# **Pro Tools**Addendum

# **Version 6.2 for HD Systems on Windows or Macintosh**

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# contents

Chapter 1. Introduction	1
New Features	1
System Requirements	1
Chapter 2. What's New in Pro Tools 6.2	3
New HD Accel Cards	3
96i I/O Audio Interface	6
Plug-Ins and Optimizations	6
Tempo Sync	8
Support for Windows Media Audio 9 Encoding	ć
Custom Shuttle Lock Speed	11
Auto-Scrolling Tracks in the Edit and Mix Windows	12
Chapter 3. Corrections	13
PRE Guide	13
AVoption XL Guide	13
Control 24 Guide	14
ProControl Guide	14
SYNC I/O Guide	1 5

# chapter 1

# Introduction

This addendum is a supplement to the Pro Tools 6.1 guides. It documents new and changed features, including new hardware in Pro Tools 6.2 for Pro Tools HD systems on Windows and Macintosh.

- ◆ If you are configuring a new Pro Tools|HD system, see the Getting Started with HD Guide to install hardware and software.
- ◆ If you are updating to Pro Tools TDM 6.2 software or adding an HD Accel card, see the Upgrading to Pro Tools 6.2 Guide.

# **New Features**

Pro Tools 6.2 includes support for the following new or enhanced features. Descriptions of these features are covered in Chapter 2, "What's New in Pro Tools 6.2."

#### New Hardware for Pro Tools HD Systems

Pro Tools TDM 6.2 supports the following new hardware:

- HD Accel cards, featuring newer, faster DSP chips. HD Accel cards nearly double the available processing power in most systems when compared to HD Process cards. See "New HD Accel Cards" on page 3 for more information.
- 96i I/O audio interface. See "96i I/O Audio Interface" on page 6 for more information.

#### **Additional Features**

- Plug-in optimizations for all Pro Tools HD systems
- Windows Media 9 Encoding (Windows only)
- Tempo Sync
- Custom Shuttle Lock Speed

# **System Requirements**

#### Compatibility Information

Digidesign can only assure compatibility and provide support for hardware and software it has tested and approved. For a list of Digidesignqualified computers, operating systems, hard drives, and third-party devices, refer to the latest compatibility information on the Digidesign Web site (www.digidesign.com/compato).

# chapter 2

# What's New in Pro Tools 6.2

This chapter describes the new and changed features in Pro Tools TDM 6.2 for Pro Tools HD systems on Windows or Macintosh.

#### **New HD Accel Cards**

Pro Tools 6.2 provides support for the new HD Accel card. HD Accel cards feature the fastest, most powerful DSP chips ever available for Pro Tools|HD.



**HD Accel card** 

Compatibility HD Accel cards are expansion cards only (they require an HD Core card). HD Accel cards are fully compatible with HD Core and HD Process cards, and can be added to existing Pro Tools|HD-series systems for increased DSP resources. HD Accel cards also provide a standard DigiLink port. See the Getting Started with *HD Guide* for information about this port.

Systems HD Accel cards are included with Pro Tools|HD 2 Accel and Pro Tools|HD 3 Accel systems (see "Pro Tools|HD Systems" on page 5). **Plug-Ins** The increased processing power and memory capacity of HD Accel cards, combined with plug-in optimizations let you use more plug-ins per session. For plug-in instance counts available with HD Accel cards, see "Plug-Ins on HD Accel Cards" on page 6. For information about new plug-in features available only with HD Accel cards, see "New HD Accel Plug-Ins" on page 8.



Plug-ins must be updated to be compatible with HD Accel cards. Contact the manufacturer of your plug-ins to determine if they have been updated.

**Voices** Pro Tools|HD Accel-equipped systems let you allocate up to six DSP chips for voicing, resulting in more voices and larger sessions. See "System Capabilities" on page 5.

Mixers The DSP chips on HD Accel cards support larger, more complex mixers. (See "Mixers and HD Accel Cards" on page 4.)

By efficiently balancing mixer allocation across HD Accel and HD Core DSP chips, the maximum amount of HD Accel DSP resources remain available for plug-ins.

#### **HD Accel Cards and DSP**

Each HD Accel card includes nine DSP chips:

- Seven of the chips on HD Accel cards are 220 MHz Motorola DSP chips, which are more than twice as fast as the chips on HD Process cards. These chips are provided in the following two memory configurations:
  - Four of the seven chips are configured with 512k of external SRAM to accommodate long delays and reverbs, even at 88.2 kHz and higher sample rates.
  - The remaining three chips provide 160k of internal memory, capable of supporting a wide variety of plug-ins with more instances that previously available.
- ◆ Two chips are original Pro Tools|HD-series DSP chips. These chips are used for mixers and plug-ins.



See the Getting Started with HD Guide for HD Accel installation instructions.

## **Mixers and HD Accel Cards**

When a mixer is utilizing one of the four HD-series DSP chips on an HD Accel card, the Standard and Dithered mixer plug-ins provide the following usage, according to the sample rate:

#### **Standard Mixers**

#### HD Accel Card. Standard mixers

Mixer	Sample Rate (kHz)	Usage
Stereo	44.1 and 48	124x2
	88.2 and 96	54x2
	176.4 and 192	16x2
Surround, 5.1	44.1 and 48	46x6
	88.2 and 96	34x6
	176.4 and 192	8x6
Surround, 7.1	44.1 and 48	34x8
	88.2 and 96	25x8
	176.4 and 192	4x8

#### **Dithered Mixers**

#### HD Accel Card. Dithered mixers

Mixer	Sample Rate (kHz)	Usage
Stereo	44.1 and 48	113x2
Dithered	88.2 and 96	54x2
	176.4 and 192	16x2
Surround Dithered, 5.1	44.1 and 48	44x6
	88.2 and 96	27x6
	176.4 and 192	8x6
Surround Dithered, 7.1	44.1 and 48	34x8
	88.2 and 96	20x8
	176.4 and 192	4x8

# **Pro Tools | HD Systems**

Pro Tools 6.2 supports the following systems:

#### **Pro Tools | HD 1**

#### Includes:

- · HD Core card
- Pro Tools TDM software

## Pro Tools HD 2 Accel

#### Includes:

- HD Core card
- · HD Accel card
- TDM FlexCable
- Pro Tools TDM software

#### Pro Tools HD 3 Accel

#### Includes:

- HD Core card
- · Two HD Accel cards
- Two TDM FlexCables
- Pro Tools TDM software

#### **About Audio Interfaces**

All systems require at least one Pro Tools|HD-series audio interface (sold separately). Each audio interface includes a DigiLink cable (to connect the Pro Tools|HD card to an audio interface).



For a list of supported audio interfaces, refer to the Digidesign Web site (www.digidesign.com/compato). For installation instructions, see the Getting Started with HD Guide.

#### **System Capabilities**

#### All Pro Tools HD systems provide:

- TDM digital mixing and DSP plug-in environment
- Non-linear, random-access editing and mix automation
- MIDI recording, playback, and editing

#### **Voices**

Pro Tools|HD 1 systems provide recording and playback of 24-bit and 16-bit audio files with the following track counts:

- Up to 96 tracks at 44.1 kHz or 48 kHz
- Up to 48 tracks at 88.2 kHz or 96 kHz
- Up to 12 tracks at 176.4 kHz or 192 kHz

Pro Tools|HD 2 Accel and Pro Tools|HD 3 Accel systems provide recording and playback of 24bit and 16-bit audio files with the following track counts:

- Up to 192 tracks at 44.1 kHz or 48 kHz
- Up to 96 tracks at 88.2 kHz or 96 kHz
- Up to 36 tracks at 176.4 kHz or 192 kHz



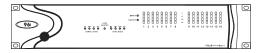
To achieve maximum voice counts and performance, check the compatibility pages of the Digidesign Web site for supported computers, hard drives, and other requirements (www.digidesign.com/compato).

# 96i I/O Audio Interface

The 96i I/O is the ideal audio interface to input multiple MIDI sound modules, samplers, synthesizers, and other sound sources into Pro Tools|HD.

#### 96i I/O Features

- 16 discrete input channels and two output channels, with 4-segment LED meters on each input channel. Input and output features include:
  - 16 channels of 24-bit A/D converters at sampling rates of 44.1 kHz, 48 kHz, 88.2 kHz, and 96 kHz
  - Two channels of 24-bit D/A converters
  - Two channels of S/PDIF digital input and output
- Loop Sync
- External Clock input and output
- Simultaneous use of up to six 96i I/O units, for a maximum of 96 channels of input at 48 kHz



96i I/O audio interface

Legacy audio interfaces cannot be connected to a 96i I/O audio interface (the 96i I/O does not provide a Legacy port).

# **Plug-Ins and Optimizations**

New plug-in features and optimizations include:

- Increased numbers of plug-ins on Pro Tools|HD Accel systems, for more plug-ins per session. See "Plug-Ins on HD Accel Cards" on page 6 for more information.
- More than double the previous number of voices are available with Bruno, Reso, and Access Virus Indigo. The new Bruno, Reso, and IndigiV40 plug-ins are among the first plugins that take full advantage of the most powerful DSP chips available on HD Accel cards. See "New HD Accel Plug-Ins" on page 8 for more information.
- Tempo Sync, for automatic synchronizing plug-in tempo, delay, and similar parameters to the session tempo. See "Tempo Sync" on page 8 for more information.

# **Plug-Ins on HD Accel Cards**

There are a total of nine DSP chips on a Pro Tools|HD card (HD Core, HD Process, or HD Accel). HD Core and HD Process cards provide identical, original Pro Tools|HD-series chip sets. HD Accel cards provide newer, more powerful DSP chips, including four 220 MHz Motorola DSP chips with 512k of external SRAM, making the HD Accel card ideal for memoryintensive plug-ins. (For more information about the chips on HD Accel cards, see "HD Accel Cards and DSP" on page 4.)

Not all plug-ins are supported on all types of chips.

# **DigiRack Plug-Ins**

The following table compares the total number of instances of each DigiRack TDM plug-in that can be powered by a single DSP chip on an HD Accel card to that of HD Core and HD Process cards.

Maximum instances of real-time TDM plug-ins per DSP chip for Pro Tools | HD cards at 44.1 and 48 kHz

Plug-In	HD Accel		HD Accel HD Core and HD Process	
r lug-lii	mono/stereo		mono,	/stereo
EQ II (1-band)	145	72	135	68
EQ II (4-band)	84	32	36	18
Compressor II	30	20	26	17
Click	18	n/a	3	n/a
De-esser	46	n/a	20	n/a
Dither	46	43	34	18
D-Verb	6	6	4	4
Limiter II	60	40	16	17
Gate II	56	61	59	20
Expander/Gate II	54	46	24	20
Mod Delay II (short)	74	36	43	21
Mod Delay II (slap)	73	36	32	16
Mod Delay II (medium)	36	18	16	8
Mod Delay II (long)	17	7	8	4
Mod Delay II (extra long)	4	2	2	1
Pitch	1	1	1	1
POW-r Dither	22	10	9	4
Time Adjuster (short)	146	72	117	58
Time Adjuster (medium)	32	52	114	56
Time Adjuster (long)	72	36	32	16
Trim	145	n/a	119	n/a
Signal Generator	48	n/a	25	n/a

Maximum instances are roughly half at 88.2 kHz and 96 kHz, and a quarter at 176.4 and 192 kHz.

## **New HD Accel Plug-Ins**

The following plug-ins have been updated to take advantage of the most powerful DSP chips on HD Accel cards.

#### **Bruno and Reso**

Digidesign's Bruno and Reso on HD Accel offer increased voices at their maximum voice settings.

The following table shows the number of voices available in Bruno/Reso when running on HD Accel chips or HD chips.

#### Bruno/Reso voices at each sample rate

Sample Rate	Maximum Voices, HD Accel Chip	Maximum Voices, HD Chips
44.1/48 kHz	62	28
88.2/96 kHz	30	14
176.4/192 kHz	13	6



For more information, see the Digidesign Plug-Ins Guide.

#### **New Access Virus IndigoV40 for HD Accel**

The Access Virus Indigo is now available in two modules, the standard Indigo 20-voice module, and the 40-voice IndigoV40 version.

Access Virus IndigoV40 requires one of the HD Accel DSP chips available only on HD Accel cards.

The following table compares the number of voices available at different sample rates in IndigoV40 to Indigo.

#### Virus Indigo voices, by sample rate

Sample Rate	IndigoV40	Indigo
44.1/48 kHz	40	20
88.2/96 kHz	20	10
176.4/192 kHz	10	N/A



For details on other plug-ins, see the Digidesign Plug-Ins Guide, or the documentation that came with your plug-in.

# **Tempo Sync**

Pro Tools 6.2 provides *Tempo Sync* to enhance MIDI Beat Clock support and overall tempo capabilities of plug-ins that utilize MIDI Beat Clock.

Tempo Sync provides a direct connection between session tempo and plug-in parameters that support MIDI Beat Clock. This direct connection lets plug-in parameters such as delay, auto-pan, and other time-domain effects automatically synchronize to, and follow changes in, session tempo.

Tempo Sync simplifies MIDI Beat Clock configuration by making session tempo available to relevant plug-in parameters directly from within the plug-in window. For plug-ins that do not support Tempo Sync, the original MIDI Beat Clock window (MIDI > MIDI Beat Clock) remains available in Pro Tools.

#### **Compatibility and Settings**

When opening older sessions that included MIDI Beat Clock-subscribing plug-ins, Tempo Sync will be automatically enabled. Note that any plug-ins that used automation for tempo change should have that automation suspended or deleted to avoid conflict with Tempo Sync.



▲ Tempo Sync is not available in plug-ins with which it would limit functionality. For example, for the Virus Indigo and IndigoV40 plug-in, use the Pro Tools MIDI Beat Clock window (MIDI > MIDI Beat Clock). See the Pro Tools Reference Guide for more information.

#### To utilize Tempo Sync:

- 1 Insert a plug-in that supports Tempo Sync, such as the DigiRack Mod Delay II.
- 2 Click the Tempo Sync icon. The tempo shown will change to match the current session tempo.



Tempo Sync icon (Mod Delay II shown)

- 3 To set a rhythmic delay, do any of the following:
  - Click an available note value (half, quarter, eighth, or sixteenth note).
  - To enable triplet delay timing, click the 3 button so that it is lit.
  - To set a dotted delay value, click to enable the dotted icon.
  - To apply some swing to the delay value, adjust the Groove slider.

# **Support for Windows Media Audio 9 Encoding**

#### (Windows Systems Only)

Pro Tools 6.2 includes Windows Media Audio 9 encoding using the Bounce to Disk or Export Selected As Files commands. Pro Tools TDM supports mono, stereo, and multi-channel (up to eight channels) of 16- or 24-bit encoding at sample rates of 44.1 kHz, 48 kHz, and 96 kHz.

#### To encode Windows Media 9 using Bounce To Disk:

- 1 Make a selection in the Pro Tools Edit window.
- 2 Choose File > Bounce to Disk.
- 3 In the Bounce dialog, select Windows Media from the File Type pop-up menu.
- 4 Choose the appropriate Bounce Source path, and format (Stereo, 5.1 or 7.1).
- **5** Configure the remaining Bounce Options as desired.



For complete information on the Pro Tools Bounce Options, see the Pro Tools Reference Guide.

- 6 Click Bounce. The Windows Media Audio Encoder dialog opens.
- **7** Configure the Windows Media Audio Encoder dialog (see "Windows Media Audio Encoder" on page 10) and click OK.
- 8 In the Save dialog, specify a location, type a name for the encoded file, and click Save.

#### To encode Windows Media Audio 9 using Export Selected As Files:

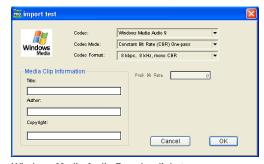
- **1** Select an audio region in the Pro Tools Audio Regions List.
- 2 From the Audio Regions List pop-up menu, select Export Selected As Files.
- **3** In the Export Selected dialog, select Windows Media from the File Type pop-up menu.
- 4 Configure the remaining Export Options as desired.



For complete information on the Pro Tools Export Options, see the Pro Tools Reference Guide.

- **5** Click Export.
- 6 Configure the Windows Media Audio Encoder dialog (see "Windows Media Audio Encoder" on page 10) and click OK.
- 7 In the Save dialog, specify a location, type a name for the encoded file, and click Save.

#### Windows Media Audio Encoder



Windows Media Audio Encoder dialog

## **Media Clip Information**

Use the Media Clip Information section of the Windows Media Audio Encoder dialog to enter the Title, Author, and Copyright metadata to be stored with the encoded file.

#### Codec

Use the Codec pop-up menu to select one of the following codecs for encoding Windows Media Audio 9:

Windows Media Audio 9 Supports variable bit rate and is qualitatively better than Windows Media 8. Windows Media Audio 9 is backwards compatible with older versions of Windows Media Audio-compatible decoders, allowing playback of new content on older players and operating systems.

Windows Media Audio 9 Voice Offers superior quality for low-bit-rate streaming (less than 20 Kbps) of both voice and music.

Windows Media Audio 9 Professional Supports full resolution audio, up to 24-bit and 96 kHz, for streaming or download-and-play delivery at 128–768 Kbps. Supports stereo, 5.1, and 7.1 multichannel audio. Playback on older decoders will compensate for differences in the player's capabilities and playback correctly at lower bit depths, sample rates, and channel formats (stereo, 5.1, or 7.1).

Windows Media Audio 9 Lossless Is useful for archiving audio in a lossless format for optimal storage.

#### **Codec Mode**

Use the Codec Mode pop-up menu to select one of the following Codec Modes for encoding Windows Media Audio 9:

Constant Bit Rate (CBR) One-Pass Should be used when targeting older Windows Media decoders.

Constant Bit Rate (CBR) Two-Pass Should be used when encoding for on-demand streaming audio.

Variable Bit Rate (VBR) Quality Based Ensures a constant level of quality. The bit rate spikes arbitrarily to maintain constant quality through out a single encoding pass. Use this mode for archiving content.

Variable Bit Rate (VBR) Unconstrained Variably allocates bandwidth according to the amount of data at any point in the file. This mode requires a lower-average bit rate and file size for optimal sound quality.

Variable Bit Rate (VBR) Constrained Achieves the best-quality level while remaining within a predictable average bandwidth. Use this twopass mode to encode files that can be downloaded before being played, or when you want to control the size of the encoded file.

#### **Codec Format**

Use the Codec Format pop-up menu to select from the available bit rates for the selected Codec and Codec Mode. Higher bit rates result in higher quality audio, but require higher bandwidths. Lower bit rates require less bandwidth, but result in lower quality audio.

# **Custom Shuttle Lock Speed**

Pro Tools 6.2 adds a Custom Shuttle Lock Speed preference to specify the speed for fixed-speed shuttle mode operations.

Shuttle Lock mode lets you use the numeric keypad to shuttle forward or backwards at specific speeds: 5 is normal speed, 6–9 provide increasingly faster fast-forward speeds, and 1–4 provide progressively faster rewind speeds (4 is the slowest rewind Shuttle Lock speed, 1 is the fastest).

Using the Custom Shuttle Lock Speed preference, you can customize the highest fast-forward Shuttle Lock speed (key 9) to better match your editing and auditioning needs.

#### To configure Custom Shuttle Lock Speed:

- 1 In Pro Tools, select Setups > Preferences, and click the Operations tab.
- **2** Be sure that the Numeric Keypad mode is set to Transport, or Classic (not Shuttle).
- **3** Enter a desired percentage for the Custom Shuttle Lock Speed setting. The range for this setting is 50–800%. You can use the Up and Down Arrow keys to increase or decrease the setting.
- 4 Click OK. The new Custom Shuttle Lock Speed will be saved with your Pro Tools preferences (not with the session).
- **5** The new Custom Shuttle Lock Speed can be activated by pressing Start+9 (Windows) or Control+ 9 (Mac OS) on the numeric keypad.



For more information on Shuttle Lock, see the Pro Tools Reference Guide.

# **Auto-Scrolling Tracks in the Edit and Mix Windows**

If you are working with more tracks than can be displayed at one time in the Edit or Mix windows, you can select a track in one window and Pro Tools will automatically scroll to that track in the other window.

#### To auto-scroll the Mix window to show a selected track in the Edit window:

■ In the Edit window, Start-click (Windows) or Control-click (Mac OS) the track name.

The track becomes selected, and the Mix window scrolls to display the selected track.

#### To auto-scroll the Edit window to show a selected track in the Mix window:

■ In the Mix window, Start-click (Windows) or Control-click (Mac OS) the track name.

The track becomes selected, and the Edit window scrolls to display the selected track.

# chapter 3

# **Corrections**

This chapter lists corrections to the Pro Tools 6.1 guides, and also documents some items not covered in those guides.

## **PRE Guide**

#### (PN 910610789-00 Rev A 12/02)

Page 2 of the PRE Guide lists incomplete requirements and support for remote control.

#### Correction

For remote control within Pro Tools, PRE requires the following Pro Tools TDM hardware and software:

- Pro Tools|HD or Pro Tools|24 MIX system, running Pro Tools TDM 6.1 or later on Windows XP
- Pro Tools|HD or Pro Tools|24 MIX system, running Pro Tools TDM 6.0 or later on Mac OS X
- Pro Tools|HD system, running Pro Tools TDM 5.3.3 on Windows XP
- Pro Tools|HD system, running Pro Tools TDM 5.3.1 on Mac OS 9

# **AVoption|XL Guide**

(PN 932711597-00 Rev A 06/01)

The AVoption|XL Guide omitted Pro Tools 24 MIX support for Mac OS X in its list of supported configurations:

#### Correction

#### **Supported Systems**

The following Pro Tools TDM systems support AVoption|XL:

- Pro Tools|HD 6.1, 5.3.3, or 5.3.1 on Windows
- Pro Tools|HD 6.1 on Mac OS X
- Pro Tools|HD 5.3.1 on Mac OS 9.1 or 9.2
- Pro Tools|MIX 6.1 on Mac OS X
- Pro Tools|24 MIX 5.1.3 on Mac OS 9.1 or 9.2

# **Control**|24 Guide

(PN 932709088-00 Rev A 3/01)

#### Installing Software for Control 24

(Windows Only)

Control|24 installation instructions do not include software installation of the DigiNet.inf file. This file is required in order for Control|24 to be available from an enabled Ethernet port. After confirming that the appropriate Ethernet port is enabled, do the following to ensure the correct files are installed:

#### Omission:

#### To install Digidesign Ethernet support for ProControl or Control 24:

- **1** On the desktop, right-click the My Network Places icon, and then choose Properties.
- 2 Right-click the relevant Local Area Connection icon, and then choose Properties.
- 3 Click Install, select Protocol, and click Add.
- 4 Click Have Disk.
- **5** Select the DigiNet.inf file in either the Pro-Control or Control|24 directory (on your Pro Tools Installer CD-ROM in Additional Files\Controllers\Controllers), and click OK.

The Installer installs the DigiNet.inf files in the ProControl or Control|24 directory in Digidesign\DAE\Controllers.

6 Click Close.

## **ProControl Guide**

#### (PN 910611598-00 REV A 06/03)

The following information corrects or augments the ProControl Guide version 6.1.

## F-Key Switches

#### Page 53

Starting with Pro Tools 5.3.1 on Macintosh and Pro Tools 5.3.3 on Windows, the function of the following F-Keys on ProControl has changed.

#### F2 Switch

Pro Tools 5.3 and earlier: To temporarily indicate which Pro Tools channels strips have active plug-ins assigned to them by lighting their INS/SEND switches, press the F2 switch on Pro-Control.

**Pro Tools 5.3.1 and later:** To toggle between control of Mic Preamp channels on PRE and Insert focus in the DSP Edit/Assign section, press the F2 switch on ProControl.

To temporarily indicate which Pro Tools channels strips have active plug-ins assigned to them by lighting their INS/SEND switches, press OPT(ALT)ALL + F2 on ProControl.

#### F3 Switch

**Pro Tools 5.3 and earlier:** To toggle the Rotary Encoders in the DSP Edit/Assign section between Fixed and Velocity-Sensitive modes, press the F3 switch on ProControl.

Pro Tools 5.3.1 and later: To enable channelwide gain control mode for PRE, press the F3 switch on ProControl.

To toggle the Rotary Encoders in the DSP Edit/Assign section between Fixed and Velocity-Sensitive modes, press OPT(ALT)ALL + F3 on ProControl.

## **Overview of Plug-Ins**

#### Page 115

Starting with Pro Tools 5.3.1 on Macintosh and Pro Tools 5.3.3 on Windows, the function of the F3 key on ProControl has changed.

**Pro Tools 5.3 and earlier:** To toggle the Rotary Encoders in the DSP Edit/Assign section between Fixed and Velocity-Sensitive modes, press the F3 switch on ProControl.

**Pro Tools 5.3.1 and later:** To toggle the Rotary Encoders in the DSP Edit/Assign section between Fixed and Velocity-Sensitive modes, press OPT(ALT)ALL + F3 on ProControl.

#### **Firmware Information**

With each Pro Tools release, any new ProControl firmware is included in the software installation. However, it is a good idea to visit the Digidesign Web site (www.digidesign.com) to verify that you have the latest ProControl firmware. For more information about updating Pro-Control firmware, refer to the ProControl Guide.

# SYNC I/O Guide

#### (PN 910611596-00 REV A 06/03)

On page 7 of the SYNC I/O Guide, the following text was omitted that clarifies DigiSerial port connections to HD Core cards.

#### Omission

If your HD Core card has two DigiSerial ports, always use the one closest to the DigiLink port. (Some of the earliest HD cards had two DigiSerial ports.)