ProControl Addendum

for Pro Tools version 5.1

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chapter 1

Introduction

This Addendum to the *ProControl Guide* describes new and changed features available on ProControl with Pro Tools version 5.1.

System Requirements

To use the features described in this Addendum, you need:

- A TDM-equipped Digidesign Pro Tools system (MIX, MIXplus, or Pro Tools 24)
- Pro Tools software version 5.1, or later
- AppleTalk must be enabled when using Apple Power Macintosh G3 and G4 computers with ProControl

All Pro Tools requirements are listed in *TDM System Installation Guide*.

Up to 48 Channels of ProControl

As many as five Fader Packs can now be combined with a Main Unit, to expand ProControl systems to 40- or 48-channel capability:

- 40-channel systems require four Fader Packs and one Main Unit.
- 48-channel systems require five Fader packs and one Main Unit.

In order to add a fourth or fifth Fader Pack, you need:

- A Macintosh G4 450 or 500, with AppleTalk enabled
- An Ethernet hub, with sufficient Ethernet ports to connect each ProControl unit.

Updating ProControl

Updating ProControl Firmware

ProControl can be updated with the latest firmware to take advantage of all the most recent features.

To determine if you need to update ProControl firmware:

1 Launch Pro Tools with all ProControl units powered up and connected for normal operation.

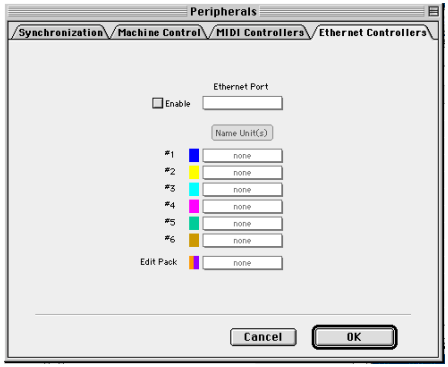
2 Choose Setup > Peripherals, and click Ethernet Controllers.

3 Enable ProControl units. If prompted to update firmware, follow the instructions on-screen to download the latest firmware to each ProControl unit.

Enabling ProControl in Pro Tools

To access and enable ProControl units in Pro Tools:

1 Choose Setups > Peripherals, and click Ethernet Controllers.



Ethernet Controllers display in the Peripherals dialog

2 Click Enable.

3 If the computer has multiple Ethernet ports, do either of the following:

- Macintosh: Use the Ethernet port pop-up menu to select the port connected to ProControl.
- Windows NT: Use the Windows Network Control Panel to change the binding (refer to your Windows NT documentation for more information).

4 Select units as arranged, left to right, beginning with Unit pop-up #1. For example, if you are using a Main Unit only, select Main Unit for Unit #1. If you have one Fader Pack to the left of a Main Unit, select FADERPK for Unit #1, and MAINUNIT for Unit #2. Up to five Fader Packs can be enabled.

ProControl can also be expanded with an Edit Pack control surface from Digidesign. See the EditPack documentation for information.

5 As units are selected, Pro Tools scans for the unit and, if connected, will bring each unit online.

6 If desired, rename the units. (Refer to the *ProControl Guide* for instructions.)

7 After enabling all units, click OK to close the Peripherals window.

Firmware If prompted to update firmware, follow the instructions on-screen to load the latest firmware to each ProControl unit.

Unit Colors Identify Controller Focus

The colors in each unit row are used to identify controller focus on-screen in Pro Tools. Each enabled unit has a color associated with it (two new colors have been added for 40- and 48-channel ProControl systems). The bank, track, send, or other items currently the focus of ProControl are outlined in the color associated with each unit.

EditPack uses two colors for its dual-channel capabilities. See the EditPack Guide for details.

chapter 2

Audio Connections for Multi-Channel Monitoring

The following sections explain ProControl audio monitoring connections for stereo, LCRS, and several 5.1 format set ups.

These instructions (and Appendix A, "Audio Connectors and Pinouts"), update all previously published ProControl audio documentation. This includes the *ProControl Guide* currently in print (PN 932707442-00 Rev A 11/99).

Surround Channel Abbreviations

The following abbreviations are used in this Addendum to indicate the channels that comprise a multi-channel signal.

Surround channel abbreviations

Abbreviation	channel
L	Left, front
R	Right, front
Ls	Left surround (rear)
Rs	Right surround (rear)
C	Center
LFE	Low Frequency Effects

Other multi-channel formats utilize additional channels such as Lc (Left, center) and S (mono surround, used in LCRS). See the *Pro Tools Reference Guide* for more information.

Monitoring Quick Start

To connect your system:

- For stereo mixing, see "Stereo Monitoring Connections" on page 11.
- For LCRS, see "LCRS Monitoring Connections" on page 10.
- For 5.1 formats, use the instructions appropriate for your preferred mix format.

Film L C R Ls Rs LFE (Pro Tools default 5.1 layout), see "Film (Pro Tools Default) 5.1 Monitoring Connections" on page 8.

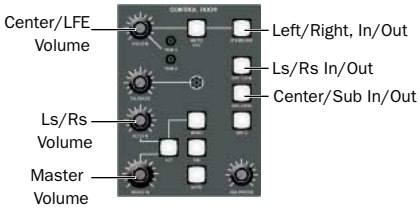
SMPTE L R C LFE Ls Rs (the default for Dolby Digital), see "SMPTE/ITU Layout 5.1 Monitoring Connections" on page 9.

DTS L R Ls Rs C LFE (recommended for ProControl monitoring), see "DTS (ProControl) 5.1 Monitoring Connections" on page 7.

Pro Tools on-screen meters are always shown according to Film layout (L C R Ls Rs LFE). See "5.1 Track Layouts, Routing, and Metering" on page 12.

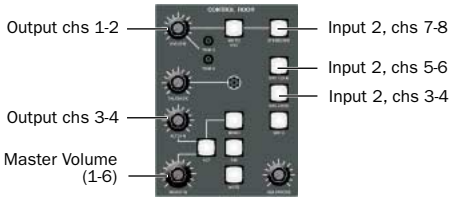
Monitoring Level and Source Controls

The Control Room monitoring section provides the following level and source controls for Surround mode monitoring.



Monitoring level and in/out controls

The diagram below shows the ProControl input and output channels controlled by the MAIN(1-6), ALT(3-4) and AUX(5-6) knobs.



Input and output channels for level and source controls

When ProControl is connected and configured for Surround mode:

- MAIN(1-6) provides master volume control of the multi-channel mix.
- ALT(3-4) provides level control of the surround channels Ls and Rs.
- AUX(5-6) provides level control of the center and sub channel pair.
- The STEREO MIX, SOURCE 1 and SOURCE 2 switches let you mute and unmute signal pairs.

To set monitoring levels:

- Use ALT and AUX to attenuate the surround, center, and LFE monitor outputs.
- Use MAIN(1-6) to adjust the entire mix.

Surround Monitoring Busses

The table below shows ProControl busses and DB-25 connections for 5.1 format surround monitoring.

ProControl Surround Monitoring Busses

	DB-25 Connectors		Control Room Section	
Bus	**Input 2**	**Output**	**Level**	**In/Out**
L R	8 7	8 7	MAIN(1-6)	STEREO MIX
C LFE	4 3	2 1	AUX(5-6)	SRC2(5-6
Ls Rs	6 5	4 3	ALT(3-4)	SRC1(3-4)

Connections from Pro Tools audio interfaces to ProControl Input 2 will vary, depending on how you configure your multi-channel Pro Tools sessions, paths, and track layouts.

5.1 Monitoring Output Connections

The following diagram shows ProControl audio output connections for 5.1 format monitoring.

	DB-25 Connections	Control Room Section
Bus	Audio Output	**Level, and In/Out**
L R	8 7	MAIN(1-6), STEREO MIX
C LFE	2 1	AUX(5-6), SRC2(5-6
Ls Rs	4 3	ALT(3-4), SRC1(3-4)

Connect your surround monitoring system to ProControl as shown on this page.

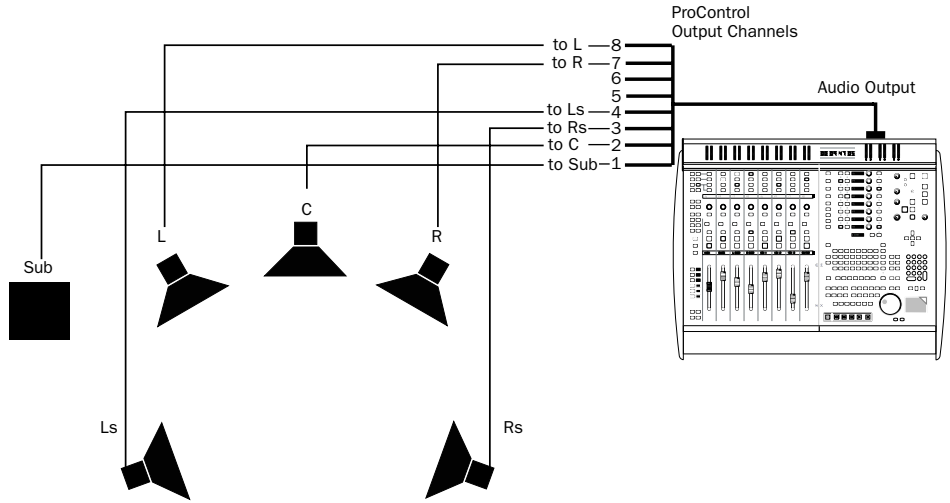


Figure 1. Audio output connections for discrete 5.1 monitoring

⚠ *Pro Tools on-screen meters may not match your audio interface and ProControl meters in regards to track layout. See "5.1 Track Layouts, Routing, and Metering" on page 12 for important information.*

5.1 Monitoring Input Connections

Use the following table to connect surround mix channels to ProControl Audio Input 2 channels:

ProControl Surround Monitoring Inputs

Mix channels	DB-25 Connector: Audio Input 2 Cable number
L R	8-7
Ls Rs	6-5
C LFE	4-3

Surround Monitoring and I/O Setup in Pro Tools

Pro Tools provides preset I/O Setup settings files for stereo and 5.1 formats. The different 5.1 format presets are:

Film (L C R Ls Rs LFE)

SMPTE/ITU (L R C LFE Ls Rs)

DTS (L R Ls Rs C LFE)

You can choose a 5.1 format when you create a new session. You can reconfigure multi-channel paths in the current session using the I/O Setup dialog in Pro Tools.

For more information, see the Pro Tools Reference Guide.

If you have already been using ProControl for surround monitoring, use the DTS format instructions. (See "DTS (ProControl) 5.1 Monitoring Connections" on page 7.)

If you are installing ProControl for the first time and know which 5.1 format you are going to use in Pro Tools, use the following tables (or the diagrams on the following pages) to determine how you should connect your audio interface outputs to ProControl inputs for surround monitoring.

Pro Tools DTS Track Layout L R Ls Rs C LFE

Input connections for DTS

Pro Tools Outputs	Signal	ProControl INPUT 2
1	L	8
2	R	7
3	Ls	6
4	Rs	5
5	C	4
6	LFE	3

Pro Tools Film Track Layout L C R Ls Rs LFE

Input connections for Film

Pro Tools Outputs	Signal	ProControl INPUT 2
1	L	8
2	C	4
3	R	7
4	Ls	6
5	Rs	5
6	LFE	3

Pro Tools SMPTE/ITU Layout L R C LFE Ls Rs

Input connections for SMPTE/ITU

Pro Tools Outputs	Signal	ProControl INPUT 2
1	L	8
2	R	7
3	C	4
4	LFE	3
5	Ls	6
6	Rs	5

DTS (ProControl) 5.1 Monitoring Connections

When Pro Tools is configured for DTS format 5.1 mixing, the six-channel output path is mapped:

L R Ls Rs C LFE

If Pro Tools output paths are configured for this 5.1 format in the I/O Setup dialog, connect ProControl as shown in the following table. (The following tables assume that audio interface channels 1-6 are used for the 5.1 output.)

Audio Connections for DTS format 5.1

Source Channel	Input 2, DB-25 Channels	Control Room Access	Monitor Output Channels
L	8	MAIN(1-6), STEREO MIX	8, to front Left
R	7	MAIN(1-6), STEREO MIX	7, to front Right
Ls	6	ALT(3-4), SRC 1	4, to Left surround
Rs	5	ALT(3-4), SRC 1	3, to Right surround
C	4	AUX(5-6), SRC 2	2, to Center
LFE	3	AUX(5-6), SRC 2	1, to LFE

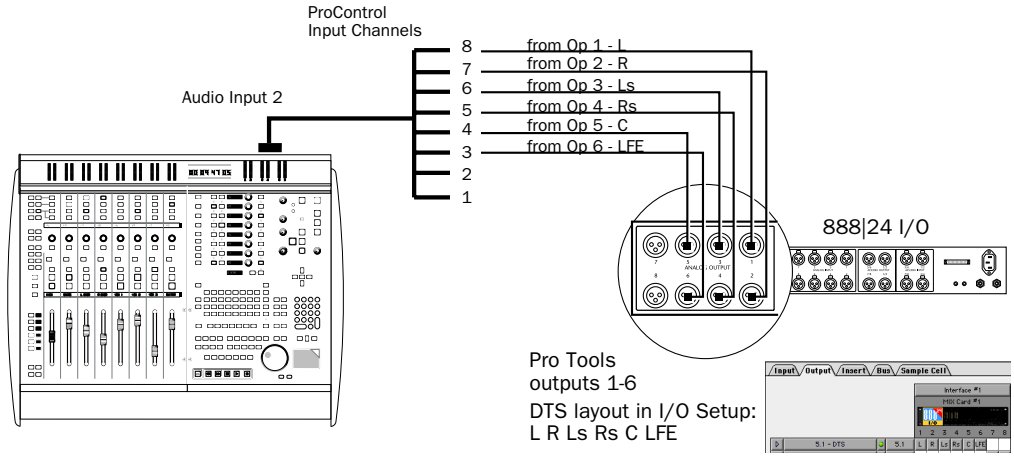


Figure 2. 5.1 monitoring input connections for DTS (best for ProControl)

Film (Pro Tools Default) 5.1 Monitoring Connections

The Film (ITU) standard is the Pro Tools default 5.1 multi-channel format. Track layout for Film standard is:

L C R Ls Rs LFE

If you use this 5.1 format in Pro Tools, the following input and output connections will maintain the level control and assignments in the Control Room Monitoring section described in "Monitoring Level and Source Controls" on page 4.

Audio Connections for Film format 5.1 mix (Pro Tools default 5.1 track layout), L C R Ls Rs LFE

Source Channel	Input 2, DB-25 Channels	Control Room Access	Monitor Output Channels
L	8	MAIN(1-6), STEREO Mix	8, to front Left
C	4	AUX(5-6), SRC 2	2, to Center
R	7	MAIN(1-6), STEREO Mix	7, to front Right
Ls	6	ALT(3-4), SRC 1	4, to Left Surround
Rs	5	ALT(3-4), SRC 1	3, to Right Surround
LFE	3	AUX(5-6), SRC 2	1, to LFE

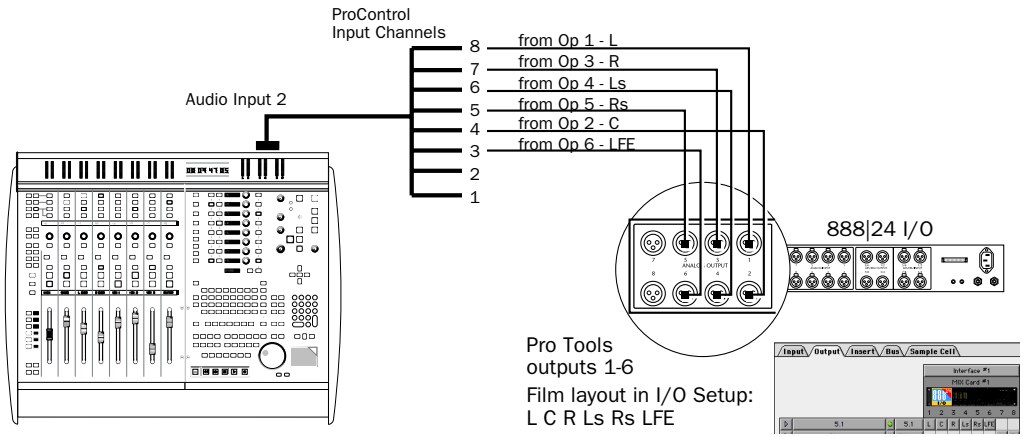


Figure 3. 5.1 monitoring input connections for Film (Pro Tools default)

SMPTE/ITU Layout 5.1 Monitoring Connections

The SMPTE/ITU format supports the following track layout standard:

L R C LFE Ls Rs

If you mix using this 5.1 format, the following input and output connections will maintain the level and source controls in Control Room Monitoring section (see “Monitoring Level and Source Controls” on page 4.

Audio Connections for SMPTE/ITU format 5.1 mix (used in Dolby Digital), L R C LFE Ls Rs

Source Channel	Input 2, DB-25 Channels	Control Room Access	Monitor Output Channels
L	8	MAIN (1-6), STEREO MIX	8-, to front Left
R	7	MAIN (1-6), STEREO MIX	7, to front Right
C	4	AUX (5-6), SRC 2	2, to Center
LFE	3	AUX (5-6), SRC 2	1, to LFE
Ls	6	ALT (3-4), SRC 1	4, to Left surround
Rs	5	ALT (3-4), SRC 1	3, to Right surround

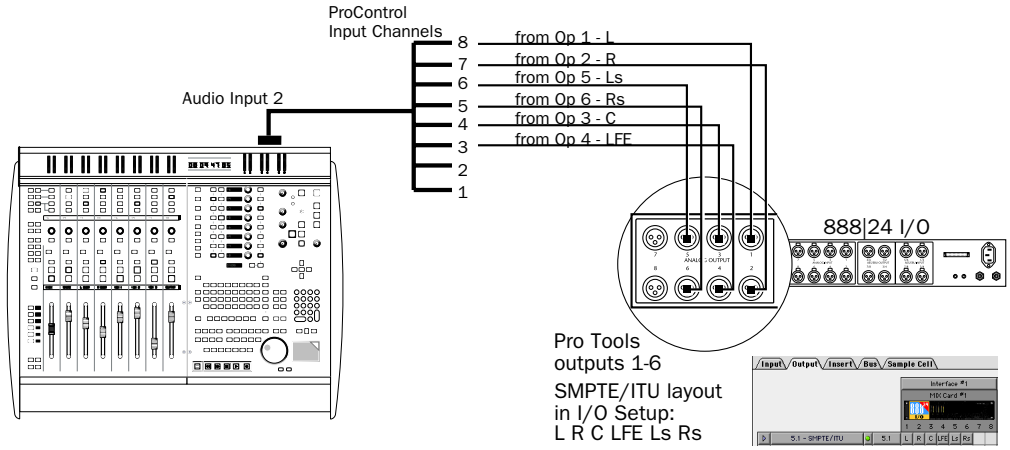


Figure 4. 5.1 monitoring input connections for SMPTE/ITUt

LCRS Monitoring Connections

LCRS is the four-channel format used in the widely used Dolby Surround (ProLogic) surround format. Track layout for LCRS is:

L C R S

The following input and output connections will maintain level and source controls (see "Monitoring Level and Source Controls" on page 4.

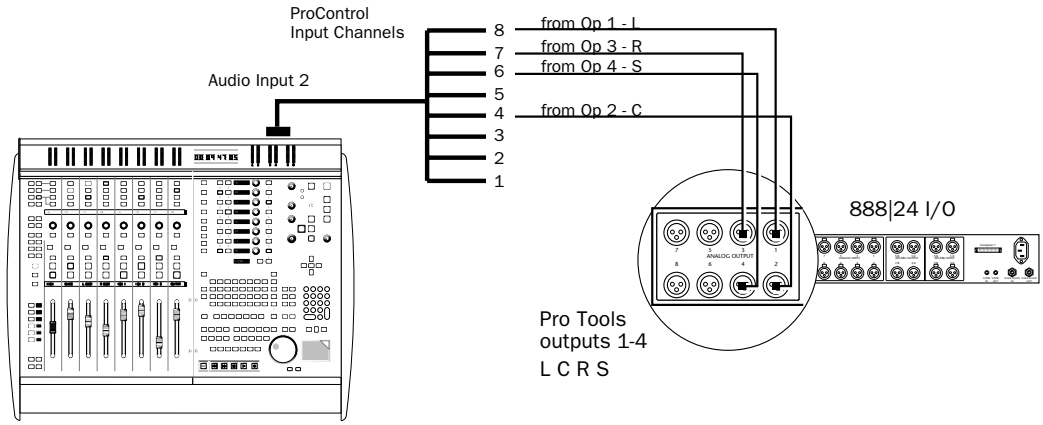


Figure 5. Input connections for LCRS monitoring

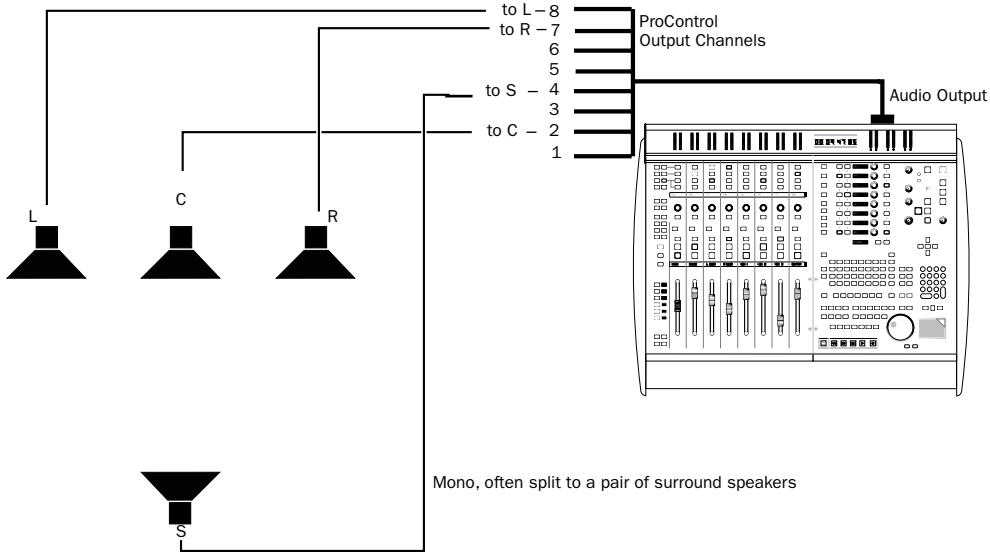


Figure 6. Output connections for LCRS monitoring

Stereo Monitoring Connections

ProControl provides numerous monitoring options when mixing in Stereo mode. The following diagrams show the recommended input and output connections for ProControl stereo monitoring.

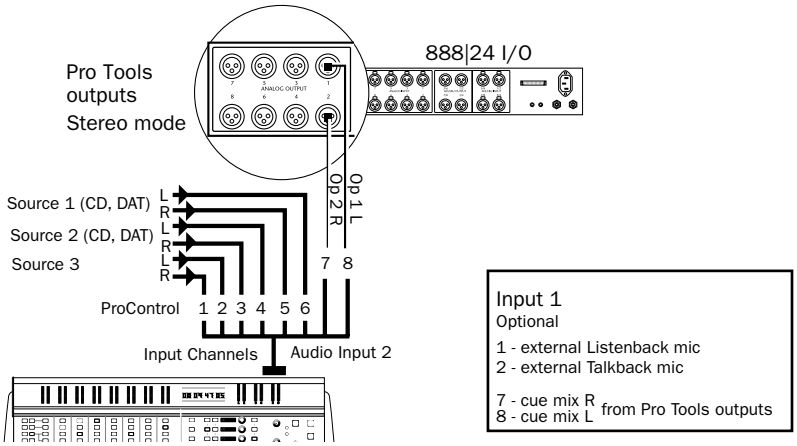


Figure 7. Basic input connections for Stereo monitoring

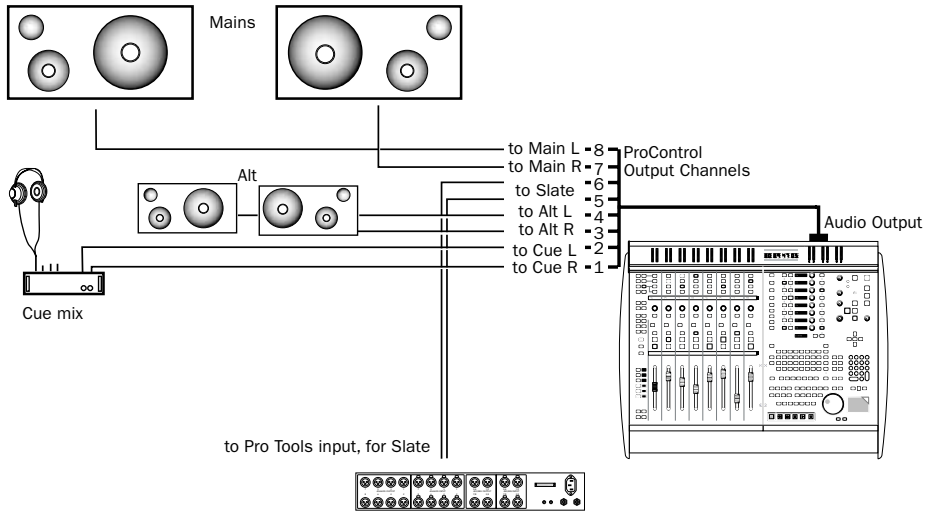


Figure 8. Output connections for stereo monitoring

5.1 Track Layouts, Routing, and Metering

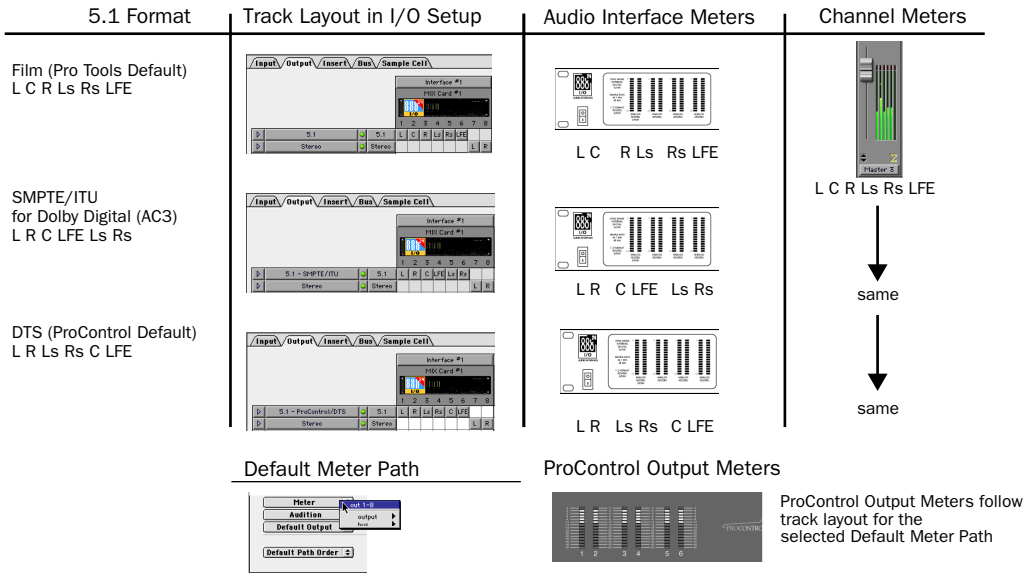


Figure 9. Track Layout and metering of different 5.1 formats in Pro Tools

5.1 Formats

The Film, SMPTE/ITU, and DTS 5.1 mixing formats have become standards in professional multi-channel production. The primary difference among these standards is their corresponding track layout, as shown in the first column, above.

Track Layout in I/O Setup

Pro Tools lets you work in any multi-channel mixing format by providing multi-channel Bus and output paths. Paths can be created, deleted, and edited in the I/O Setup dialog. (See the *Pro Tools Reference Guide* for more information about the I/O Setup dialog and paths.)

Audio Interface Meters

ProControl Output meters show the current Default Meter path (selected in the I/O Setup dialog), and map according to the track layout. In other words, ProControl meters follow audio interface track layout.

Channel Meters

Unlike hardware meters, on-screen meters on 5.1 format audio tracks and channel strips are always arranged according to the Film track layout (L C R Ls Rs LFE). For more information, see “Multi-Channel Metering” on page 16.

chapter 3

New Features in Pro Tools 5.1

This chapter describes ProControl support for new features available in Pro Tools 5.1.

Surround Features

ProControl supports all Pro Tools multi-channel surround mixing features. (Multi-channel mixing is available on Pro Tools MIX and MIXplus systems only.)

Audio Connections

For audio connection diagrams for multi-channel mixing, see Chapter 2, "Audio Connections for Multi-Channel Monitoring."

Surround Pan Mode

Surround panning can be performed from ProControl in the DSP Edit/Assign section. Both track and send outputs can be panned from ProControl.

To enter Surround Pan mode:

- Press F4.

The currently selected multi-channel track or send output is displayed in the DSP Edit/Assign section. If there is no multi-channel output assignment, a multi-channel send, if any, will be displayed. If there are no multi-channel track or send output assignments, select a track with a multi-channel assignment by pressing its INS/SEND switch. (See "Selecting Track and Send Outputs for Surround Panning" on page 14 for more information.)

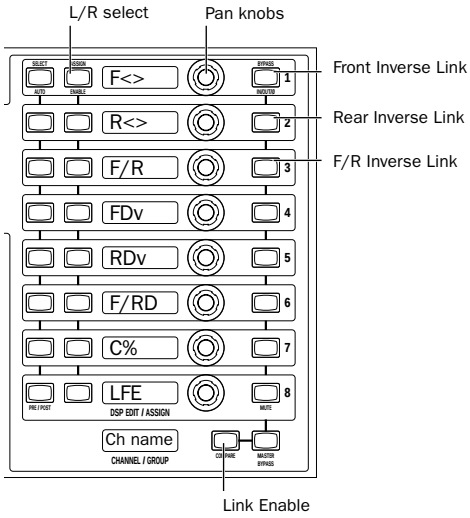
Surround Panning in the DSP EDIT/ASSIGN Section

When a multi-channel panner is open in the DSP Edit/Assign section, the LEDs show an abbreviated pan parameter name, and its value.

Surround Panner Controls in DSP Edit/Assign

Abbreviation	Parameter
F<>	Front
R<>	Rear
F/R	Front/Rear
FDV	Front Divergence
RDV	Rear Divergence
F/RD	Front/Rear Divergence
C%	Center percentage
LFE	LFE, in dB

The current track name is displayed in the CHANNEL/GROUP display.



Surround pan controls in the DSP Edit/Assign section

To pan:

■ Use the appropriate rotary knob in the DSP Edit/Assign section, or use the Trackpad and pan cursor for X/Y panning.

For more information about surround panning parameters, see the Pro Tools Reference Guide.

Selecting Track and Send Outputs for Surround Panning

To select a track output for surround panning:

1 Press INS/SEND on a track assigned to a multi-channel output path.

2 If the track also has a multi-channel send assignment, press PAN to aim ProControl at the track output.

3 Press F4.

The multi-channel output is displayed in the DSP Edit/Assign section. (See "Multi-Channel Metering" on page 16 for more information.)

To select a multi-channel send output for surround panning:

1 Press INS/SEND on the track containing the multi-channel send you want to pan.

2 Press F4. If the track also has a multi-channel main output assignment, or if there is more than one multi-channel send assignment, press the appropriate SEND (A-E) switch.

To check the currently selected send output assignment:

■ Press the INFO switch in the DSP Edit/Assign section. The output assignment is shown in the CHANNEL/GROUP display. (See also "Assigning Multiple Outputs" on page 21 for more information.)

To switch back to track (main) output panning:

■ Press the PAN switch in the Select/Assign section.

To select a multi-channel output on a different track:

■ Press INS/SEND to select the track.

To select track or send outputs on the same channel in Surround Pan mode:

■ Press PAN to focus on the current track outputs.

■ Press the appropriate SEND (A-E) switch to focus on that send on the current track.

To open or close the selected Output window:

■ Press PLUG IN to toggle the current Output window open and closed. Press SHIFT/ADD+PLUG IN to open it as a new window.

See "Controller Focus and Window Selection" on page 22 for more information about windows and controller focus.

To exit Surround Pan mode, do any of the following:

■ Press the flashing F4 switch

■ Press a track EQ or DYN IN/EDIT switch

■ Double-press a track INS/SEND switch

■ Press INSERTS/PARAMS or SENDS in the DSP Edit/Assign section

Panning Stereo Tracks

When the channel of focus is a stereo track, the left side is displayed first, by default. The top-most LED display in the DSP Edit/Assign section will display an L after the parameter name, and its ASSIGN/ENABLE switch is lit.

To select the right side pan controls:

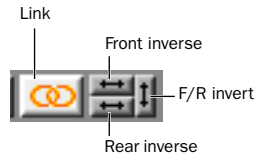
■ Press the PAN switch in the Select/Assign section.

Channel displays indicate right pan targeting with "R <>" next to the pan values.

See the Pro Tools Reference Guide for information about linked and inverse panning.

Panner Linking

Multi-channel Output windows provide standard and inverse linking options for stereo track panning.



Link, enabled, and Inverse selectors

To enable linking:

1 Select a track or send output as the ProControl focus (see "Selecting Track and Send Outputs for Surround Panning" on page 14).

2 Press COMPARE (next to the Channel/Group display in the DSP Edit/Assign section). The on-screen link icon is highlighted.

To enable an Inverse Link mode:

1 Press the BYPASS/IN/OUT switch in the DSP Edit/Assign section for the appropriate mode:

- For Front Inverse, use row 1.
- For Rear Inverse, use row 2.
- For Front/Rear Inverse, use row 3.

Multi-Channel Metering

By default, the two meters on each ProControl channel show LEFT and CENTER levels on multi-channel tracks and sends. This follows the default track layouts used within Pro Tools for on-screen metering of multi-channel paths.

The following table shows the two channels that will be metered for each multi-channel format.

Track Type	Meters Reflect
LCR	L & C
Quad	L & R
LCRS	L & C
5.1/5.0	L & C
6.1/6/0	L & C
7.1/7.0	L & Lc

Default Metering Path in I/O Setup

The Pro Tools I/O Setup dialog provides a default metering path option, to specify the function of the six main output meters. Default metering paths can be set for each supported mixing format.

To select a default metering path:

1 Choose Setups > I/O Setup.

2 Select the appropriate path from the Metering selector and sub-menus. Choices include:

Out 1-8 The default setting, Out 1-8 maps audio interface channels 1-6 to the ProControl Output meters.

Output and Bus 3 Selects any available output, or Bus, path to display in the ProControl Output meters.

4 Click OK to close the I/O Setup dialog.

See the Pro Tools Reference Guide for more information on this and other features of the I/O Setup dialog.

Multi-Channel Track Meters

Multi-channel tracks can be metered on ProControl by doing the following:

To meter a multi-channel path:

1 Start Pro Tools playback.

2 Press CTL/CLUTCH+SOLO on the multi-channel track you want to meter.

The first (left) side is displayed in the left side of the first pair of meters. Remaining channels are displayed in the adjacent meters to the right, up to a maximum of eight. When the CTL/CLUTCH and SOLO switches are released, normal metering resumes.

Track layout is determined by the path definition in the I/O Setup dialog.

For a diagram of 5.1 format track layouts and metering, see "5.1 Track Layouts, Routing, and Metering" on page 12.

Plug-Ins

ProControl supports all of the new plug-in features in Pro Tools 5.1, including multi-channel and multi-mono plug-ins, plug-in linking, and more.

Multi-Mono Plug-Ins

Multi-mono plug-ins are comprised of up to eight individual mono plug-ins. With ProControl, you can choose the specific channel of the plug-in from the DSP Edit/Assign section for editing or bypassing.

When a multi-mono plug-in is first opened, the left side will be shown in the DSP Edit/Assign section PARAMS view.

Display of Multi-Mono Plug-Ins in Inserts View

In the DSP Edit/Assign section, a dot appears next to the insert name to indicate that a plug-in is multi-mono. You can select sides of the plug-in using the technique described in

Selecting and Editing Individual Channels of a Multi-Mono Plug-In

To access different sides of multi-mono plug-ins:

1 Press the INS/SEND switch of the track containing a multi-mono plug-in. The plug-ins are listed in the DSP Edit/Assign section. Multi-mono plug-ins are indicated with a dot after their name.

2 Press INFO+INSERTS/PARAMS (both are in the DSP Edit/Assign section). The sides of the plug-in are listed in the DSP Edit/Assign section,. The plug-in name is shown in the Channel/Group display.

3 Press the SELECT switch next to the Left, Right, Center, or other side of the multi-mono plug-in you want to edit.

4 To edit a different side, press INSERTS/PARAMS to return to the expanded plug-in view, then choose another side to edit.

To exit expanded multi-mono plug-in view:

■ Press the PARAMS switch. ProControl returns to INSERTS view.

Bypass and Multi-Mono Plug-Ins

Individual sides of multi-mono plug-ins can be bypassed independently, according to the linked or unlinked state of each side.

See the Pro Tools Reference Guide for more information about linking and unlinking multi-mono plug-ins.

To bypass an individual side of a plug-in (and any linked sides):

1 Select and display the parameters of the side you want to bypass (follow the instructions in "Selecting and Editing Individual Channels of a Multi-Mono Plug-In" on page 17.)

2 Press the MASTER BYPASS switch in the DSP Edit/Assign section. (See also "Display of Multi-Mono Bypass" on page 18.)

To bypass all sides of a multi-mono plug-in:

1 Display track inserts in the DSP Edit/Assign section Inserts view (press the track INS/SEND switch, then press INSERTS in the DSP Edit/Assign section to list all the track inserts, not parameters.)

2 Press the BYPASS/IN/OUT switch corresponding to the plug-in you want to bypass.

To bypass all inserts on a track:

1 Display the track inserts in the DSP Edit/Assign section, in INSERTS view.

2 Press MASTER BYPASS.

EQ and DYN Bypass

The EQ and DYN Bypass switches are equivalent to MASTER BYPASS, but focused only on their corresponding plug-in type (EQ, or Dynamics).

Display of Multi-Mono Bypass

ProControl indicates bypass states of multi-mono plug-ins in the following ways:

Lit Bypass switch When the BYPASS/IN/OUT, channel EQ or DYN switch are lit (not flashing), it indicates that all sides of the plug-in are bypassed.

Flashing Bypass switch Indicates that some, but not all, sides of the multi-mono plug-in are currently bypassed.

Plug-In Flip Mode

Plug-In Flip mode maps plug-in parameters to the eight Main Unit faders, for hands-on plug-in editing and automation.

To use Plug-in Flip mode:

1 Select a plug-in and display its parameters in the DSP Edit/Assign section. Refer to the *ProControl Guide* for instructions on assigning and opening plug-ins with ProControl.

2 Press ⌘ (CTL)+FLIP.

The eight faders on the Main Unit now display and control the first page (or, last selected page) of the plug-in. The DSP Edit/Assign section lists the current track name in the 8th row of displays. The CHANNEL/GROUP display shows the name of the currently flipped plug-in.

To select a different plug-in page:

■ Press the corresponding CHANNEL MATRIX switch.

See the ProControl Guide for more information on accessing plug-in pages.

Plug-In Flip Mode and Fader Packs

Plug-In Flip mode operates on the Main Unit only. Tracks that are displayed on the Main Unit become hidden while in Plug-in Flip mode.

All channel strips on Fader Packs (if any) continue to show their current tracks and controls. This lets you automate a plug-in from the Main Unit while automating channel or send parameters on Fader Packs.

Plug-In Bypass in Flip Mode

While in Plug-In Flip mode, the PRE/POST/ASSIGN/MUTE switch becomes the equivalent of the BYPASS switches in the DSP Edit/Assign section (or any other switched plug-in controls, not just Bypass). In Flip mode, switch function is displayed in the channel display. For details about multi-mono bypass, see “Bypass and Multi-Mono Plug-Ins” on page 17.

Plug-In Flip Mode and Automation

To enable plug-in automation in Plug-In Flip mode:

1 Make sure the plug-in's track is in an automation writing mode (Write, Touch, or Latch, or a Trim mode).

2 Make sure that plug-in automation recording is enabled in the Automation/Enables section (or in the Pro Tools Automation Enable window).

3 Press a channel AUTO switch, corresponding to the plug-in parameter you want to automate. When a parameter is armed for automation, the AUTO LED flashes. When a write pass is underway, the AUTO LED remains lit.

4 Begin playback and adjust automated controls. (You can punch out of automation recording at anytime by pressing the channel AUTO switch.

Channel Mutes, Solos, and the channel rotary encoders are disengaged on the Main Unit while in Plug-in Flip mode.

Removing Plug-In Assignments with the DEFAULT Switch

As an alternative to using the rotary knobs in the DSP Edit/Assign section to remove a plug-in, the following shortcut can be used.

This feature removes plug-ins (and any automation data associated with it) without displaying any warning or option to cancel. Use this power-user feature with caution.

To remove a plug-in with the DEFAULT switch:

1 Select the channel and display its inserts by doing either of the following:

- From the Fader Section, press a channel INS/SEND switch.
- If in PARAMS view, press the INSERTS switch in the DSP Edit/Assign section to list the currently selected channel's plug-ins.

2 While pressing DEFAULT, press the SELECT/AUTO switch in the DSP Edit/Assign section that corresponds to the plug-in you want to remove.

Plug-In Windows

To open an additional Plug-In window and make it the target:

1 While pressing SHIFT/ADD, select an additional plug-in to open. To select an additional plug-in, use the channel INS/SEND, EQ IN/EDIT or DYN IN/EDIT switches, as appropriate, and the SELECT switches in the DSP Edit/Assign section:

◆ If there is only a single plug-in available on the channel, either it or the first EQ or DYN plug-in will be brought to the DSP Edit/Assign section (or the faders, if Plug-In Flip mode is engaged).

◆ If there are multiple plug-ins on the channel, press SHIFT/ADD while you select a new plug-in from the DSP Edit/Assign section. This opens the selected plug-in in the DSP Edit/Assign section (or the faders, if Plug-In Flip mode is engaged).

Plug-In Flip mode is explained in "Plug-In Flip Mode" on page 18.

Using Windows for Controller Focus

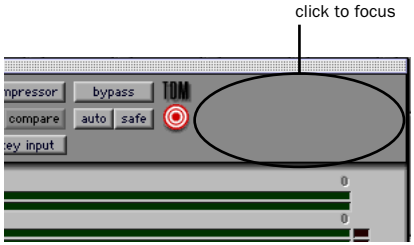
When one or multiple plug-in windows are open, use the following steps to select a plug-in to to be the controller focus.

To navigate ProControl to an open Plug-In window:

- Click in the gray background at the top of the Plug-In window using the mouse or Trackpad.

  – or –

- Press the appropriate INS/SEND switch.



Area to click to select plug-in as controller focus

Opening Windows with the Plug-In Switch

The PLUG-IN switch, in the Windows section, opens and closes the plug-in that is the current controller focus. Selecting a plug-in as the current controller focus (displaying its parameters in the DSP Edit/Assign section) does not automatically open that Plug-In window.

You must first select a plug-in as the controller focus, using the methods described below, before the PLUG-INS switch will open it.

To open a Plug-In window when PLUG-IN is lit:

- Select a Plug-In window using the mouse, or using a track INS/SEND switches and the DSP Edit/Assign section.

To open a the currently focussed Plug-In window:

- Press the unlit PLUG-IN switch.

To close the currently focussed window:

- Press the lit PLUG-IN switch.

To close all open Plug-In Windows:

- Press OPT(ALT)ALL+PLUG-IN.

General Features and Additions

The following sections describe new features available to all ProControl systems. For surround-specific features available with Pro Tools MIX and MIXplus (only), see “Surround Features” on page 13.

40- and 48-Channel ProControl

As many as five Fader Packs can now be added to support 40- and 48-channel ProControl systems. For requirements, see “System Requirements” on page 1. For configuration instructions, see “Enabling ProControl in Pro Tools” on page 2.

Monitor Mode Toggling

Pro Tools version 5.1 can toggle between Auto Input and Input Only Monitor modes during playback and recording.

You can use the Channel Matrix Alpha keys or the dedicated MON/PHASE switch as described below.

To toggle Auto Input and Input Only Monitor mode:

■ Press the MON/PHASE switch (next to PAN in the Select/Assign section).

– or –

■ Press OPT(ALT)ALL+ALPHA+K (in the Channel Matrix).

You can use the new Alpha Lock feature to minimize keystrokes. See "Alpha Lock" on page 23.

Display of Monitor Mode Status

To check Monitor mode status from ProControl:

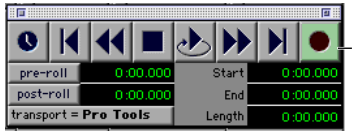
■ Look at the MON/PHASE switch. Lit indicates Input Only mode, unlit indicates Auto Input mode.

– or –

■ Press ⌘ (CTL)+MON/PHASE. This temporarily displays (but does not change) the current monitor mode.

To check Monitor mode status on-screen:

■ Check the Record button in the Transport window. The Record button will have a green background while Input Only mode is enabled, or gray background in Auto Input mode.



Monitor Mode display in the Transport Window

Assigning Multiple Outputs

ProControl supports the ability to assign multiple outputs to a Pro Tools track.

To assign an additional output to a channel:

1 Press the master ASSIGN and OUTPUT switches (in the Select/Assign section).

2 On the appropriate channel, rotate the encoder until it displays the additional output you want to assign. The currently assigned output (if any) is indicated with the > symbol (for example, ">Out 1-2").

3 Press CTL/CLUTCH+ASSIGN to confirm the additional output assignment. Use the channel Assign/Mute or master Assign switch as needed:

■ The channel Assign/Mute switch confirms the setting and leaves ProControl in Assign mode. Use this to continue assigning other channels.

■ Pressing the master ASSIGN switch confirms and exits Assign mode. Use this when you are through assigning channel outputs.

Display of Multiple, and Inactive Assignments

Multiple output assignments are indicated with "+" in front of the assigned path's names. For example, +Out 1-2.

Other symbols indicate inactive status (see "Inactive Outputs" on page 22).

Display of Inactive Items

The @ symbol also indicates inactive status for the following items:

- Inputs
- Outputs
- Sends
- Inserts
- Tracks
- Plug-Ins, when unavailable or missing
- Paths that are inactive in the I/O Setup dialog

To toggle an item Active/Inactive:

■ CTL/CLUTCH+⌘(CTL)+click the item in the Mix or Edit window, using the Trackpad or mouse. (See the *Pro Tools Reference Guide* for more information.)

Inactive Outputs

ProControl uses two symbols to display the different inactive states possible for outputs.

@ Indicates that only one output is assigned, and it is currently inactive. (For example, @Out 1-2.)

***** Indicates more than one output is assigned, at least one of which is inactive. (For example, *Out 1-2.)

Controller Focus

The term "controller focus" refers to the track output or send, plug-in, or insert currently selected for editing by a ProControl unit, or section.

Fader Banks

The Fader sections on each unit focus on eight adjacent tracks at a time. The BANK SELECT and NUDGE switches navigate among banks and tracks in the session. On-screen, Pro Tools uses color outlines to indicate controller focus. A different color represents each ProControl unit connected to your system. This lets you quickly identify the tracks currently mapped to each unit.

DSP Edit/Assign

The DSP Edit/Assign section can focus on a plug-in, a send, or a track output. For example, when a plug-in is being edited in the DSP Edit/Assign section, that plug-in is the current *controller focus*. On-screen, Pro Tools indicates controller focus by highlighting the individual send or plug-in (or insert) in the Mix and Edit windows.

Controller Focus and Window Selection

The fastest way to focus ProControl is to select items on-screen (using the Trackpad, or mouse, or other).

To focus on a plug-in, send, or output using its window:

1 Open the Plug-In or Output window on-screen.

2 Click the window header (the gray background behind the RTAS/TDM and Target icons).

To focus on an plug-in from ProControl:

1 Press INS/SEND on the channel containing the plug-in you want to edit.

2 Select the plug-in in the DSP Edit/Assign section Inserts view, if necessary.

To focus on a send from ProControl:

1 Press INS/SEND on the appropriate channel.

2 Press the appropriate SEND switch to select Send A-E. Press PLUG IN to open the send's Output window.

ProControl focus does not have to follow Pro Tools window display or Target selection. In other words, a Send, Plug-In, or Output window does not need to be opened on-screen to be controlled from ProControl.

Targets

The on-screen Target is a feature found in Plug-In and Output windows.

Target window icon in a Plug-In window

Plug-In Target In Plug-In windows, the lit Target indicates the plug-in that will be the focus of settings file keyboard commands (for Copy Settings, Paste Settings, Import Settings, and Save Settings As).

Target Windows The Target also affects multiple window display. When a window's Target is disengaged, that window will remain open until it is manually closed (it will not be replaced by the next window of its type to be opened, which is the default Pro Tools window behavior).

See the Pro Tools Reference Guide for more information on the Target window feature.

When working with ProControl, keep in mind that the Target does *not* necessarily indicate controller focus. Use the colored outlines on-screen to identify the current ProControl focus.

Redo

ProControl supports Pro Tools multiple undo and redo.

To undo:

- Press UNDO.

To redo:

- Press ⌘(CTL)+SHIFT/ADD+UNDO.

Alpha Lock

When using the Channel Matrix for edit commands or text entry, the ALPHA switch now locks the primary switches into Alpha mode. This simplifies the steps required to choose Commands Focus and other shortcuts in the Channel Matrix.

To enable Alpha Lock mode:

- Press the ALPHA switch.

To exit Alpha Lock mode:

- Press ESCAPE or the flashing ALPHA switch to exit Alpha Lock mode and return to the previous CHANNEL MATRIX mode

– or –

- Press any of the following switches to exit and move to a different mode, as appropriate: STATUS, GROUPS, GO TO, EQ IN or DYN IN switch.

New Switch Name

The F4 switch, located in the upper left corner of the Main Unit, is now F4/SURR PAN. This switch and other surround features are described in "Surround Features" on page 13.

Show Controller Personality Version

The previous function of the F4 switch has been remapped.

To show the current controller personality version:

1 If the F4 switch is flashing, (Surround mode) exit this mode.

2 Press OPT (ALT) ALL+(ProControl) F4.

This displays the Personality version in the DSP Edit/Assign section for as long as these two switches are held. When both switches are released, the DSP Edit/Assign section returns to its previous state.

chapter 4

New Features in Pro Tools 5.0.1

The following features were added in Pro Tools 5.0.1.

Assigning MIDI Outputs

You can view and assign channel outputs for MIDI tracks on Pro Control. You can also assign multiple MIDI channels to a single track.

To assign MIDI outputs from ProControl:

1 Press ASSIGN+OUTPUT.

2 Use the Rotary Data Encoder for the track to select the MIDI device and channel.

3 Press the selected channel's PRE/POST/ASSIGN/MUTE switch.

If assigning multiple MIDI channels, perform steps 2 and 3 while pressing SHIFT/ADD.

4 When MIDI output assignment is completed, press the Master ASSIGN switch to confirm and exit Assign mode.

Link/Unlink Edit and Timeline

To link or unlink the Edit and Timeline selections from ProControl:

■ While pressing SHIFT/ADD, press slash (/) on the numeric keypad.

Edit Tool Selection

The Trimmer, Grabber, and Pencil each have different tool options available from their pop-up menus in the Edit window in Pro Tools. These tool options can be selected from ProControl.

To select an Edit tool from ProControl:

1 Press the tool switch for the tool you want to select: TRIM, GRAB, or PENCIL.

2 Press the switch repeatedly to cycle through the options for that tool.

The toolbar in the Pro Tools Edit window displays the currently selected Edit tool.

Zoom Presets

To recall a Zoom Preset from ProControl:

■ While pressing OPT(ALT)ALL, press the Zoom Preset's number on the numeric keypad.

To store a Zoom Preset from ProControl:

■ While pressing SHIFT/ADD, type the Zoom Preset's number on the numeric keypad.

Moving the Edit Cursor and Edit Selection to Adjacent Tracks

Previously in Pro Tools 5.0, the UP/DOWN switches on ProControl set start and end points for selections.

You can still set start and end points for selections with the IN and OUT switches.

In Pro Tools 5.0.1 and later, the UP/DOWN switches are used to move the Edit cursor to the next or previous track. In addition, you can move or extend Edit selections to the next or previous track.

To move the Edit cursor or an Edit selection to the previous or next track:

1 Make sure the ZOOM/SEL switch is in Navigation mode. If necessary, press the switch until it becomes unlit.

2 Press UP or DOWN to move the cursor or selection to the previous or next track.

To extend an Edit selection to the previous or next track:

1 Make sure the ZOOM/SEL switch is in Navigation mode. If necessary, press the switch until it becomes unlit.

2 While pressing SHIFT/ADD, press UP or DOWN to extend the selection to the previous or next track.

Automation Mode

You can set the Automation mode for all tracks, or all selected tracks, by toggling a channel's AUTO switch.

You can still set the Automation mode for all tracks and all selected tracks with the MODE switches in the Automation section.

To set the Automation mode for all tracks from ProControl:

■ While pressing OPT(ALT)ALL, press the AUTO switch for any channel repeatedly to select the desired Automation mode.

To set the Automation mode for all selected tracks:

1 Select any tracks you want to affect.

2 While pressing OPT(ALT)ALL+SHIFT, press the AUTO switch for any channel repeatedly to select the desired Automation mode.

Multi-Monitor Mode

A new multi-monitor mode is available in Stereo Monitoring mode.

Multi-monitor mode links the main and alt speaker outputs, with selectable muting of either output from the ALT switch.

When Multi-monitor mode is enabled as described below, both the Main and Alternate Speaker output levels are controlled simultaneously by the MAIN(1-6) knob.

The ALT switch provides selectable muting of either the Main or Alt outputs. The MUTE switch in the Control Room Monitoring section always mutes both Main and Alt outputs, in all modes.

For discrete level adjustment of the Main and Alternate Speaker outputs, leave Pro-Control in its default mode (MultiMon disabled).

The ALT button can be assigned to mute either the Main or Alt speakers. (MUTE functions on both.)

To enable Multi-monitor mode:

■ Choose UTITLITIES>MONITOR>MODE>MULTIMON. (Multi-monitor mode is only available in Stereo mode, not in Surround mode).

To select which pair of speakers ALT will mute:

■ Select either MAINs or ALTs, the press ESCAPE or UTILITY to leave Utility mode.

chapter 5

Corrections to the ProControl Guide

This chapter lists errata and corrections for the ProControl Guide (PN 932707442-00 REV A 11/99).

ProControl and Zoom/Select Mode

Page 55 of the *ProControl Guide* states that to "engage Zoom mode, press ZOOM/SEL until it flashes," and "to engage Select mode, press ZOOM/SEL until it is lit solid."

Correction:

To engage Zoom mode for ProControl:

- Press ZOOM/SEL until it is lit solid.

To engage Select mode for ProControl:

- Press ZOOM/SEL until it flashes.

Escape and Enter

Pro Control does not support use of the ESCAPE or ENTER buttons in the Import Audio, Playback Engine, and Hardware Setup dialog boxes.

Rerecord

Switching ProControl to re-record mode has to be done from the Utilities menu.

Scrub Shuttle

When in shuttle or scrub mode and a DAE -9073 error occurs, the error dialog will not be posted until Pro Tools has exited scrub/shuttle mode.

Indication of Multiple Routing Changes

When using the OPT(ALT)ALL (all tracks) modifier to make routing assignments, only the channel strip whose channel encoder was turned displays a lit ASSIGN/MUTE LED. The *ProControl Guide* implies that ANY track that was changed displays a lit (not flashing) ASSIGN/MUTE LED.

Multi-Monitor Mode

A new monitoring stereo monitoring mode was added to ProControl in Pro Tools version 5.0.1. For more information, see "Multi-Monitor Mode" on page 27.

Audio Connections

Please refer to the information in this Addendum when connecting ProControl for audio monitoring. For connection instructions and monitoring diagrams, see Chapter 2, "Audio Connections for Multi-Channel Monitoring."

For wiring pinouts for the three DB-25 connectors, see Appendix A, "Audio Connectors and Pinouts."

appendix a

Audio Connectors and Pinouts

The tables on the following pages list the Pro-Control input and output channels and their intended use in stereo and surround mode, with pinouts for each of the DB-25 connectors.

The information provided in the tables on the following pages corrects and replaces similar information available previously in the *ProControl Guide* and other publications from Digidesign.

Output Connector Rev C and Rev D

There are two versions of the Control Room section analog board currently in the field (both are listed in the following pages).

Rev C This board was included in original Pro-Control Main Units. These units have a serial number beginning with the prefix KH.

Rev D This board is in every new Main Unit, which have serial numbers beginning with the prefix NX. This board offers improved performance from the Control Room monitoring features, and is available through Digidesign or your authorized Digidesign dealer.

Audio Input 1 Connector

Signal Name Stereo Mode	Signal Name Surround Mode		DB-25 pin #	DA-99 Cable Jack #
Aux. Input Left	N/C	Hot	1	8
		Cold	14	
		Gnd	2	
Aux. Input Right	N/C	Hot	15	7
		Cold	3	
		Gnd	16	
Solo not used	N/C	Hot	4	6
		Cold	17	
		Gnd	5	
Solo not used	N/C	Hot	18	5
		Cold	6	
		Gnd	19	
N/C	N/C	N/C	7	4
		N/C	20	
		N/C	8	
N/C	N/C	N/C	21	3
		N/C	9	
		N/C	22	
Talkback Mic Input	Talkback Mic Input	Hot	10	2
		Cold	23	
		Gnd	11	
Listen-back Mic Input	Listen-back Mic Input	Hot	24	1
		Cold	12	
		Gnd	25	
N/C	N/C	N/C	13	N/C

Audio Input 2 Connector

Signal Name Stereo Mode	Signal Name Surround Mode		DB-25 pin #	DA-88 Cable Jack #
Stereo Main Input Left	L	Hot	1	8
		Cold	14	
		Gnd	2	
Stereo Main Input Right	R	Hot	15	7
		Cold	3	
		Gnd	16	
Source #1 Input Left	Ls	Hot	4	6
		Cold	17	
		Gnd	5	
Source #1 Input Right	Rs	Hot	18	5
		Cold	6	
		Gnd	19	
Source #2 Input Left	C	Hot	7	4
		Cold	20	
		Gnd	8	
Source #2 Input Right	LFE	Hot	21	3
		Cold	9	
		Gnd	22	
Source #3 Input Left	not used	Hot	10	2
		Cold	23	
		Gnd	11	
Source #3 Input Right	not used	Hot	24	1
		Cold	12	
		Gnd	25	
N/C	N/C	N/C	13	N/C

Audio Output Connector, REV D

Signal Name Stereo Mode	Signal Name Surround Mode		DB-25 pin #	DA-88 Cable Jack #
Control Room Main Output Left	L	Hot	1	8
		Cold	14	
		Gnd	2	
Control Room Main Output Right	R	Hot	15	7
		Cold	3	
		Gnd	16	
Slate Output Left	Slate Output Left	Hot	4	6
		Cold	17	
		Gnd	5	
Slate Output Right	Slate Output Right	Hot	18	5
		Cold	6	
		Gnd	19	
Control Room Alt. Output Left	Ls	Hot	7	4
		Cold	20	
		Gnd	8	
Control Room Alt. Output Right	Rs	Hot	21	3
		Cold	9	
		Gnd	22	
Aux. Output Left	C	Hot	10	2
		Cold	23	
		Gnd	11	
Aux. Output Right	LFE	Hot	24	1
		Cold	12	
		Gnd	25	
N/C	N/C	N/C	13	N/C

Audio Output Connector, REV C

Signal Name Stereo Mode	Signal Name Surround Mode		DB-25 pin #	DA-88 Cable Jack #
Control Room Main Output Left	L	Hot	14	8
		Cold	1	
		Gnd	2	
Control Room Main Output Right	R	Hot	3	7
		Cold	15	
		Gnd	16	
Slate Output Left	Slate Output Left	Hot	17	6
		Cold	4	
		Gnd	5	
Slate Output Right	Slate Output Right	Hot	6	5
		Cold	18	
		Gnd	19	
Control Room Alt. Output Left	Ls	Hot	20	4
		Cold	7	
		Gnd	8	
Control Room Alt. Output Right	Rs	Hot	21	3
		Cold	9	
		Gnd	22	
Aux. Output Left	C	Hot	10	2
		Cold	23	
		Gnd	11	
Aux. Output Right	LFE	Hot	24	1
		Cold	12	
		Gnd	25	
N/C	N/C	N/C	13	N/C