EQ III

Plug-In Guide

Version 6.9 for TDM or LE Systems on Windows or Macintosh

digidesign

contents

chapter 1

Introduction

Welcome to the EQ III DigiRack plug-in for Pro Tools LE, Pro Tools TDM, and Avid systems on Macintosh and Windows.

EQ III Features

The EQ III plug-in provides a high-quality 7 Band, 2–4 Band, or 1 Band EQ for adjusting the frequency spectrum of audio material.

Plug-In Format Support

EQ III is available in the following formats:

- 7 Band: TDM, RTAS, AudioSuite
- 2–4 Band: TDM and RTAS only
- 1 Band: TDM, RTAS, AudioSuite

Sample Rate Support

EQ III supports all Pro Tools session sample rates: 192 kHz, 176.4 kHz, 96 kHz, 88.2 kHz, 48 kHz, and 44.1 kHz.

Channel Format Support

EQ III operates as a mono or multi-mono plug-in only. Stereo and multichannel tracks are supported through multi-mono operation.

Control Surface Support

EQ III can be operated from the following control surfaces:

- Digidesign D-Control
- Digidesign ProControl
- Digidesign Control|24
- Digidesign 002
- Digidesign Command|8
- Mackie HUI-compatible controllers

Frequency Graph Display

EQ III has a display that shows the response curve for the current EQ settings on a two-dimensional graph of frequency and gain. The frequency graph display also lets you modify frequency, gain and Q settings for individual EQ bands by dragging their corresponding points in the graph.

Efficient DSP Usage on TDM Systems

By choosing from the 7 Band, 2–4 Band, or 1 Band versions of the EQ III plug-in, you can use only the number of EQ bands you need for each track, conserving DSP capacity on TDM systems.

System Requirements

To use EQ III, you need:

- One of the following systems:
  - A Digidesign-qualified Pro Tools system running Pro Tools 6.7 or higher.
  - A Digidesign-qualified Pro Tools system and a third-party software application that supports the Digidesign TDM, RTAS, or AudioSuite plug-in standard.
  - A qualified Avid Xpress, Avid Xpress DV or Avid DNA system.

⚠ *To use the TDM version of EQ III on a Pro Tools|HD-series system running Pro Tools 6.7, you need the updated version of DSP Manager installed with the EQ III plug-in.*

For complete system requirements, visit the compatibility page of the Digidesign Web site (www.digidesign.com/compato).

Working with EQ III

Refer to the *Pro Tools Reference Guide*, or the *DigiRack Plug-Ins Guide* for information on working with plug-ins, including:

- Using Plug-Ins as Inserts
- The Plug-In Window
- Adjusting Plug-In Parameters
- Automating Plug-Ins
- Using the Plug-In Settings Librarian

Conventions Used in This Guide

All Digidesign guides use the following conventions to indicate menu choices and key commands:

Convention	Action
File > Save Session	Choose Save Session from the File menu
Control+N	Hold down the Control key and press the N key
Control-click	Hold down the Control key and click the mouse button
Right-click (Windows)	Click with the right mouse button

The following symbols are used to highlight important information:

💡 *User Tips are helpful hints for getting the most from your Pro Tools system.*

⚠ *Important Notices include information that could affect your Pro Tools session data or the performance of your Pro Tools system.*

⌨ *Shortcuts show you useful keyboard or mouse shortcuts.*

📖 *Cross References point to related sections in the Pro Tools Guides.*

chapter 2

Installation

Installing EQ III

To install EQ III:

1 Download the installer for your computer platform from the Digidesign Web site (www.digidesign.com).

2 Double-click the EQ III Installer application.

3 Follow the on-screen instructions to complete the installation.

4 When installation is complete, click Finish (Windows) or Quit (Macintosh).

The EQ III Installer installs the following components in the corresponding locations:

• The EQ III plug-in, in the Program Files/Common Files/Digidesign/DAE/Plug-Ins folder (Windows) or the Library/Application Support/Digidesign/Plug-Ins folder (Macintosh).

• An updated version of the DSP Manager, in the Program Files/Digidesign/ Pro Tools folder (Windows) or the System/ Library/CFMSupport folder (Macintosh).

The EQ III plug-in is not copy-protected and does not need to be authorized.

Removing EQ III

If you need to remove the EQ III plug-in from your system, follow the instructions below for your computer platform.

Windows

To remove the EQ III plug-in:

1 From the Start menu, choose Settings > Control Panel and double-click Add or Remove Programs.

2 Select the EQ III plug-in from the list of installed applications and click the Change/Remove button.

3 Follow the on-screen instructions to remove the plug-in.

4 When removal is complete, click OK to close the window.

Mac OS X

To remove the EQ III plug-in:

1 Locate and open the Plug-Ins folder on your Startup drive (Library/Application Support /Digidesign/Plug-Ins).

2 Drag the EQ III plug-in to the Trash.

3 Empty the Trash.

chapter 3

EQ III Configurations and Controls

EQ III Configurations

The EQ III plug-in appears as three separate choices in the plug-in insert pop-up menu and in the AudioSuite menu: 7 Band ("7-Band EQ 3"), 2–4 Band ("4-Band EQ 3"), and 1 Band ("1-Band EQ 3").

7 Band EQ and 2–4 Band EQ

The 7 Band EQ is available in TDM, RTAS, and AudioSuite formats. The 2–4 Band EQ is available in TDM and RTAS formats only.

The 7 Band EQ and the 2–4 Band EQ share the same window and identical controls, but with the 2–4 Band EQ, a limited number of the seven available bands can be active at the same time.

1 Band EQ

The 1 Band EQ is available in TDM, RTAS, and AudioSuite formats.

The 1 Band EQ has its own window, with six selectable filter types.

7 Band EQ and 2–4 Band EQ window (left) and 1 Band EQ window (right)

EQ III Controls

Adjusting EQ III Controls

You can adjust the EQ III plug-in controls by any of the following methods:

Dragging Plug-In Controls

The rotary controls on the EQ III plug-in can be adjusted by dragging over them horizontally or vertically. Dragging up or to the right increments the control. Dragging down or to the left decrements the control.

Dragging a plug-in control

Typing Control Values

You can enter control values directly by clicking in the corresponding text box, typing a value, and pressing Enter (Windows) or Return (Macintosh).

Typing a control value

Inverting Filter Gain

(Peak EQ Bands Only)

Gain values can be inverted on any Peak EQ band by Shift-clicking its control dot in the Frequency Graph display, or its Gain knob in the plug-in window. This changes a gain boost to a cut (+9 to –9) or a gain cut to a boost (–9 to +9). Gain values cannot be inverted on Notch, High-Pass, Low-Pass, or shelving bands.

Dragging in the Frequency Graph Display

You can adjust Frequency, Gain, and Q parameters by dragging their corresponding control points directly in the Frequency Graph display.

Frequency Dragging a control point to the right increases the Frequency setting. Dragging a control point to the left decreases the Frequency setting.

Gain Dragging a control point up increases the Gain setting. Dragging a control point down decreases the Gain setting.

Q Start-dragging (Windows) or Control-dragging (Macintosh) a control point up increases the Q setting. Start-dragging (Windows) or Control-dragging (Macintosh) a control point down decreases the Q setting.
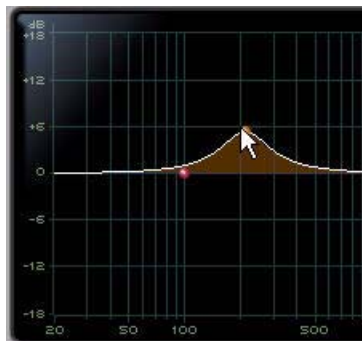
Dragging a control point in the Frequency Graph display

Adjusting Controls with Fine Resolution

Controls and control points can be adjusted with fine resolution by holding the Control key (Windows) or the Command key (Macintosh) while adjusting the control.

Resetting Controls to Default Values

You can reset any on-screen control to its default value by Alt-clicking (Windows) or Option-clicking (Mac OS) directly on the control or on its corresponding text box.

Using a Control Surface

EQ III can be controlled from any supported control surface, including Digidesign's D-Control, ProControl, Control|24, Digi 002, or Command|8. Refer to the guide that came with the control surface for details.

I/O Controls

The following Input and Output controls are found on all EQ III configurations, except where noted otherwise.
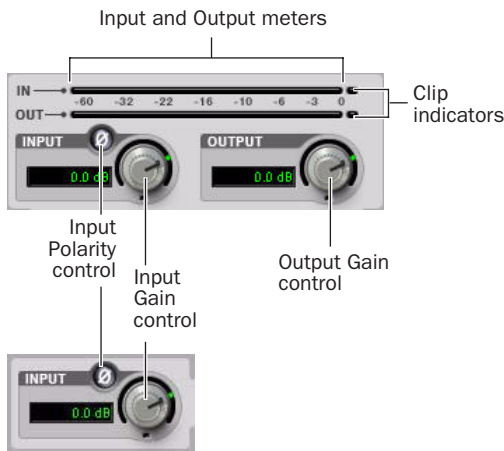
I/O controls and meters for 7 Band EQ and 2–4 Band EQ (top) and 1 Band EQ (bottom)

Input Gain Control

The Input Gain control sets the input gain of the plug-in before EQ processing, letting you make up gain or prevent clipping at the plug-in input stage.

Output Gain Control

(7 Band EQ and 2–4 Band EQ Only)

The Output Gain control sets the output gain after EQ processing, letting you make up gain or prevent clipping on the channel where the plug-in is being used.

Input Polarity Control

The Input Polarity button lets you inverts the polarity of the input signal, to help compensate for phase anomalies occurring in multi-microphone environments, or because of mis-wired balanced connections.

Input and Output Meters

(7 Band EQ and 2–4 Band EQ Only)

The plasma-style Input and Output meters show peak signal levels before and after EQ processing, and indicate them as follows:

Green Indicates nominal levels.

**Yellow** Indicates pre-clipping levels, starting at –6 dB below full scale.

Red Indicates full scale levels (clipping).

The clip indicators at the far right of each meter indicate clipping at the input or output stage of the plug-in.
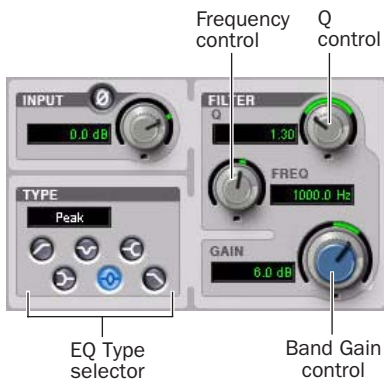
Clip indicators can be cleared by clicking the indicator.

EQ Band Controls

The individual EQ bands on each EQ III configuration have some combination of the following controls, as noted below.
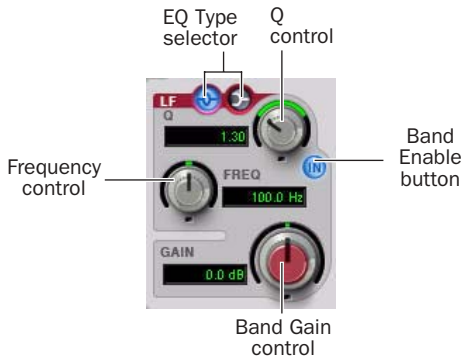
EQ Band controls (7 Band EQ Low-Mid band shown)

EQ Band controls (1 Band EQ Peak shown)

EQ Type Selector

On the 1 Band EQ, the EQ Type selector lets you choose any one of six available filter types: High-Pass, Notch, High-Shelf, Low-Shelf, Peak, and Low-Pass.

On the 7 Band EQ and the 2–4 Band EQ, the HPF, LPF, LF, and HF sections have EQ Type selectors to toggle between the two available filter types in each section.

Band Enable Button

(7 Band EQ and 2–4 Band EQ Only)

The Band Enable button on each EQ band toggles the corresponding band in and out of circuit. When a Band Enable button is highlighted, the band is in circuit. When a Band Enable button is dark gray, the band is bypassed and available for activation. On the 2–4 Band EQ, when a Band Enable button is light gray, the band is bypassed and unavailable.

Band Gain Control

Each Peak and Shelf EQ band has a Gain control for boosting or cutting the corresponding frequencies. Gain controls are not used on High-Pass filters, Low-Pass filters, or Notch filters.

Frequency Control

Each EQ band has a Frequency control that sets the center frequency (Peak, Shelf and Notch Filters) or the cutoff frequency (High-Pass and Low-Pass Filters) for that band.

Q Control

Peak and Notch On Peak and Notch bands, the Q control changes the width of the EQ band. Higher Q values represent narrower bandwidths. Lower Q values represent wider bandwidths.

Shelf On Shelf bands, the Q control changes the Q of the shelving filter. Higher Q values represent steeper shelving curves. Lower Q values represent broader shelving curves.

High-Pass and Low-Pass On High-Pass and Low-Pass bands, the Q control lets you select from any of the following Slope values: 6 dB, 12 dB, 18 dB, or 24 dB per octave.

Frequency Graph Display

7 Band and 2–4 Band EQ

The Frequency Graph display in the 7 Band EQ and the 2–4 Band EQ shows a color-coded control dot that corresponds to the color of the Gain control for each band. The filter shape of each band is similarly color-coded. The white frequency response curve shows the contribution of each of the enabled filters to the overall EQ curve.
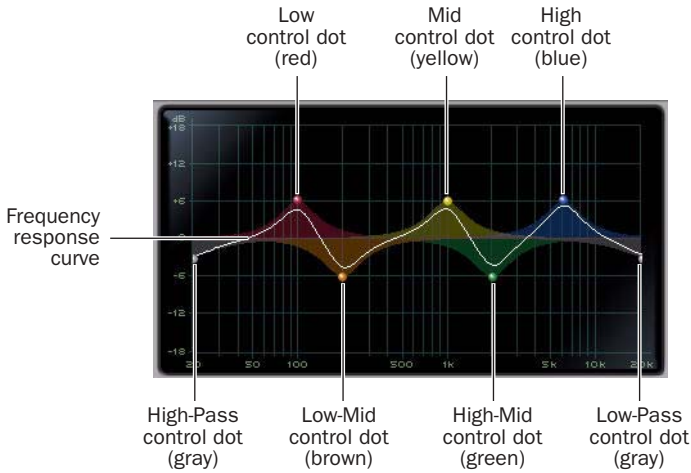
Frequency Graph display for the 7 Band EQ

1 Band EQ

The Frequency Graph display in the 1 Band EQ shows a control dot that indicates the center frequency (Peak, Shelf and Notch Filters) or the cutoff frequency (High-Pass and Low-Pass filters) for the currently selected filter type.
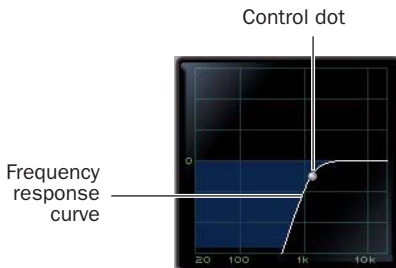
Frequency Graph display for the 1 Band EQ

7 Band EQ
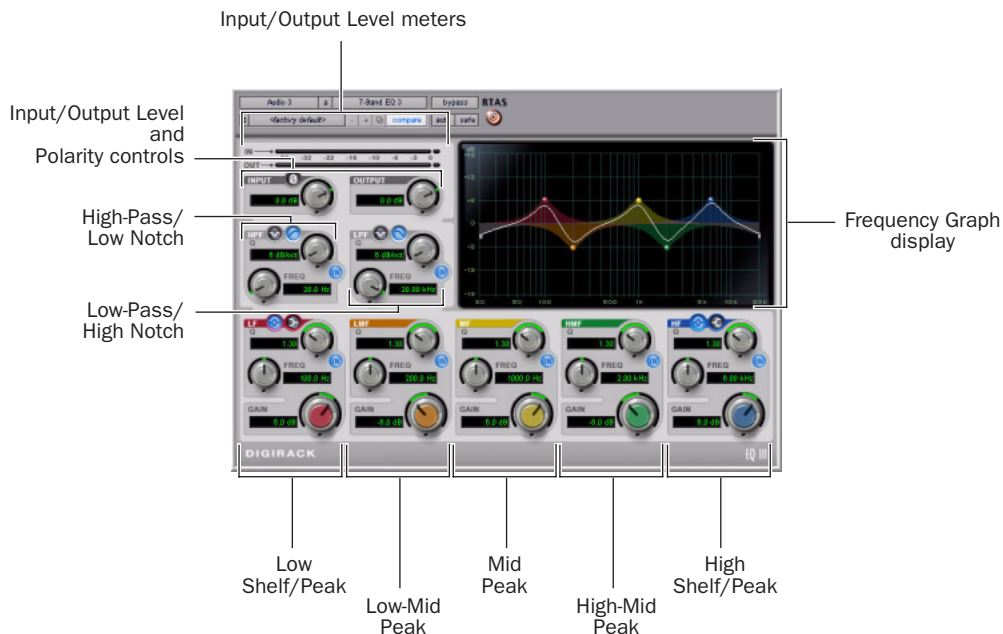
7 Band EQ and 2–4 Band EQ window

The 7 Band EQ has the following available bands: High-Pass/Low Notch, Low-Pass/High Notch, Low Shelf/Low Peak, Low-Mid Peak, Mid Peak, High-Mid Peak, and High Shelf/High Peak.

All seven bands are available for simultaneous use. In the factory default setting, the High-Pass/Low Notch and Low-Pass/High Notch bands are out of circuit, the Low Shelf and High Shelf bands are selected and in circuit, and the Low-Mid Peak, Mid Peak, High-Mid Peak bands are in circuit.

High-Pass/Low Notch

The High-Pass/Low Notch band is switchable between High-Pass Filter and Notch Filter functions. In the factory default setting, this band is set to High-Pass Filter.

High-Pass Filter Attenuates all frequencies below the Frequency setting at the selected slope while letting all frequencies above pass through.

**Low-Notch Filter** Attenuates a narrow band of frequencies centered around the Frequency setting. The width of the attenuated band is determined by the Q setting.

Low-Pass/High Notch

The Low-Pass/High Notch band is switchable between Low-Pass Filter and Notch Filter functions. In the factory default setting, this band is set to Low-Pass Filter.

Low-Pass Filter Attenuates all frequencies above the Frequency setting at the selected slope while letting all frequencies below pass through.

High-Notch Filter Attenuates a narrow band of frequencies centered around the Frequency setting. The width of the attenuated band is determined by the Q setting.
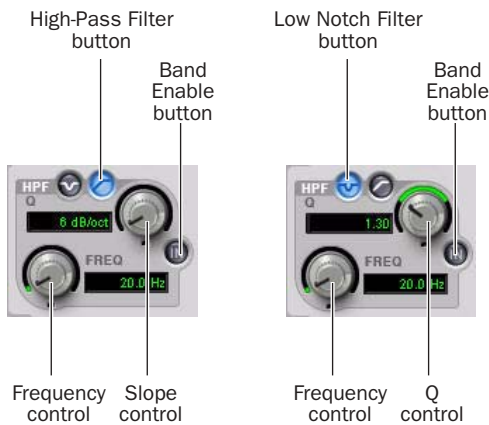
High-Pass Filter (left) and Low Notch Filter (right)

The High Pass and Low Notch controls and their corresponding graph elements are displayed on-screen in gray.

High-Pass Filter and Low Notch Filter control values

Control	Value
Frequency Range	20 Hz to 8 kHz
Frequency Default	20 Hz
HPF Slope Values	6, 12, 18, or 24 dB/oct
Low Notch Q Range	0.1 to 10.0
Low Notch Q Default	1.0

Low-Pass Filter (left) and High Notch Filter (right)

The Low Pass and High Notch controls and their corresponding graph elements are displayed on-screen in gray.

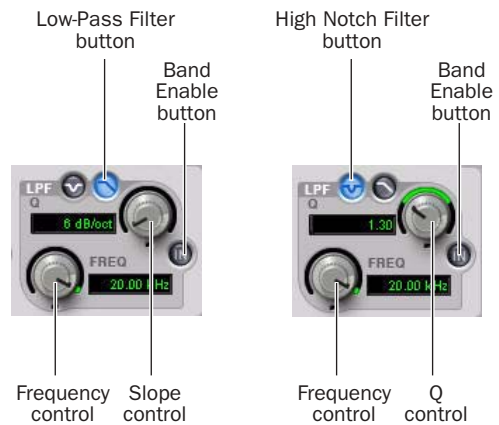*Low-Pass Filter and High Notch Filter control values*

Control	Value
Frequency Range	120 Hz to 20 kHz
Frequency Default	20 kHz
LPF Slope Values	6, 12, 18, or 24 dB/oct
High Notch Q Range	0.1 to 10.0
High Notch Q Default	1.0

Low Shelf/Low Peak

The Low Shelf/Low Peak band is switchable between Low Shelf EQ and Low Peak EQ functions. By default, this band is set to Low Shelf.

Low-Shelf EQ Boosts or cuts frequencies at and below the Frequency setting. The amount of boost or cut is determined by the Gain setting. The Q setting determines the shape of the shelving curve.

Low Peak EQ Boosts or cuts a band of frequencies centered around the Frequency setting. The width of the affected band is determined by the Q setting.

The Low Shelf and Low Peak Gain controls and their corresponding graph elements are displayed on-screen in red.

Low Shelf EQ and Low Peak EQ control values

Control	Value
Frequency Range	20 Hz to 500 Hz
Frequency Default	100 Hz
Low Shelf Q Range	0.1 to 2.0
Low Peak Q Range	0.1 to 10.0
Q Default	1.0
Low Shelf Gain Range	–12 dB to +12 dB
Low Peak Gain Range	–18 dB to +18 dB
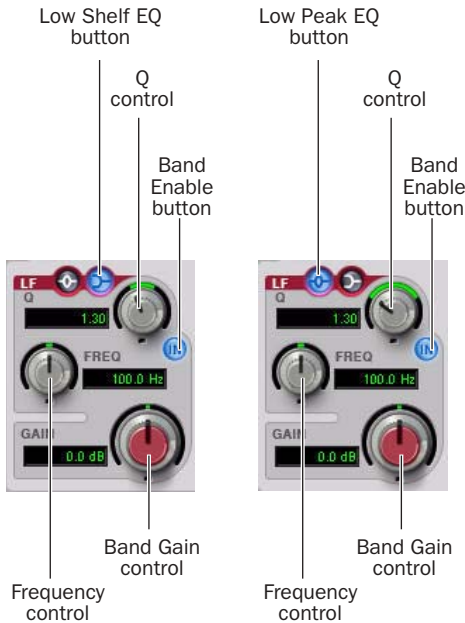
Low Shelf EQ (left) and Low Peak EQ (right)

Low-Mid Peak

The Low-Mid Peak band boosts or cuts frequencies centered around the Frequency setting. The width of the band is determined by the Q setting.
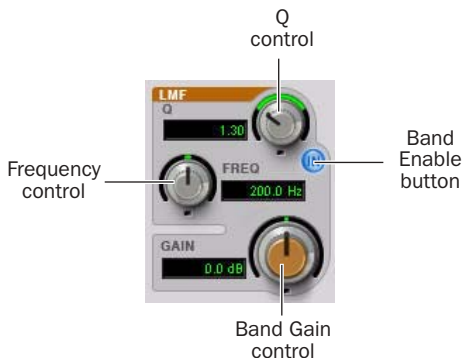
Low-Mid Peak EQ

The Low-Mid Gain control and its corresponding graph elements are displayed on-screen in brown.

Low-Mid Peak EQ control values

Control	Value
Frequency Range	40 Hz to 1 kHz
Frequency Default	200 Hz
Low-Mid Peak Q Range	0.1 to 10.0
Low-Mid Peak Q Default	1.0
Low-Mid Peak Gain Range	−18 dB to +18 dB

Mid Peak

The Mid Peak band boosts or cuts frequencies centered around the Frequency setting. The width of the band is determined by the Q setting.

Mid Peak EQ

The Mid Gain control and its corresponding graph elements are displayed on-screen in yellow.

Mid Peak EQ control values

Control	Value
Frequency Range	125 Hz to 8 kHz
Frequency Default	1 kHz
Mid Peak Q Range	0.1 to 10.0
Mid Peak Q Default	1.0
Mid Peak Gain Range	−18 dB to +18 dB

High-Mid Peak

The High-Mid Peak band boosts or cuts frequencies centered around the Frequency setting. The width of the band is determined by the Q setting.
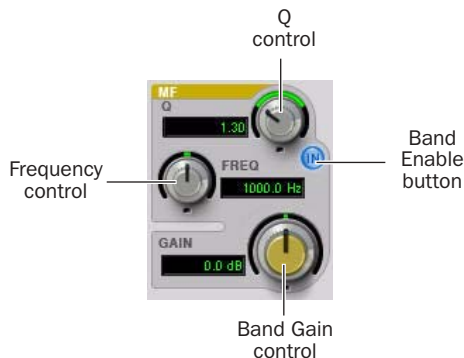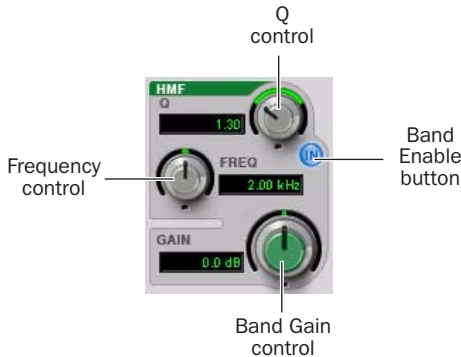

High-Mid Peak EQ

The High-Mid Gain control and its corresponding graph elements are displayed on-screen in green.

High-Mid Peak EQ control values

Control	Value
Frequency Range	200 Hz to 18 kHz
Frequency Default	2 kHz
Mid Peak Q Range	0.1 to 10.0
Mid Peak Q Default	1.0
Mid Peak Gain Range	–18 dB to +18 dB

High Shelf/High Peak

The High Shelf/High Peak band is switchable between High Shelf EQ and High Peak EQ functions. By default, this band is set to High Shelf.

High-Shelf EQ Boosts or cuts frequencies at and above the Frequency setting. The amount of boost or cut is determined by the Gain setting. The Q setting determines the shape of the shelving curve.

High Peak EQ Boosts or cuts a band of frequencies centered around the Frequency setting. The width of the affected band is determined by the Q setting.
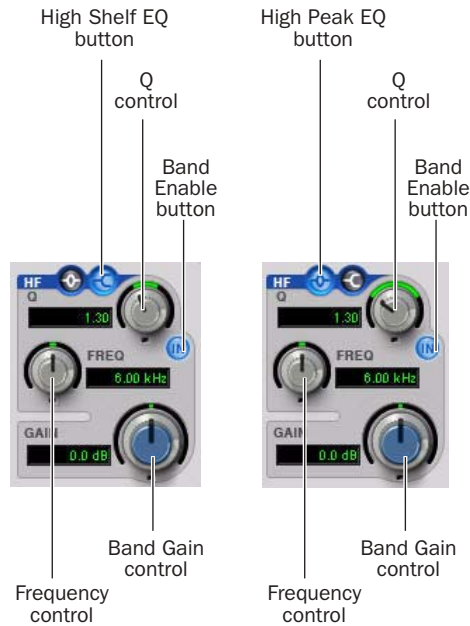
High Shelf EQ (left) and High Peak EQ (right)

The High Shelf and High Peak Gain controls and their corresponding graph elements are displayed on-screen in blue.

High Shelf EQ and High Peak EQ control values

Control	Value
Frequency Range	1.8 kHz to 20 kHz
Frequency Default	6 kHz
High Shelf Q Range	0.1 to 2.0
High Peak Q Range	0.1 to 10.0
Q Default	1.0
High Shelf Gain Range	−12 dB to +12 dB
High Peak Gain Range	−18 dB to +18 dB

2–4 Band EQ

The 2–4 Band EQ uses the same plug-in window as the 7 Band EQ, but on the 2–4 Band EQ, but a limited number of the seven available bands can be active at the same time.

In the factory default setting, the High-Pass/Low Notch, Low-Pass/High Notch and Mid Peak bands are out of circuit, the Low Shelf and High Shelf bands are selected and in circuit, and the Low-Mid Peak and High-Mid Peak bands are in circuit.

💡 *Using a 2–4 Band EQ instead of a 7 Band EQ saves DSP resources on TDM systems.*

Changing from 2–4 Band to 7 Band

After switching from a 2–4 band EQ to a 7 Band EQ, or importing settings from a 2–4 Band EQ, all control settings from the 2–4 Band EQ are preserved, and the bands in the 7 Band EQ inherit their enabled or bypassed state from the 2–4 Band plug-in.

Additional EQ bands can then be enabled to add them to the settings inherited from the 2–4 Band plug-in.

Filter Usage with 2–4 Band EQs

With a 2–4 Band EQ, a maximum of four filters may be active simultaneously, with each of the five Peak bands (Low Shelf/Peak, Low-Mid Peak, Mid-Peak, High-Mid Peak and High Shelf/Peak) counting as one filter. Each of the Band-pass and Notch filters (High-Pass, Low Notch, Low-Pass and High-Notch) counts as *two* filters.

When any combination of these filter types uses the four-filter maximum on the 2–4 Band EQ, the remaining bands become unavailable. This is indicated by the Band Enable buttons turning light gray. When filters become available again, the Band Enable button on inactive bands turns dark gray.

Switching Between the 2–4 Band EQ and 7 Band EQ

When you switch an existing EQ III plug-in between the 2–4 Band and 7 Band versions, or when you import settings between versions, the change is subject to the following conditions:

Changing from 7 Band to 2–4 Band

After switching from a 7 band EQ to a 2–4 Band EQ, or importing settings from a 7 Band EQ, all control settings from the 7 Band EQ are preserved in the 2–4 Band EQ, but *all* bands are placed in a bypassed state.

Bands can then be enabled manually, up to the 2–4 Band EQ four-filter limit.

1 Band EQ

Input Level and
Polarity controls

Frequency Graph
display

EQ Type
selector

Gain, Freq and
Q controls
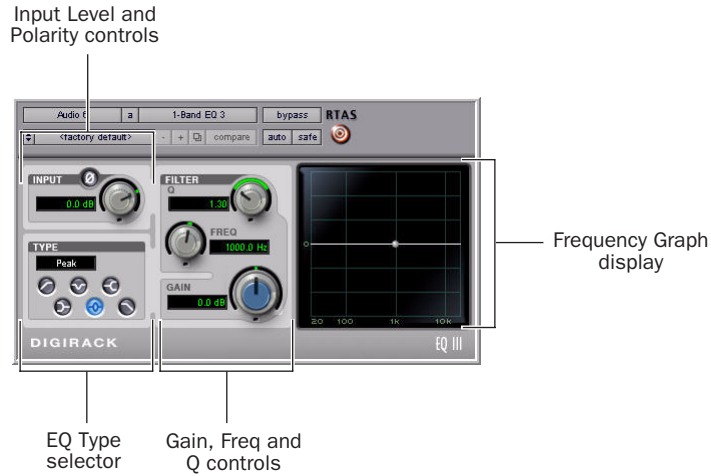
1 Band EQ window

The 1 Band EQ may be set to any one of six filter types: High-Pass, Notch, High-Shelf, Low-Shelf, Peak, and Low-Pass, by clicking the corresponding icon in the EQ Type selector.

Band Controls

The individual EQ types have some combination of the following controls, as noted below.

1 Band EQ control values

| Control	Value
Frequency Range (All)	20 Hz to 20 kHz
Frequency Default (All)	1 kHz
Q Range (Low/High Shelf)	0.1 to 2.0
Q Range (Peak/Notch)	0.1 to 10.0
Q Default (All)	1.0
Gain Range (Low/High Shelf)	–12 dB to +12 dB
High Peak Gain Range	–18 dB to +18 dB

EQ Types

High-Pass Filter

The High-Pass filter attenuates all frequencies below the Frequency setting at the selected rate (6 dB, 12 dB, 18 dB, or 24 dB per octave) while letting all frequencies above pass through. No gain control is available for this filter type.

1 Band EQ set to High-Pass Filter

Notch Filter

The Notch Filter attenuates a narrow band of frequencies centered around the Frequency setting. No gain control is available for this EQ type. The width of the attenuated band is determined by the Q setting.
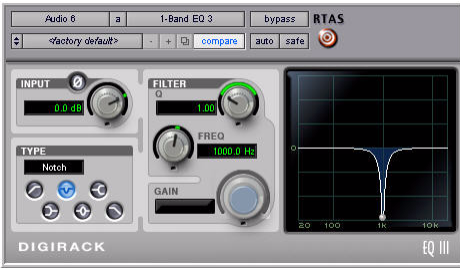
1 Band EQ set to Notch Filter

High-Shelf EQ

The High-Shelf EQ boosts or cuts frequencies at and above the Frequency setting. The amount of boost or cut is determined by the Gain setting. The Q setting determines the shape of the shelving curve.

1 Band EQ set to High-Shelf EQ

Low-Shelf EQ

The Low-Shelf EQ boosts or cuts frequencies at and below the Frequency setting. The amount of boost or cut is determined by the Gain setting. The Q setting determines the shape of the shelving curve.

1 Band EQ set to Low-Shelf EQ

Peak EQ

The Peak EQ boosts or cuts a band of frequencies centered around the Frequency setting. The width of the affected band is determined by the Q setting.

1 Band EQ set to Peak EQ

Low-Pass Filter

The Low-Pass filter attenuates all frequencies above the cutoff frequency setting at the selected rate (6 dB, 12 dB, 18 dB, or 24 dB per octave) while letting all frequencies below pass through. No gain control is available for this filter type.

1 Band EQ set to Low-Pass Filter

Automating EQ III Controls

All EQ III plug-in controls can be automated in Pro Tools.

To automate a control directly from the plug-in window:

■ Control-Alt-Start-click (Windows) or Command-Option-Control-click (Macintosh) the control, and choose Enable Automation.

Enabling automation for a control

To automate multiple controls:

■ Control-Alt-Start-click (Windows) or Command-Option-Control-click (Macintosh) the control, choose Open Plug-In Automation Dialog, and choose the controls you want to automate.

The automation-enabled status of EQ III plug-in controls is indicated by the colored LED beneath each on-screen knob and colored outlines around each on-screen button.

Automation-enabled buttons

Automation-enabled knobs

Automation-enabled controls

Even if an EQ III band is bypassed, for example, when the filter capacity of a 2–4 Band EQ is surpassed, its controls are still available for automation. This lets you continue to update settings in a session in preparation for the next time the bypassed band is enabled.

📄 *For complete instructions on automating plug-ins in Pro Tools, see the Pro Tools Reference Guide.*

DSP Requirements for TDM Plug-Ins

The number of EQ III TDM plug-ins you can use at one time depends on how much DSP power is available in your system. Since the TDM hardware on Pro Tools cards provides dedicated DSP for real-time TDM plug-ins, plug-in performance is not limited by CPU processing power.

The DSP tables on the following pages show the total number of instances of EQ III that can be powered by a single DSP chip on Pro Tools|HD-series cards.

⚠ *The table shows theoretical maximum performance when no other plug-ins are sharing available DSP resources. You will typically use more than one type of plug-in simultaneously.*

The EQ III plug-in operates as a multi-mono plug-in only. Plug-ins used in multi-mono format on greater-than-stereo tracks require one mono instance per channel of the multi-channel audio format. For example, a multi-mono plug-in used on a 5.1 format track requires six mono instances because there are six audio channels in the 5.1 format.

Monitoring DSP Usage

The System Usage window (Windows > Show System Usage) shows how much DSP is available in your system and how it is being used in the current Pro Tools session.

📄 *For more information about DSP usage and allocation, see the Pro Tools Reference Guide.*

EQ III DSP Requirements

The following tables show the maximum number of instances of the EQ III plug-in that can be powered by a single DSP chip on an HD Accel card and HD Core or HD Process cards. EQ III plug-ins used on multi-channel tracks require one mono instance per channel. An EQ III plug-in used on a 5.1 format track, for example, requires six mono instances because there are six audio channels in the 5.1 format.

Table 1.   Maximum instances of EQ III plug-in per DSP chip for an HD Accel card at different sample rates

EQ III	44.1/48 kHz			88.2/96 kHz			176.4/192 kHz			DSP chips per HD Accel card
EQ Type	1-Band	2–4 Band	7 Band	1-Band	2–4 Band	7 Band	1-Band	2–4 Band	7 Band	#
Mono	57	30	18	26	14	8	11	6	3	9

Table 2.   Maximum instances of EQ III plug-in per DSP chip for an HD Core/Process card at different sample rates

EQ III	44.1/48 kHz			88.2/96 kHz			176.4/192 kHz			DSP chips per HD Core or HD Process card
EQ Type	1-Band	2–4 Band	7 Band	1-Band	2–4 Band	7 Band	1-Band	2–4 Band	7 Band	#
Mono	24	12	8	10	5	3	3	2	1	9

appendix b

DSP Delays Incurred by TDM Plug-Ins

Virtually all TDM plug-ins incur some amount of signal delay.

If you are working with mono tracks, or are processing all channels with the same plug-in, the signal delays are not long enough to be significant and should not be a concern.

This signal delay is significant only if you use a plug-in on one channel of a stereo or multi-channel signal but not the others, since this can cause the channels to be slightly out of phase.

Table 3 on page 22 shows the delays inherent in the EQ III plug-in.

Channel Delay Indicator

The Channel Delay Indicator in the Mix window displays the total delay, in samples, incurred on the track from the use of any TDM plug-in on that channel.

To see the amount of time delay on a track that uses plug-in inserts.

■ In the Mix window, Control-click (Windows) or Command-click (Macintosh) the track's Volume Indicator to toggle between Volume ("vol"), Peak ("pk") and Channel Delay ("dly") indications.

Compensating For Delays

Automatic Delay Compensation Pro Tools TDM systems provide automatic Delay Compensation to compensate for signal processing delays. For details, see the *Pro Tools Reference Guide*.

Manual Delay Compensation If it becomes necessary to manually compensate for plug-in delay, use the TimeAdjuster plug-in included with Pro Tools to offset other tracks, as appropriate. See the *DigiRack Plug-Ins Guide* or the *Pro Tools Reference Guide* for more information on Time-Adjuster.

EQ III DSP Delay

Table 3.   Samples of delay incurred by EQ III

Plug-In	Samples of delay on HD Core or HD Process cards	Samples of delay on HD Accel cards
EQ III	4	4