region and leave it. Later if you want to commit and make permanent the changes on just that region and/or others, you can "Write To Region" and see
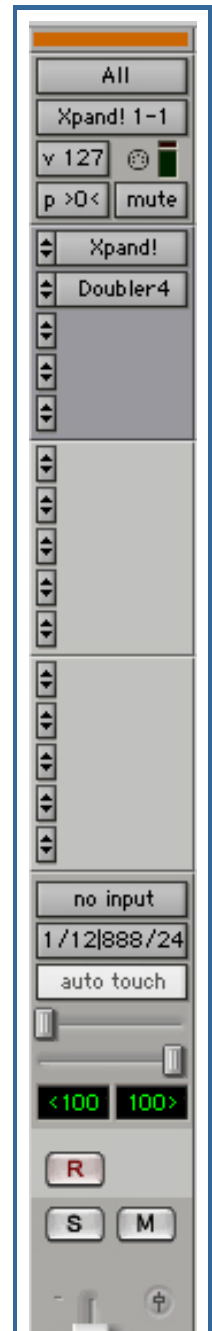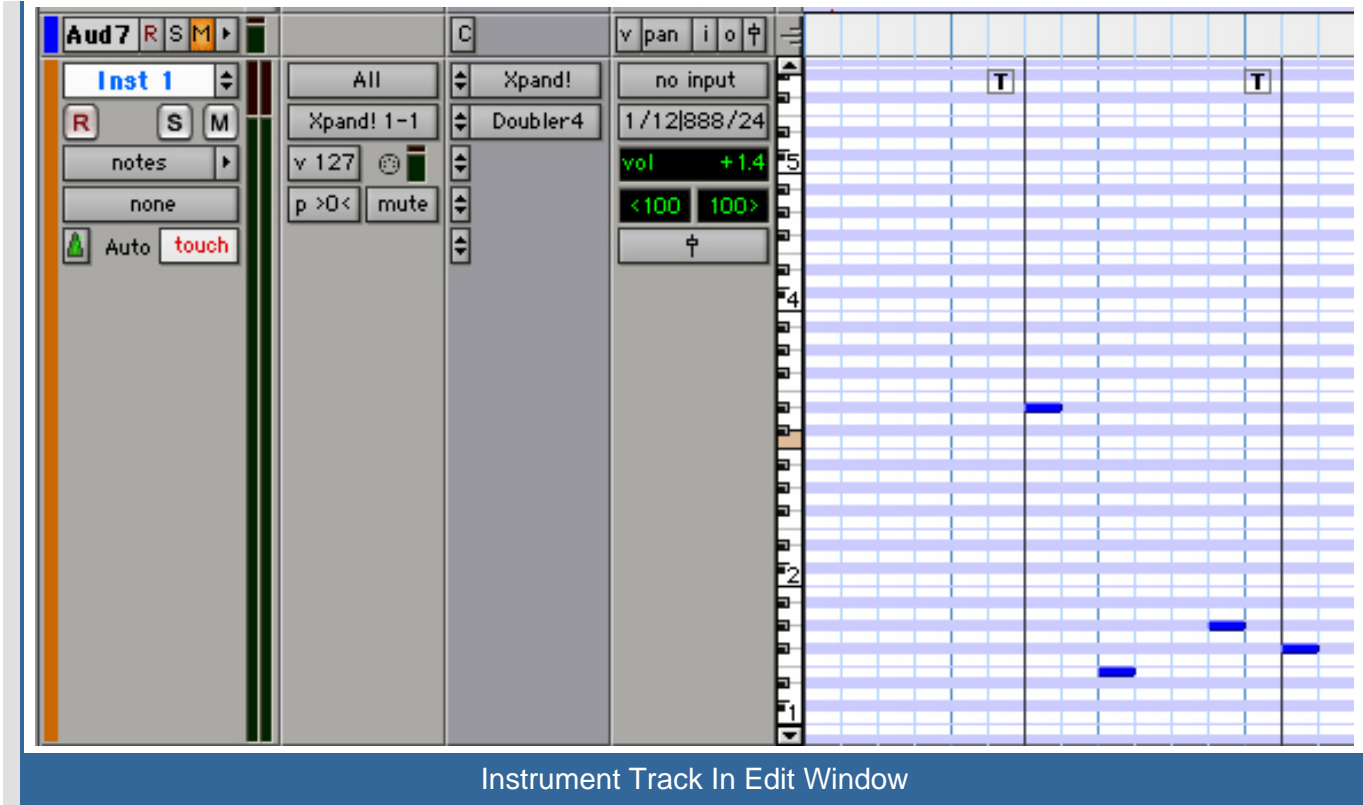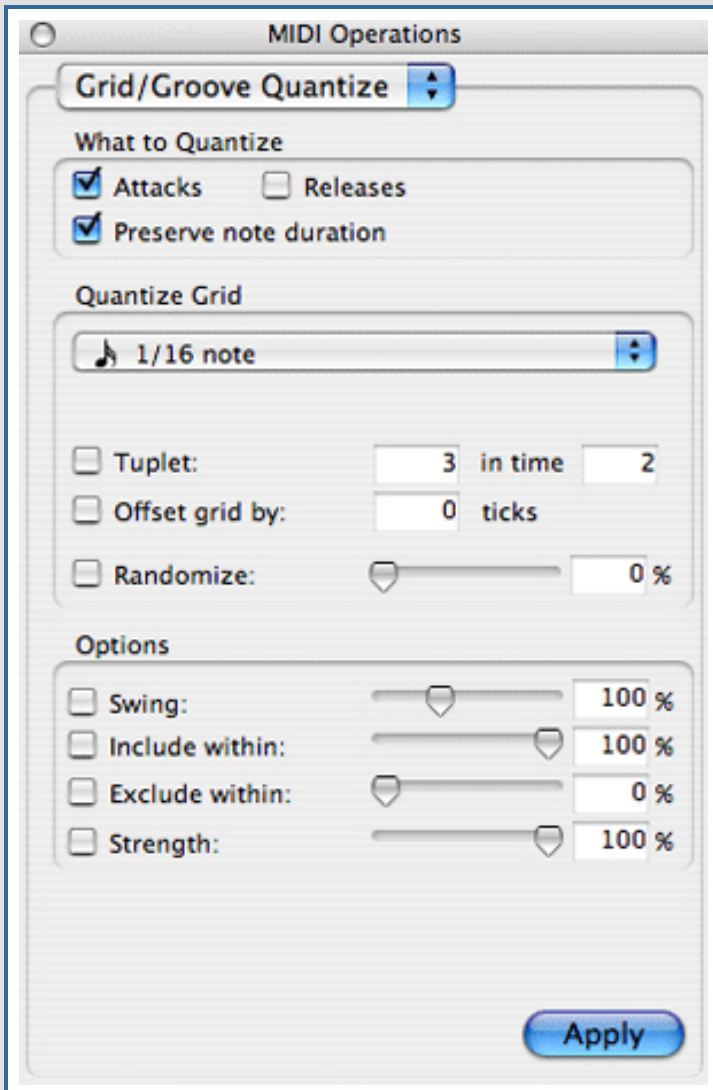
the change on the Instrument track in the Edit window.

Instrument tracks or MIDI tracks with Real-Time settings other than the defaults display a "T" in the upper right corner while changes to specific regions within that track display an "R". Looped regions can use a new feature called Mirrored MIDI Editing where an edit to one region applies to all other MIDI regions of the same name.

Instrument Mixer Track

Instrument Track In Edit Window

In earlier PT software, MIDI data defaults to tick-based timing--bars/beats no matter the tempo change. Audio has always been sample-based. Pro Tools 7 allows for audio and MIDI data to be either sample-based or tick-based at your discretion. Tempo changes only affect the start or sync point of tick-based audio. Tick-based MIDI note data changes duration with tempo changes. Sample-based MIDI events stay fixed to the timeline despite tempo change. This is an incredible capability when composing, editing and manipulating film score music to picture.

Off-line MIDI editing benefits from many time saving features. Split Notes has the option for assigning the new notes to the clipboard, a new track or a new track per new note. This is great for untangling composite MIDI data or to reassign different instruments to certain note ranges. Select Notes (now combined with Split) has more criteria options such as velocity and duration. The new Remove Duplicate Notes removes dupes in a selected region and under the Change Duration menu, Remove Overlaps leaves a designated gap between same notes.

MIDI Operations

Grid/Groove Quantize

What to Quantize

- ☑ Attacks   ☐ Releases
- ☑ Preserve note duration

Quantize Grid

♪ 1/16 note

- ☐ Tuplet: 3 in time   2
- ☐ Offset grid by: 0 ticks
- ☐ Randomize: 0 %

Options

- ☐ Swing: 100 %
- ☐ Include within: 100 %
- ☐ Exclude within: 0 %
- ☐ Strength: 100 %

Apply

Quantize Controls

MIDI Operations

Change Duration

- ○ Set all to   1 000
- ○ Legato   gap   1 000
- ● Remove overlaps and leave gap   1 000
- ○ Transform sustain pedal to duration
  - ☑ Delete sustain events after transform
- ○ Change continuously   in ticks
  - from: 0 001
  - to: 1 000
  - Curve: 0

- ☐ Limit range: min of   0 001
  -                    and max of 9999 999
- ☐ Randomize: 50 %

Apply

Change Note Duration

MIDI Operations

Select/Split Notes

Pitch Criteria:
- ○ All notes
- ◉ Notes between C2 and C3
- ○ Top 1 notes of each chord
- ○ Bottom 1 notes of each chord

Other Criteria:
- ☐ Velocity between 1 and 127
- ☐ Duration btwn 0 000 and 1 000
- ☐ Position btwn 1 000 and 1 000

Action:
- ◉ Select notes
- ○ Split notes
  - Cut to the clipboard
  - ☐ Include all continuous MIDI data

Apply

Select Split Notes

MIDI Operations

Input Quantize

☐ Enable Input Quantize

What to Quantize
- ☑ Attacks   ☐ Releases
- ☑ Preserve note duration

Quantize Grid
- ♪ 1/16 note

- ☐ Tuplet: 3 in time 2
- ☐ Offset grid by: 0 ticks
- ☐ Randomize: 0 %

Options
- ☐ Swing: 100 %
- ☐ Include within: 100 %
- ☐ Exclude within: 0 %
- ☐ Strength: 100 %

Input Quantize Menu

Import And Export MIDI

Three new options when importing MIDI are now available: import to a MIDI track, MIDI region or MIDI Instrument. When exporting MIDI you have control over if Real-Time Properties apply or not and also what SMPTE start time the song data starts.

All Encompassing System

Pro Tools HD 7 is more than this year's model of Digidesign's flagship product--last year's model polished up with a few bells and whistles thrown in. Coupled with a dual-processor computer, this is a big jump in performance, speed and efficiency with many 'power

user' features built-in well worth learning and adding to your style of working. I like working with Pro Tools more than ever and I've had no install or crash problems with the 7.1cs6 update. Version 7.2 (I'm told) will be out in July, 2006. For much more information, check www.digidesign.com

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