Chapter 7

The Real-Time Effects

Audicy Effects Engine: Introduction

Audicy's internal real-time effects run on an Orban 24-bit multi-processor card with advanced dither and noise shaping. It provides the extra computing power needed for high quality effects such as echo and compression, and this power will let us add even more effects in future software updates.

The card provides eight simultaneous effects processors[1]... the equivalent power of a rack full of high-quality studio devices. Each processor supports a channel of equalization or compression; channels can be linked with common controls for stereo pairs.

When we talk about quality effects, we're not kidding:

Our equalizer and compressor design team were headed by Bob Orban, a pioneer in bringing parametric equalization to recording studios[2].

The Compressor uses Orban's patented compression algorithms, renowned in our Digital OPTIMOD processors, and now included in Audicy specially adapted for production work.

The Lexicon Reverbs were fine-tuned for us by engineers from Lexicon, the most respected name in digital reverberation (and our sister company in the Harman International family).

Even though our effects use the latest digital technology, they're designed for simple operation. You can quickly apply presets designed for production, or fine-tune the settings while you listen to them — just like traditional analog effects.

This processing power also speeds up non-real-time effects such as Time-Fit and processes mixes at 32-bits for additional headroom and freedom from noise.

This chapter is in three parts:

- A detailed explanation of the Effects System;

- Some general tips on working with effects;

- A description of each effect, with some pointers for using it.

If you're in a hurry to start using effects, you can skip the first ten pages or so and go directly to part two. But come back to part one when you can: It has valuable information that'll help you use the effects better.

---

[1]16 more can be added with an optional FX Turbo Rack plug-in card, for a total of 24 simultaneous effects processors.
[2]And, of course, our company's founder.

The Effects System

Audicy's effects systems is designed to mimic rack-mounted effects and a recording console in a full studio. To add an effect to a sound, you have to:

   A) Patch it into the signal flow;

   B) Turn on the specific effects "box";

   C) Tune it for the sound you want.

Insert Patchpoints: Track, Submix and Output

There are three different ways you can patch an effect: into an individual channel, across the stereo submix bus, or across Audicy's main outputs.
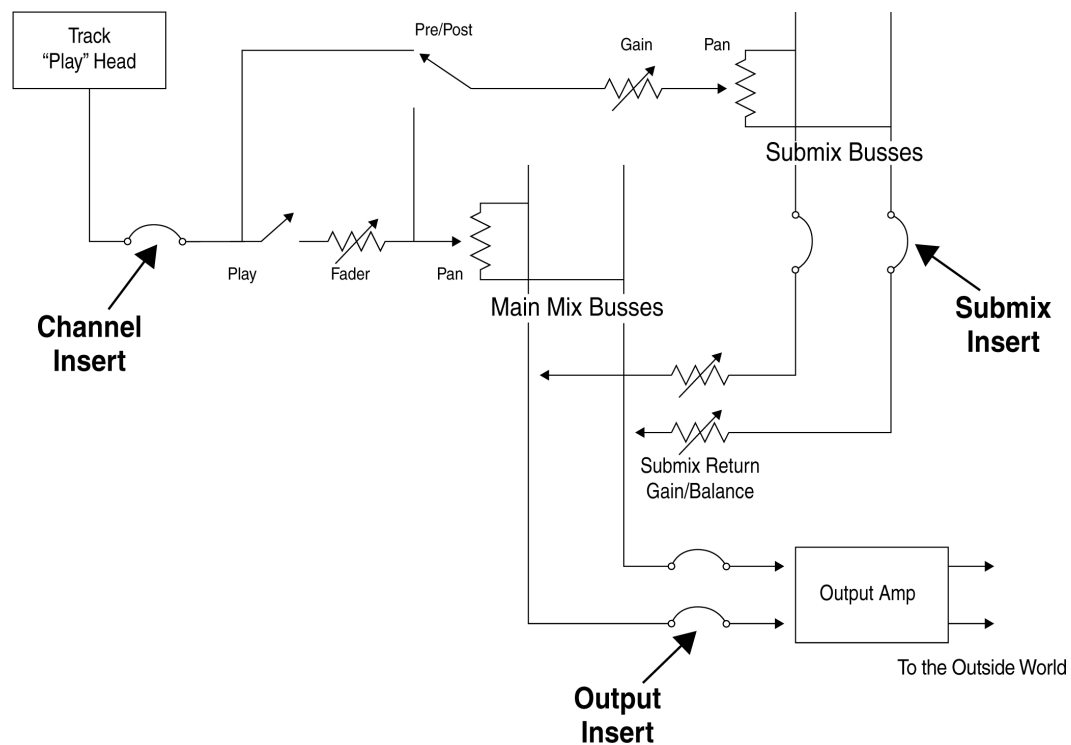

Figure 7-1 Insert Points

Channel Inserts

You can patch an effect into an individual (mono) channel's "insert point," or link 2 channels together as a stereo pair to apply an effect to both at once. These insert points are between the "playback head" and the Console's fader or *Play* button.

To insert an effect this way, press the channel's effects *Select* button. If you want to use a stereo pair, just press the button for one of the channels; you'll be able to link them from the Effects Patch Bay. Once you've done this, you have to turn on the effect you want. See the next section.

Submix Insert

You can set up an effects submix, sending different amounts of each track to a separate stereo mixing bus. This mix gets added back into the main mix, with any effect you've inserted, via the *Submix Return* fader. For more information on this submix, see Chapter 6.

This routing is usually used for reverb, but there's no reason you can't use it for special effects — for example, leaving an original sound on its own faders while you fade to a filtered or compressed version on the Submix *Return* fader[3].

To insert an effect into the submix, press the submix's effects *Select* button. Once you've done this, you have to turn on the effect you want. See the next section.

Output Insert

The *Output* insert lets you apply effects to Audicy's overall output. This is usually used for compression or gentle equalization, but any kind of effect can be patched here. Like the Submix Insert, the Output Insert is a stereo insert point.

If you run a signal through the inputs while you patch an effect into the output, Audicy functions as a stand-alone effects device[4]. This can be useful for compressing or equalizing tapes while dubbing them to cart, without recording in to Audicy.

You can also insert an effect to the output while you're recording a signal, to preview its effect without committing to it. This way, talent can hear an echo in their headphones while you record a clean signal on the track.

To apply an effect to the output, press the *Output* effects *Select* button on the upper left corner of the Console. Once you've done this, you have to turn on the effect you want.

"Turning On" an Effect

After you press one of the effects *Select* buttons, the Effects Patch Bay appears. In the middle of the panel is a field where you can select which kind of effect you want, essentially turning it on for that insert point.

You can also open the Effects Patch Bay by pressing *Enter* on the Patchbay:Efx Patch menu choice.

If you opened the panel by pressing a *Select* button, that button will flash and its insert point will be highlighted on the top. Any time the panel is open, you can change insert points by pressing a different *Select* button. If you press the flashing *Select* button — that is, the one that's currently active — the current effect is installed and the Patch Bay closes.

---

[3]Running a sound through an effects patch takes a few milliseconds, so you might hear some interesting comb-filter sounds.

[4]Albeit a very large one.

When the Patch Bay opens, any previously-installed effects will be shown in green letters. Audicy saves your effect settings with the production, so you might see effects you installed in a previous session.

Use the *left* and *right* arrow buttons to select an effect for the highlighted insert point:

- Equalizer is an Orban Parametric, including two fully-tunable midband sections, high and low shelving and a master gain control.

- Compressor is a single-channel OPTIMOD dynamics control, including limiting, upward compression for weak signals, variable knee, and a gate-hold function to prevent pumping.

- Lexicon Large and Lexicon Small are two styles of world-class Lexicon reverberation, optimized for large and small spaces, with complete control over critical parameters.

- Mini-Verb is a good-quality general purpose reverb. It uses less processing power than the Lexicon reverbs.

- +12dB Gain[5] is a quick booster for low-level tracks.

When you see an effect you want, press *Enter* to install it at the patch point. The effect will be installed with a neutral setting: generic echo or compression, or a flat equalizer. If you're happy with that setting, you can press *Esc* or the flashing *Select* button for the channel you've just installed. But you'll probably want to tune the sound of that effect, as described on the next page.

If you change your mind and don't want to apply an effect, press a different *Select* button move to another patch point. Or press *Esc* to leave the Effects Patch Bay screen.

Applying A Stereo Effect

Link and Unlink also appear as choices in the channel Effects Select field, though they're not effects.

If you want to apply a stereo effect, first use the *left* or *right* arrow buttons to select Link and press *Enter*. Then select the effect you want and press Enter again. Identical processing will be applied to both tracks in the pair. Linking can only take place between adjacent odd/even channels, such as 1+2 or 3+4.

Once a pair of channels are linked, the link command changes to Unlink. *Enter* this to break the pair apart.

Link does not influence how tracks are panned in the mixer, so you can also link mono tracks for special effects such as ducking with a compressor.

---

[5]This boost is available at track patch points only, although you can also use the EQ master gain to boost levels for all patch points.

Removing An Effect

To remove an effect, open the Effects Patch Bay (either press the channel's *Select* button, or *Enter* Patchbay:Efx Patch). Then use the *left* or *right* arrows to find "-xxx-" in the Effects Select field, and *Enter*. Now you can leave the Patch Bay by pressing *Esc* or the flashing *Select* button for the channel you just changed.

If you've just installed an effect and haven't left that channel or the Effects Patch Bay, pressing *Undo* will remove the effect. It will also reinstall any effect that was previously installed on that channel.

Processor Resources

While Audicy doesn't have a rack of physical effect units, it does have a finite amount of DSP [Digital Signal Processing] hardware. The software splits it up as General and Echo Processors, and allocates it to the effects you've chosen. All effects use General Processors. Time-domain effects (such as reverberation) also need Echo Processors, which contain extra audio memory. The only exception is +12 dB Gain, which doesn't use any DSP at all, but does occupy the patch point.

As you select effects, a panel on the right side of the Effects Patch Bay indicates how many processors are being used and how many are available[6].

A few rules can help you keep track of processor resources:

- A single General processor is equivalent to one mono effect.

- Linked tracks require two processors, since they're in stereo. So do effects patched into Audicy's internal submix or across the main output channels, since these are stereo busses.

- Reverberation is a stereo effect, even if you patch it onto a single channel[7]. Reverbs require at least two General Processors and two Echo Processors.

- Lexicon Reverberation uses a lot of processing to achieve its world-class sound. The Lexicon Small and Lexicon Large reverbs each require three General and three Echo processors.

When you remove an effect, its processors become available to use for other effects.

Tuning The Sound Of An Effect
Audicy lets you apply preset tunings to each effect, customize the presets, or start from scratch and design a custom tuning.

---

[6]The total number of processors depends on your hardware. A standard Audicy has 8 general and 4 echo processors; the optional FX Turbo Rack triples those numbers.
[7]Putting a reverb on a single channel can be a waste of sound. The effect has a stereo output — after all, what's the point of a one-dimensional echo? — but only one side of it will have a path back into the mix.

Using Presets

As soon as you assign an effect to a patch point, an appropriate Preset Selection Panel appears[8]. The presets are designed for broadcast production (such as Soundbite Fix, Telephone, or Stutter Chorus) and the panel is slightly different for each class of effect.

Use the *left* and *right* arrow buttons to cycle through the presets that come with each effect.

- If you've already installed a preset at an effect and patch point, its name will be in green letters. Uninstalled presets appear in gray letters.

- Whenever a preset's name is showing, you can preview sound through it by playing audio on that channel. The preset doesn't have to be installed for the preview.

- All of the transport and mixer controls are operational, so you can try the effect in different places in your production or mixed with other tracks.

- There's a different set of presets for each class of effects[9].

- While the presets are designed for production, they may also be useful for music mixing.

- The Custom choice is available in each list of presets. It's a generalized setting — for example, a totally flat equalizer — you can use to build your own effects.

If you like the sound of a preset, press *Enter* to install it. This will also take you back to the *Effects Patch Bay*. From there you use the *Select* buttons to save your current selection, or to save and install a different effect on another patch point, or use *Esc* to return to the Editor or Mixer screen, whichever was last in use.

If you change your mind and don't want to modify what's already installed on the patch point, just press *Esc* while you're in the Preset Selection Panel.

You can also use the presets as a starting point for customizing your own version. Press the *down* arrow button while any preset is showing, to enter the Knob Panel.

Shift+Mute, which normally bypasses or mutes all effects, will bypass just the patch you're working on when you're in the Preset Selector or Knob panels. *Shift+A/B* also mutes the current patch.

---

[8]Except for the +12dB Gain effect, which doesn't have any controls.
[9]So if you don't find an echo you like in Lexicon Small, try looking in Lexicon Large or Mini-Verb.
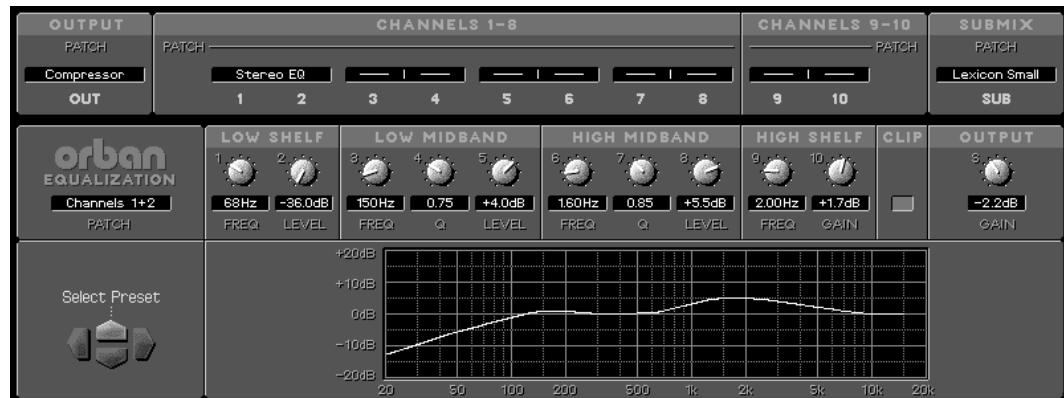
Knob Level Adjustments

Figure 7-2: A Typical Knob Panel

This is where you can make adjustments using the same kind of controls you'd see on a top-quality rack-mounted unit. There's a different knob panel for each class of effect, but they all have characteristics in common.

When a Knob Panel is showing, the *Parameter Controls* are used to move the knobs. Channel panning or the effects sends, normally controlled by the knobs, stay at the level you last set for them. The channel faders, transport and locate controls are active, so you can preview the effect in an actual mix.

There can be up to eleven knobs on each panel, corresponding to the eleven *Parameter Controls*. The knobs are labeled to show their function, and include a numeric readout so you can repeat a setting. A small number (1 - 10) or letter (S, for *Submix Return*) above the left side of each on-screen knob indicates which physical *Parameter Control* knob it's linked to. Placement of knobs is consistent from panel to panel, so after a while you'll be able to glance at where a knob is and automatically reach for the right control.

When you move a Parameter Control, you'll see the on-screen knob move and also hear the effect change in real time — provided, of course, you're playing audio through that patch. Loop play (*Audit+Play*), discussed in Chapter 4, makes it easy to repeat a critical section while adjusting an effect by ear, in real time.

Audicy's computers have to work very hard to modify the sound of an effect in real time. For this reason, there can be a noticeable lag in the on-screen knobs if you try to adjust several at the same time.

When the Knob Panel first appears, the knobs match the preset or any previously-installed settings.

Alternate Knob Values (**FX-B**)

You can have two sets of knob values and press *A/B* to switch between them. The first time you do this, the current settings are loaded into the Alternate Set. Then you can change the values in the Alternate Set, and press *A/B* again to compare its

sound with the original. When the alternate settings are active, the words FX-B appear in the third window on the right of the Status Bar.

This feature simplifies fine-tuning a factory preset. Press *down* from the preset panel, and immediately clone its settings into an alternate set. Adjust the alternate version and you can still compare it with the original.

Saving Your Changes

When you're happy with the knob settings, press *Enter* or the flashing Effects *Select* button to lock them into the effect. If Alternate Values are currently active, those settings will be used. The Knob Panel will disappear, and you'll be back at the Effects Patch Panel.

If you change your mind and don't want to change the knobs at all, press *Esc*. (You can do the same thing by pressing *Undo* and then *Enter*.) This will also take you back to the Effects Patch Panel.

Undo, which normally restores the last audio changed, removes recent knob changes while you're in the Knob Panel. The knobs snap back to the values they had when you entered the panel, and your changes are lost.

Dynamic Effects

You can change settings while bouncing a sound to another track for special effects. (Try sweeping a high-Q parametric, or changing an echo as a character moves around.) Remember that you can't *Undo* the bounce while you're looking at a knob panel: pressing *Undo* when the panel is open resets your knob changes.

Some knob panels have expert-user knobs hidden "underneath" them. Use *Page Up* and *Page Down* to find these knobs — there are dozens of individual adjustments in the Lexicon Reverbs!

You can learn a lot about how to use these knobs by choosing a preset you like, and then pressing *down* to see how our production experts created it.

Depending on the effect, a panel might have an overload warning or other indicators.

Out Of Range Warning

Audicy lets you know if you choose a combination of knob settings that don't make sense. (For example, this can happen if a parametric's frequency is set very high while the bandwidth is very wide: You'd be trying to equalize something only dogs could hear.)

When you turn a knob far enough to create this kind of conflict, its numeric value turns yellow and the Message Window warns you that Some knobs might be out of range. You should bring the knob back to a legal setting — or adjust some of the other knobs so the combination isn't so ridiculous. You can use the effect with out-of-range parameters, but may get unpredictable errors in the sound.

Muting or Bypassing FX

While the Effects Patch Bay is closed, press *Shift+Output Mute* or *Shift+A/B* (or *Enter* the Patchbay:Efx Mute submenu choice) to temporarily turn all the effects off. The effects will stay off until you repeat the button combination, or you press a channel's *Select* button to open the Effects Patch Bay.

To mute or bypass a single effect, press *Shift+Output Mute* while the effect is highlighted in the Effects Patch Bay.

Finishing Your Effects Setup

When you have effects patched and fine-tuned the way you want them, press *Esc* or the currently-active Effects *Select* button to leave the Effects Patch Bay. This will take you back to either the Mixer screen or the Editor screen, depending on where you were when you entered the Patch Bay.

Saving A Setup

All the patches, effects, and custom settings are automatically saved with your production. When you reload the production, they're reinstalled.

You can also save the settings separately, and recall them any time during the production, by using the Patch Bay's Save Patch and Read Patch choices.

If you have a custom setup you want to use in a lot of different jobs, you can create a master production "template" to hold it:

A) Start a new production, naming it something like "Effects Master."

B) Record enough audio to test your effects, and then set up the effects and Patch Bay the way you want them.

C) Cut the audio, then do another Cut on the empty tracks. This clears the Undo memory.

D) Quit the production, and from the Job Controller make some copies of it.

When you want to use the effects settings, just open one of the copies. Since there's no audio saved, it'll load very quickly.

Working With Effects

How To Put An Equalizer Or Other Effect On A Channel

A) Press that channel's *Select* button to go to the Effects Patchbay.

B) Use the *left* or *right* arrow to choose a type of effect for that channel: Equalizer, OPTIMOD compressor, Reverb, or flat +12dB gain.

If you want an identical effect on both channels of a stereo pair, choose Link Tracks and press *Enter*. Then choose the type of effect.

C) Press the *down* arrow once to go to the preset selector, and then use the *left* or *right* arrow to choose an appropriate preset for the effect.

You can play tracks while you're selecting presets, to preview the preset.

D) If you're happy with the sound, press *Enter* to install the effect, or press the flashing *Select* button to save and exit the Patchbay.

If you want to fine-tune the effect's settings, press the *down* arrow from the preset selector to go to the Effects Knob Panel. You'll see a representation of a rack-mount effect, with a number over each effect knob. Turn the matching *Parameter Control* to adjust the effect.

You can play tracks while adjusting parameters to preview an effect's settings.

After you've fine-tuned an effect the way you want it, press *Enter* to apply those settings, or simply press the channel's *Select* button again to save settings and return to editing. You can also select a different channel to assign more effects by pressing one of the other channel *Select* buttons.

Using A Submix To Add Echo Or Reverb To Your Mix

You can patch reverb effects into any channel or stereo pair using the steps directly above. But if you want to add reverb or other effect to a lot of channels, use these steps:

A) Press the *Select* button over the *Submix* fader. This opens the Effects Patchbay, and gets you ready to assign an effect to the submix.

B) Use the *left* or *right* arrow to choose either the Orban Mini-Reverb or a Lexicon Large or Lexicon Small reverb.

C) Press the *down* arrow once to go to the preset display, and use the *left* arrow to choose a preset. If the preset name includes the word Wet, you can skip the next two steps. Just press *Enter* to install the effect, and press the *Submix Select* button to exit the Patchbay.

D) If the preset name doesn't include the word Wet, you'll have to change its mix. Press the *down* arrow again to go to the Effects Knob Panel. You'll see a representation of a rack-mount effect, with a number over each effect knob. Turn the first *Parameter Control* knob clockwise, increasing the percentage, until its label reads wet.

Note: You can also edit any other effect parameter at this time.

E) After you've fine-tuned the effect the way you want it, press *Enter* to apply the settings. Then press the *Submix Select* button to exit the Patchbay.

The above steps patched a reverb into Audicy's submix. Now you have to adjust how much reverb will be sent from each channel.

A) Press Mixer once or twice until you see the Extended Mixer screen.

B) Adjust the submix pan. (This step is optional, to take full advantage of Audicy's stereo effects processing.)

> Use the *Page Up* or *Page Down* buttons so that the Submix pan row is active; the word 'pan' will be in a green box. Adjust the *parameter controls* for any track that'll be getting reverb, so that the submix pan matches the channel's main pan.

C) Use the *Page Up* or *Page Down* buttons so that the Submix gain row is active; the word 'gain' will be in a green box.

D) Adjust the *Parameter Control* for each channel that should get reverb.

> Use the knobs to adjust how much of each channel's signal is sent to the submix.

> After you've done this, you may exit the Extended Mixer at any time by pressing *Editor*. The knobs will control the submix gain until you go back to the Mixer and assign them to something else.

E) On the Console, turn on the *Submix Return Play* button and raise its fader.

> With this setup, the *Parameter Control* knobs set how much of each channel is sent to the "submix" bus. The bus is routed to the effect, and the effect's output is added or returned to your main mix through the *Submix* fader.

In general, you'll get the best result by sending relatively loud signals to the effect — that is, by turning the *Parameter Control* knobs clockwise — and then lowering the *Submix* fader until the reverb is in the right proportion to the main signal.

[!]   What's the difference between Orban and Lexicon reverbs?

The Lexicon effects are high-quality verbs and delays, appropriate for music CDs and the highest quality studio productions. But they use a lot of computer power, and may limit how many other effects you can assign to other channels.

The Orban mini-verb effects are totally appropriate for broadcast production but are more efficient, so more computer power is left over to assign to other effects.

Using External Effects

Audicy lets you use existing analog or digital effects devices on any track or combination of tracks. Obviously we can't control the sound quality of external processors, but while its signal is inside Audicy we treat it with the same 24-bit accuracy.

A) Connect Audicy's Aux Outputs to the external device's inputs, and the device's outputs to Audicy Inputs.

B) Press *Mixer* once or twice to open the Extended Mixer screen.

C) Use *Page Up* or *Page Down* to select Aux Send gain; so that the word 'gain', under Aux Send, appears in a green box.

D) Adjust the signal being sent to the external device by using each channel's *Parameter Control*.

E) The auxiliary mix can be switched between pre- and post-fader modes. Select Pre/Post next to Mixer:Aux Gain and press *Enter*. For more details, see Chapter 6.

F) Use the *Input* faders (in Bounce mode) to adjust the signal coming back from the external device.

> The *Input* buttons must be on to hear any incoming signal.

> The *Input* faders will control the level of signal returned from the external device when you're in Bounce mode.

Add An Effect To Just One Part Of A Track

You can patch an effect into a single channel or stereo pair and then use the bounce technique to record that channel to itself *through* the effect. This allows your to "print" an effect to a track or track segment.

A) Apply the effect and adjust it for the desired sound.

B) Make sure the *Bounce* button is turned on and its LED is lit. When this button is on, the word Bounce appears in the Status Bar.

C) Turn on the channel *Play* and *Record* buttons for the one or two tracks you want to process. All others channel buttons should be off.

D) Go to the start of the section you want to process and press ▶+*Record*. When you reach the end of the section, press *Stop*.

> If the channels' faders are fully on, the effect will be recorded at full volume.

> You can adjust the channels' levels and panning while you're recording, to permanently save these moves.

E) The effect's sound has been permanently recorded (unless you *undo*) onto the section of the track. You can now go to the Effects Patchbay and remove the effect.

If you leave the effect on, that section of the track will be processed twice.

> [tip] You can preset where Audicy will start and stop recording, letting you process as little as a single syllable. See the next section for details on using Auto-Punch.

Recording A Track With An Effect

If you want to record a track with an effect, put Audicy into Bounce Mode and patch the desired effect to the Main Out. This is seldom a good idea, however: Not only does it commit you to the effect (you'll have to re-record to change it), but it also prevents you from using the effect in its cleanest 24-bit mode. Nonetheless, for some circumstances, it can be useful.

Audicy's mix busses operate at 32 bits, for extra headroom and decreased noise. This means you can apply a lot of compression to the main output patch point without adding distortion.

These extra bits also protect you from overloads, since it's possible to boost audio more than 12 dB through some of the effects, including the EQ. If a recorded track already hits maximum level and you add that kind of gain, Audicy's 32-bit bus can handle the signal[10].

Be sure to turn the track's fader down when you mix, however, since Audicy's output is converted to 16 bits to stay compatible with the outside world. If a signal flashes the Output meter's over light, it will distort.

---

[10] In fact, a digital signal absolutely cannot exceed "0 dB full scale". We cheat by doing some clever gain-staging within the Audicy... without causing any noise or distortion.

Instructions for Specific Effects

Equalizer Settings

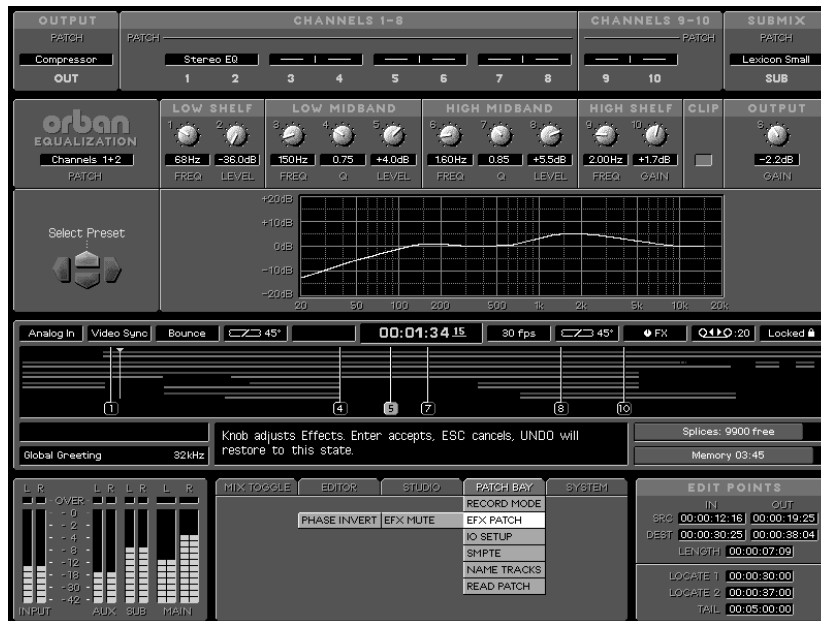When you enter the Knob Level for an Equalizer, a panel like the following appears:

Figure 7-3: EQ Rack

The knob functions are self-explanatory.

A graph of the equalization curve also appears in the lower half of Audicy's screen. This graph updates whenever you change a knob setting.

You can adjust the equalizer by ear (while playing audio through the affected track), by checking the panel's numbers, or by looking at the graph.

When the Low or High Shelves are set for gain or moderate loss, they act as true shelving equalizers and "level off" beyond their frequency settings. When they're set for maximum loss, they act as a gentle (6 dB/octave) filter.

The shelves and midbands can overlap, creating interesting interactions. Check the response graph to see what's really going on.

Dips with very high Q are essentially inaudible — but are sharp enough to act as notch filters for hum, noise, or sibilance.

Tips For Using The Equalizer

- If you're not familiar with parametric equalizers, take a while to experiment with different kinds of program material. Try each band

by itself, with about 6 dB of gain and then with maximum loss, to hear the general effect as you sweep the frequency.

- In general, equalization should be used subtly unless you're trying for a special effect. A little goes a long way... and a lot can have unpredictable effects by the time it gets to the listener's speaker.

- Ears get used to bad equalization quickly, and you might be tempted to overdo things. Keep comparing your settings to no equalization at all by muting the effect (*Shift+A/B*) as a reality check.

- If you're losing a voice track in the mix, it usually sounds more natural to dip the music track rather than boost the voice. Music frequencies around 1.75 kHz sometimes interfere with speech intelligibility.

- Unless you're trying to create a special effect or repair a bad recording, save the equalization decisions until it's time to mix.

- To boost low levels, you can use the "flat" preset, then proceed to the knob level and raise the master gain knob.

Compressor Settings

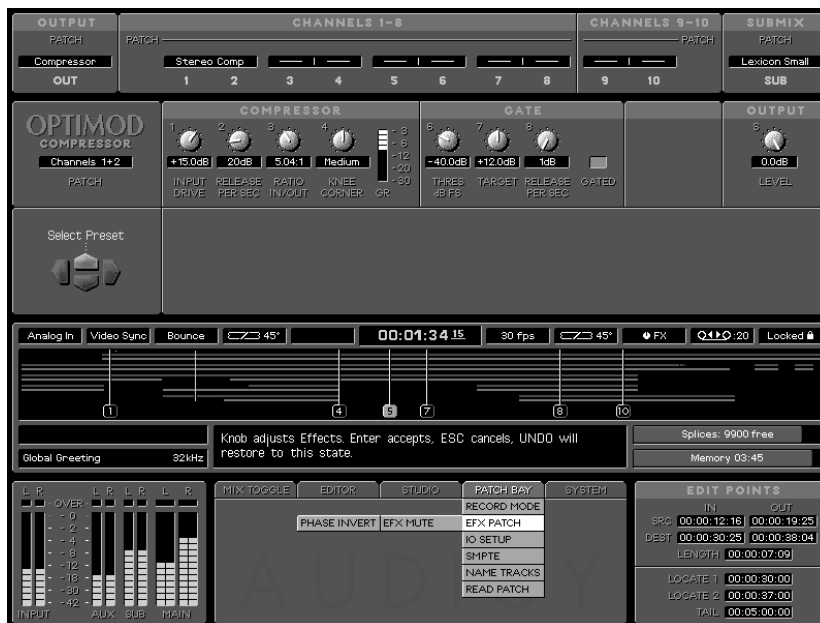When you enter the Knob Level for a Compressor, a panel like this appears:

Figure 7-4: Compress Rack

Since the compressor is derived from Orban's sophisticated OPTIMOD transmitter processor, the knob functions might not be familiar:

Input Drive

Input Drive sets the compressor's input sensitivity.

Release per Sec

Release per Second sets how quickly the level returns to normal after a peak.

Ratio In/Out

Ratio In/Out sets how much the output volume will vary; higher settings reduce output volume, producing a more compressed sound.

Knee Corner

Knee Corner sets how subtly compression starts.

GateThr dB FS

Gate Threshold dBFS sets the level below which the gain reduction changes to a constant 'target gain' (to prevent 'breathing').

GatTarg Out dB

Gate Target Out dB adjusts the constant gain reduction when the gate is activated.

GateRel per Sec

Gate Release per Second sets how quickly the gain reduction changes to the constant value when the gate activates.

Output dB atten

Output dB attenuation sets output gain.

Gate indicates gate status

This indicator lights up when the gate is activated.

In most cases, you should be able to figure out the meaning of these controls by listening and watching how they affect the Gain Reduction meter while a signal is playing.

Compressor Alternate Knob Panel

Press *Page Up* or *Page Down* while in the Compressor's knob panel for access to some additional compressor knobs.

Tips For Using The Compressor

- The normal use for a compressor is to smooth out levels in imperfect or amateur recordings, or add density to a production so it sounds louder on the air.

- Using compression on an announce track can make the voice seem stronger[11], often more effectively than equalization can. Adjust the gate controls to prevent the compressor from boosting room or breath noises during pauses.

- A lot of compression on a music track can turn it into a background bed, ideal for mixing under voices. It may also destroy the character of the music, so it's not a good idea to try this on well-known songs.

- A lot of compression, with a fast release time, can extend the end of some sound effects that fade too quickly. This is also how a guitarist's "sustain box" — actually a form of compressor — works.

- Compression can make a bad recording even worse, by emphasizing noise and low-level distortion.

- On the other hand, the compressor in Audicy has much less distortion than rack-mount units you may have used in the past. If a recording is clean, you can add lots of compression without problems.

- The compressor presets were designed for Audicys running at optimum volumes[12]. If your tracks are softer, you'll have to adjust Input Drive to make the presets work properly.

---

[11]This is one of the secrets of those big-bucks syndicated station voices.
[12]Peaks should hit 0 on the Audicy's meters, but never flash the over light.

Reverb Settings

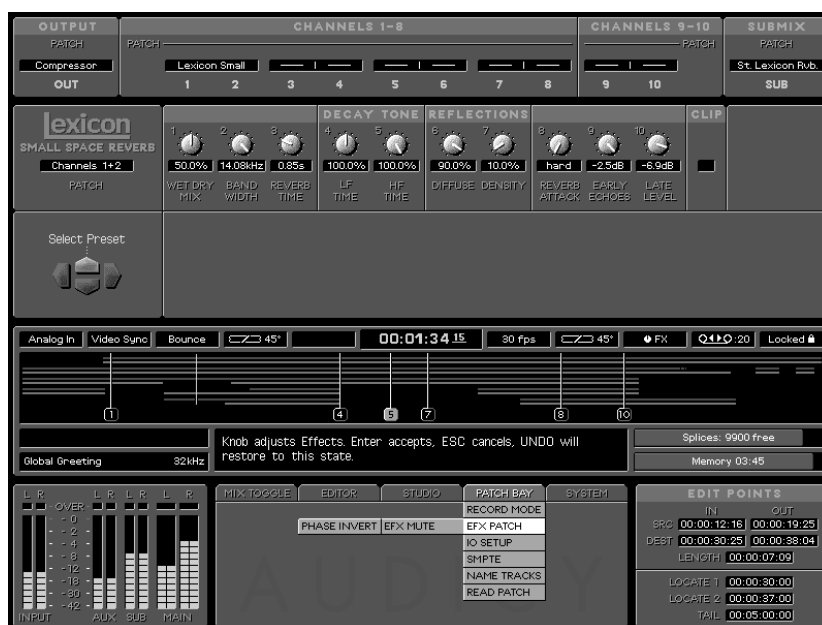When you enter the Knob Level for the Mini-Verb, a panel like this appears:

Figure 7-5: Reverb Rack

The Knob Level for the two Lexicon Reverbs is somewhat more sophisticated, but the same principles apply.[13]

Wet/Dry Mix

Wet/Dry Mix sets how much reverb is applied to a sound. If a reverb is being used on a pair of tracks, you'll probably want to set this around 25%, or leave it where the preset had it. But if the reverb is patched into the submix, you'll usually run this control at 100% — that way, the *Submix Return* can be used to adjust the effect while you're mixing.

Reverb Time

Reverb Time provides the main way to control the "size" of the reverb[14]. A short reverb time (under a half-second) can sound like a small room or office. Longer times can turn it into a building lobby, lecture hall, or airplane hanger.

Real-world echoes have a lot more differences than just their reverb times. Wall materials and the shape of a room have a profound influence (that's why a movie theater, church, and gymnasium — all about the same size — sound different). The other knobs give you some control over these details:

---

[13]And if you *really* want to go knob-happy, go to a Lexicon Reverb knob panel and press *Page Up/Down* a few times. There are three more panels hidden under it!

[14]You'll also find that the two Lexicon Reverbs are optimized for different size spaces.

LF Rvb Time, HF Rvb Time

Low Frequency Reverb Time and High Frequency Reverb Time respectively control the boominess and brightness of the reverb, relative to the overall time. Hard materials, like bathroom wall tiles, reflect more high frequencies. Complex shapes, like the inside of a cathedral, reflect more lows.

Initial Diffuse, Reflect Density

Initial Diffuse and Reflect Density control how complicated the reflection pattern gets. The first is for early echoes (from nearby objects); the second is for late echoes (which make up most of the reverberation effect).

Reverb Attack

Reverb Attack sets how quickly the late echoes build up.

Early Echoes, Late Level

Early Echoes and Late Level set the relative amounts of early 'slap' sound and late echoes. By varying them, you can move the listener's position closer or farther from the sound source.

The best way to learn the effects of these controls is to install a preset, listen to it carefully, and then move a single control to its minimum, middle, and maximum while listening. Do this for just one knob at a time. If you get lost, press UNDO to restore the preset's settings.

Reverbs Are Stereo

If you patch a reverb into a pair of stereo music or effects channels, it'll generate a realistic stereo sound — but remember, the channel patch points are ahead of the pan pots. You still have to pan the channels fully left and right to hear the echo in stereo.

If you patch a reverb into a single mono channel, it may seem unrealistic since the echoes all come from a single place (determined by that track's pan pot). There are better ways to apply an echo to a mono sound:

- Copy the sound to an adjacent channel, patch the echo on both, and pan them for stereo.

- Leave the sound on a single mono channel, but also feed it to the internal submix. Patch the reverb on the submix, and bring it back to the main mix using the *Submix Return* (which is already in stereo).

You can also put a reverb in the Main Output patch point, but that will apply the same echo to all tracks at once.

Tips For Using The Reverbs

A reverb is good for a lot more than putting a dramatic echo on the client's name.

- A little bit of some of the shorter-length reverb presets can make dialogs and dramatic scenes more realistic, by putting the actors in a "real room" instead of a studio.

- Very tiny amounts of a thickening or vocal preset can make a voice sound bigger... but be careful, since a noticeable reverb makes things sound farther away.

- Echoes can add richness to sound effects and synthesizers. If you have to edit the end of a sound to avoid other noises, an echo can add a convincing tail.

- Echoes are handy in music editing. If your edit doesn't sound quite right because a note has gotten clipped, a little reverb can obscure the edit so it doesn't stand out.

- Use an echo to get out of a piece of music before its natural end. Use the Fade Down function (or Cut with a long splice angle) before the next bar of music, and let some reverb add a convincing finish.

You can add reverb to just the last note of a piece of music, and not have it obscure the rest of the song, by using bounce recording:

A) Patch the reverb into the music tracks, and set it so it sounds natural on the last note.

> Don't worry about the reverb's effect on the rest of the song.

B) Bring the music tracks' faders fully up and set them for record-ready. Turn the other tracks off.

C) Make sure Audicy is in Bounce record mode.

D) Play the music from a couple of bars ahead of the ending, and press *Record* at the start of the last note (or set up an auto-record starting at the last note, as described in Chapter 4). Fade the note, if necessary.

E) Let recording continue until the echoes are finished, then press *Stop*.

F) When finished recording, unpatch the reverb: You won't need it any more, and can use its processors for other effects.