# Roland™

# Fantom-X

## Workshop



# The Fantom-X Effects

## About the Fantom-X Workshop Booklets

The Fantom-X Workshop booklets explain some of the exciting features of Roland's Fantom-X family of products. Each Workshop booklet covers a single topic, and is intended as a companion to the Fantom-X manuals.

This booklet requires Fantom-X O.S. Version 2 or higher. To learn about the latest Fantom-X software, visit *www.RolandUS. com*, or call Roland U.S. Product Support at 323-890-3745.

## Other Fantom-X Workshop Booklets

- *The Fantom-X Experience*—A quick tour of how the major Fantom-X creative tools interact.
- *The Sounds of the Fantom-X*—A tour of the Fantom-X sounds and Patch mode.
- *The Rhythms of the Fantom-X*—Exploring the pads, drum sounds, and rhythms of the Fantom-X.
- *Sequencing on the Fantom-X*—Learn how to record using the Fantom-X sounds and its full-featured sequencer.
- *Sampling on the Fantom-X*—Capture loops, vocals, or any other sound with the Fantom-X's built-in sampler.
- *Smart Storage in the Fantom-X*—Learn all about the Fantom-X's storage options for samples and other data.
- *Performing with the Fantom-X*—Splits, layers, realtime controllers, and more make the Fantom-X hot onstage.
- *Making a CD of Your Fantom-X Music*—Learn how to turn your Fantom-X music into a final audio CD.
- *Advanced Fantom-X Sequencing Techniques*—Learn how to use time-based effects, create arpeggios, work with mastering effects, and record realtime patch tweaks.
- *Audio Tracks*—This booklet explains how to record live vocals and instruments in your Fantom-X songs.

## About This Booklet

The Fantom-X contains a suite of effect processors: three multi-effect processors, a stereo chorus, a stereo reverb, and dedicated mastering effects. When you're playing, sampling, performing, and creating final master mixes, they're indispensable tools that make up a big part of your sound. The Fantom-X effects don't just sound great—they're flexible, too, and can be applied in all sorts of imaginative ways.

This booklet will introduce you to the Fantom-X effects, and explain important concepts that'll help you harness the power of these potent sonic tools.

## Understanding the Symbols in This Booklet

Throughout this booklet, you'll come across information that deserves special attention—that's the reason it's labeled with one of the following symbols.

A note is something that adds information about the topic at hand.

A tip offers suggestions for using the feature being discussed.

Warnings contain important information that can help you avoid possible damage to your equipment, your data, or yourself.

# Effect Basics

## What Are Effects?

Effects are enhancements you apply to an audio signal. An effect can make the original audio sound as if it's occurring in some real or imaginary physical space. It can add complexity to the audio, or it can even change its personality in ways ranging from subtle to outrageous.

The most common effects include:

- *reverb*—which places the audio in some sort of simulated acoustic environment.
- *delay*—that makes one or more copies of the original signal and plays them back a bit later in time.
- *chorus*—that makes multiple copies and plays them back slightly out of time and tune to make them shimmer.

In modern music, effects play a big part in achieving a musician's sound, and range from the simple to the insanely complex. The Fantom-X, for example, offers 80 types of effects that can do all sorts of things to an audio signal.

## Algorithms

Under the hood, an effect is actually a complex mathematical routine called an "algorithm"—since the Fantom-X deals with digital audio, pretty much everything it does involves manipulating numbers in some way behind the scenes.

An effect algorithm is run by one of the Fantom-X's effect processors, thus creating an effect. When you're working with Fantom-X multi-effect processors—we'll explain what these are in a little bit—you apply the desired effect by selecting the algorithm that produces it.

# Outputs Are Effects Are Outputs

Here's an important concept to grasp as you learn about using effects on the Fantom-X. Sounds in the Fantom-X—a patch's tones, a rhythm set's drum keys, a performance's parts—have outputs that can be connected, or "routed," directly to the physical jacks on the back of the Fantom-X, or to the Fantom-X effect processors. (The effect processors' own outputs can then be routed to the desired physical jacks). Getting a sound into an effect processor—so its effect can be added—is all about setting the sound's output.

To learn about patch tones, see the Workshop booklet *The Sounds of the Fantom-X*. *The Rhythms of the Fantom-X* explains drum keys. *Sequencing on the Fantom-X* and *Performing with the Fantom-X* describe parts.

There are several available output settings:

- *MFX*—sends a signal into a multi-effect processor.
- *A*—sends a signal in stereo directly to the first of the Fantom-X's two output pairs, the OUTPUT A (MIX) L (MONO) and R jacks, as labeled above the jacks. The signal can also be sent separately to the chorus and reverb processors, which themselves feed the OUTPUT A jack pair.
- *B*—sends a signal in stereo directly to the second of the Fantom-X's two output pairs, the OUTPUT B L and R jacks.
- *1-4*—sends the signal in mono directly to one of the four OUTPUT jacks, as labeled beneath the jacks.
- *TONE and PAT*—We'll explain these output options later.

All of these settings will be covered in depth later on.

The Fantom-X effects are "post"-type effects. Changes you make to a signal's output level therefore affect the loudness of its effects.

The Fantom-X's stereo DIGITAL OUT signal is identical to the signal coming out of the OUTPUT A (MIX) L (MONO) and R jacks.

# The Fantom-X Effect Processors

## Multi-Effects (MFX) Processors

The Fantom-X contains a set of multi-effect processors, or "MFX processors" for short. They're called "multi-effect" processors because each one is capable of producing any one of 78 different effects.

📌 For a list of the 78 MFX algorithms, see Page 270 in the *Fantom-X Owner's Manual*.

📌 Each MFX processor uses a single effect algorithm at a time. Even so, there are 12 "combination" algorithms that incorporate a pair of effects, and a number of the algorithms contain several distinct effect elements.

### Two MFX or Three?

The number of available MFX processors depends on the Fantom-X's operating mode. In:

- *Patch mode*—there are two MFX processors available. One is dedicated to the currently selected keyboard patch or rhythm set, and the other is dedicated to the pads' rhythm set or patch.
- *Performance mode*—there are three MFX processors available. You can send any part's sound to any of the three MFX processors.

## Stereo Chorus

The Fantom-X contains a stereo chorus that's always available to any patch, drum key, or part. A chorus makes a copy of a signal and delays its playback by small, constantly varying amounts, subtly altering its tuning as well. When the copy's blended with the original signal, a shimmering effect, popular for electric piano and synths, results.



Before chorusing    After chorusing

📌 The chorus processor has a second algorithm—Algorithm 02: Delay—that can provide a high-quality delay instead of a chorus if you wish.

You can send an audio signal to the chorus:

- *after the signal's gone through an MFX processor*—by setting its output to MFX and adjusting the signal's MFX chorus send level.
- *directly*—by setting the signal's output to A or B and adjusting the signal's non-MFX chorus send level.

📌 All signals routed into the chorus arrive in mono. The chorus itself expands the signals into stereo.

📌 The output of the stereo chorus can be routed to physical output pair A or B, as described later on.

## Stereo Reverb

The Fantom-X also has a stereo reverb that's always available to any patch, drum key, or part. A reverb makes many copies of the original signal, playing them back close together at diminishing volumes to simulate the way in which sound decays as it bounces off the walls of an actual physical space.



Before reverb    After reverb

You can send an audio signal to the reverb:

- *after the signal's gone through an MFX processor*—by setting its output to MFX and adjusting the signal's MFX reverb send level.
- *directly*—by setting the signal's output to A or B and adjusting the signal's non-MFX reverb send level.

All signals routed into the reverb go into the effect in mono. The reverb added to signals is stereo.

The output of the stereo reverb can be routed to physical output pair A or B, as described later on.

## The Mastering Processor

When you've created a final mix for transfer to a CD or other recording medium, the Fantom-X's mastering processor allows you to smooth out any remaining overall issues in your mix. The mastering effect offers three frequency-range-dependent bands of compression for this purpose. To learn about mastering on the Fantom-X, see the Workshop booklet *Advanced Fantom-X Sequencing Techniques*.



## The Master Effect Switches

The Fantom-X provides a quick way to turn effects on or off. Press EFFECTS and then F8 (Effect Sw) to show the effects' on/off switches.



This is what the switches look like in Performance mode.

Press an effect's F button to toggle it on or off—when it's on, it lights red. To close the window, press EXIT.

## Overview of Working with Effects

Each time you apply effects—no matter what you're doing—you'll follow pretty much the same basic steps. You'll:

1. Select the desired effect(s).
2. Send your sounds into the effects.
3. Customize, or edit, the effects.

In the next several sections, we'll explain how to perform each of these steps as you apply effects to patches, rhythms and parts. The flexibility of the Fantom-X effects means you have lots of choices in how the effects are used and will sound.

If you write songs on the Fantom-X, sooner or later you're likely to want to move a new musical idea from Patch mode to Performance mode so you can add more instruments—and you'll want to make sure the sound of your effects doesn't change. We'll list the steps for doing this later on in "Moving Effects from Patch to Performance Mode." If this is all you want to know, skip ahead by clicking here. For a deeper understanding of the Fantom-X effects, however, read on.

## Selecting Effects

### MFX

The MFX processors are the Fantom-X's most powerful, so they make a good place to start when selecting your effects. To navigate to them, press EFFECTS, and then F3 (MFX1/2) in Patch mode, or F3 (MFX1/2/3) in Performance mode. When you do this, the screen for one of your MFX processors appears.

The currently selected MFX processor's name appears in large black letters to the left of the current algorithm's name. Each other available MFX processor's name appears in white.



To toggle between the available MFX processors, press F3 repeatedly until the one you want to work with is selected.

### Select Your Algorithm

Set the Type parameter to select the desired algorithm for your current purposes.

## The MFX Structure in Performance Mode

While MFX 1 is always assigned to the keyboard and MFX 2 to the pads in Patch mode, in Performance mode, you can route your signals in and out of the three MFX processors in a variety of ways. By selecting the desired MFX structure, you can keep the MFX processors separate, or combine them in interesting and useful ways. The order in which effects are added can significantly change the final sound, so the Fantom-X offers 16 possible MFX structures that are all graphically presented on the display. Let's discuss a few MFX structures as examples.

In the MFX structure illustrations, signal flows from the left edge of the screen to the right edge.
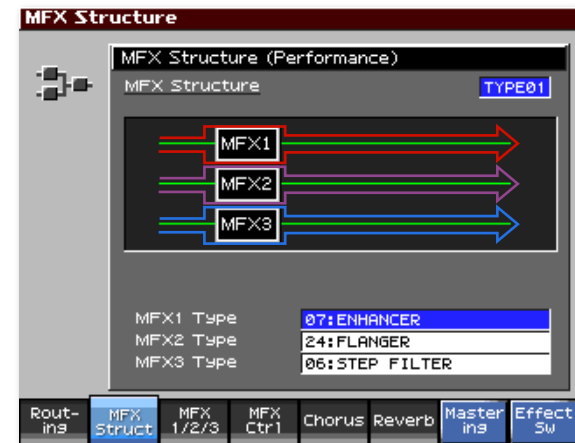


We've added the colored arrow outlines to show how the
signal flows—you won't see them onscreen.

In this MFX structure, any signal sent into each processor passes only through that processor, as shown by the separate red, purple and blue arrows. The three MFX processors operate completely independently.

Here are three more examples.
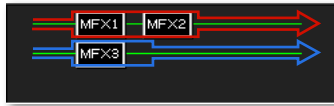


With this structure, signals going into MFX 1 continue on into MFX 2 so that both effects are applied. Signals going to MFX 3 remain separate.
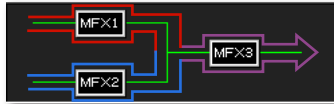


With this structure, signals going into MFX 1 and MFX 2 are processed separately, and then MFX 3's effect is added to both.



With this structure, all three MFX processors add their effects to the signal in order as it passes from MFX 1 to MFX 2 to MFX 3.

## Chorus and Reverb

To select chorus or reverb effects:

1. Press EFFECTS, and then F5 (Chorus) or F6 (Reverb).
2. Select the desired algorithm.

## Sending Sounds to Effects

In this section, we'll describe how to route sounds into effects. In each case—with patch tones, rhythm set drum keys and parts—there are a couple of screens on which you can do this. We'll be presenting the screens most commonly used, though you can use whichever screen you like at any time.

## In Patch Mode

### During Patch/Rhythm Set Creation and Editing

When you're creating or editing:

- *patches*—you can set the output of each patch tone.
- *rhythm sets*—you can set the output of each drum key.

The chorus or reverb you hear—and edit—depends on the effect Routing screen's Chorus Source and Reverb Source settings. Before setting up a chorus or reverb for use with a keyboard or pad sound, select the keyboard or pad part as the Chorus Source or Reverb Source so your chorus or reverb settings are saved with the patch or rhythm set you're editing.

After you set up a patch or rhythm set's effect routing, write the patch or rhythm set into user or card memory to preserve your settings.

### Effect Routing in Patch Programming

To send tones to the desired effects and set their output levels, select the patch, press PATCH EDIT, and then F6 (Pro Edit). Press F2 (↓) until the Output tab is selected.
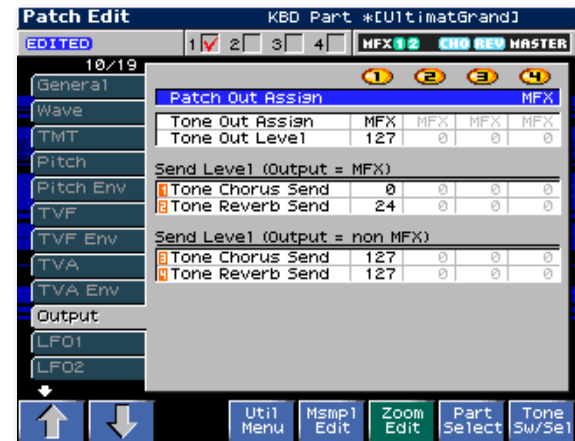
To learn about editing patch tones, see the Workshop booklet *The Sounds of the Fantom-X*.

To select the desired output, start by setting the Patch Out Assign parameter. This parameter allows you to use a single common output setting for all of the patch's tones, or to set the routing of each tone individually. To:

- *use the same output routing for all tones*—set Patch Out Assign to MFX, A, B, 1, 2, 3, or 4.
- *set each tone's output individually*—set Patch Out Assign to Tone, and then set each tone's Tone Out Assign parameter as desired.

When you choose MFX as an output setting while programming a patch, you're sending your signal to MFX 1, since patches always use that processor in Patch mode.

Adjust each tone's Tone Out Level parameter to set its volume as it travels to the selected output destination. You can also set the volume of the tone as it goes to the Fantom-X chorus and reverb. This is called its "send level." To set a tone's chorus and reverb send level when its output is:

- *MFX*—set the parameters in its Send Level (Output=MFX) area as desired.
- *A or B*—set the parameters in its Send Level (Output= non MFX) area as desired.

The Fantom-X ignores irrelevant parameters. For example, the non-MFX send level for a tone is ignored if the tone's output is set to MFX.

### Effect Routing in Rhythm Set Programming

Select the desired rhythm set, press PATCH EDIT, and then F6 (Pro Edit). Press F2 (↓) repeatedly until the Output tab is selected.
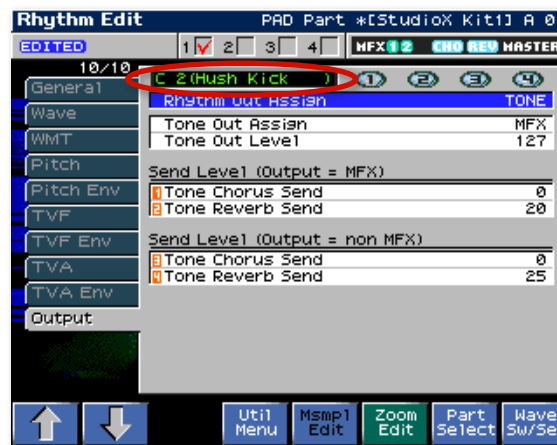


The currently selected drum key is circled here in red.

Set the rhythm set's Rhythm Out Assign parameter, highlighted in blue above. This parameter allows you to use a single common output setting for all of the rhythm set's drum keys, or to set the routing of each key individually.

When editing a rhythm set, the word "tone" refers to a drum key. Each drum key has four independent "waves" that can play waveforms or samples. While each drum key can have its own output destination, all of its waves share the same output setting.

To:

- *use the same output routing for all drum keys*—set Rhythm Out Assign to MFX, A, B, 1, 2, 3, or 4.
- *set each drum key's output individually*—set Rhythm Out Assign to Tone.

When you choose MFX as an output setting while programming a rhythm set, you're sending your signal to MFX 2, since rhythm sets always use that processor in Patch mode.

Next, select the drum key you want to set up by playing its pad—you'll see the drum key's name as shown circled in red on the previous page.

💡 A drum set contains many more drum keys than can be played on the Fantom-X's 16 pads at a single time. During editing, you can select any of a set's drum keys by playing it on the Fantom-X keyboard. You'll hear the currently selected keyboard patch, but you'll see each drum key's name appear in the Output screen.

If you set Rhythm Out Assign to Tone, set the currently selected drum key's Tone Out Assign parameter as desired.

The Tone Out Level parameter determines each drum key's send volume to the selected output destination. To set a drum key's chorus and reverb send level when its output is:

- *MFX*—set the parameters in its Send Level (Output=MFX) area as desired.
- *A or B*—set the parameters in its Send Level (Output= non MFX) area as desired.

📌 The Fantom-X ignores the setting of irrelevant parameters. For example, the non-MFX send level for a drum key is ignored when the drum key's output is set to MFX.

## Setting Up Effects for a Saved Patch/Rhythm Set

When you're setting up temporary effect routing and send levels for an already-saved patch or rhythm set, you can do so on the Effects Routing screen. It provides access to the same settings you see during patch or rhythm set programming, and also allows you to configure the effects themselves.
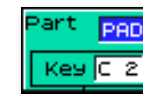
Select the keyboard or pads on the Patch Play screen as desired, and press EFFECTS to display the Routing screen.
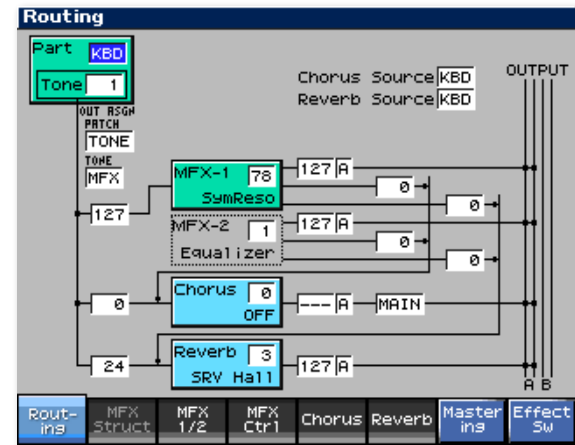


📌 If the Routing screen isn't displayed, press F1 (Routing).

## The Green Part Box

The Routing screen is the same for patches and rhythm sets with the exception of the green Part box at the upper left.



For the box's Part parameter, you can select:

- *KBD (for "Keyboard")*—to set up effects for the keyboard's patch or rhythm set. The other parameter in the green box changes to Tone, with which you can select the tone or drum key to which you want to add effects.
- *PAD*—to set up effects for the pad's rhythm set or patch. The other parameter in the box changes to Key, with which you can select the drum key or tone to which you want to add effects by turning VALUE or playing the desired drum key's pad.

When you first display the Routing screen, the Part parameter is set according to your Kbd/Pad selection on the Patch Play screen. You can change it manually on the Routing screen if you wish to.

When you choose KBD or PAD, the active MFX processor lights green in the onscreen diagram. When:

- *KBD is selected*—MFX 1 turns green to show that it's providing MFX processing for the keyboard's patch or rhythm set.

- *PAD is selected*—MFX 2 turns green to show that it's providing MFX processing for the pads' rhythm set or patch.

## The Routing Parameters

Beneath the Part box are two familiar-looking parameters:

- *OUT ASGN PATCH*—is the Patch Out Assign parameter, re-labeled to fit on this action-packed screen. It allows you to use a common output setting for all of a patch's tones or a rhythm set's drum keys by selecting MFX, A, B, 1, 2, 3, or 4. Retain individual control over the tones and drum keys by setting OUT ASGN PATCH to Tone.

As you change the OUT ASGN PATCH value, you'll see the signal-flow diagram on the screen change to reflect your current setting. We'll explain the diagram in detail later.

- *TONE*—When OUT ASGN PATCH is set to Tone, this parameter becomes active. Use it to set the output routing of the currently selected patch tone or drum key.

## Basic Chorus and Reverb Settings

Since the chorus and reverb are shared by the keyboard and pad sounds in Patch mode, the Chorus Source and Reverb Source parameters let you use the chorus or reverb settings programmed into the currently selected patch or rhythm set.
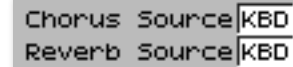
This is especially handy when a patch or rhythm set relies heavily on its chorus or reverb setting in achieving its sound. After setting these parameters as desired, you can tweak the chorus and reverb settings for your current needs, as we'll see later.

## Output and Send Levels

Along the left edge of the screen are three level parameters that set the levels of the currently selected patch tone or rhythm set drum key. Reading from top to bottom, they are:

- *Tone Out Level*—This parameter sets the volume of the currently selected tone or drum key.

- *Tone Chorus Send*—This sets the amount of the selected tone or drum key to be sent into the chorus. A higher value means more chorus.

- *Tone Reverb Send*—This parameter sets the amount of the selected tone or drum key to be sent into the reverb. A higher value means more reverb.

You can easily identify each of these parameters by the black line running from its value into the corresponding processor.

While you set separate MFX and non-MFX chorus and reverb settings during patch and rhythm set programming, on this screen you need only set one set of chorus and reverb send parameters for a tone or drum key.

## Selecting Effect Processor Algorithms
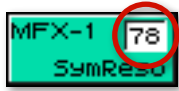


Use this screen to quickly select a processor's algorithm and select its output level and destination. You can also set the amount of an active MFX processor's output to be sent to the chorus and/or reverb, as well as the amount of signal to be sent from the chorus to the reverb.

📌 About the only thing you won't do on this screen is edit your current algorithm's parameters. We'll explain how to do this in "Customizing Effects" later on.

To select a different algorithm for a processor, cursor to the box in the processor's upper-right-hand corner and turn VALUE.

## Setting Processor Output Destinations and Levels

To the right of each processor are two output parameters, circled here in red.
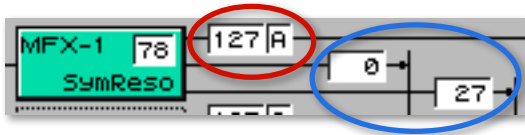


These parameters, reading from left to right, set:

- the processor's volume, from 0 to 127.
- the output pair to which the processor's output is connected. You can select Output Pair A or B.

Each MFX processor has two additional parameters, shown above circled in blue. They are, reading from left to right:

- the processor's send level into the chorus
- the processor's send level into the reverb

The chorus has one more output parameter that can be set to:

- *MAIN*—so its signal goes only to the selected output pair.
- *REV*—so that its signal goes only into the reverb.
- *M+R*—so that its signal goes to both the selected output pair and to the reverb.
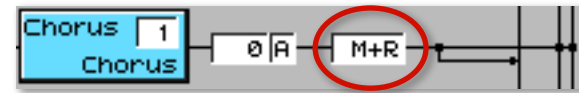


## Understanding the Routing Diagram

The Effect Routing screen shows graphically how your sounds are flowing into the Fantom-X effects, and how the effects flow into each other and on to the Fantom-X's physical outputs. It's really quite simple—in spite of all the crisscrossing lines—and provides instant visual feedback and confirmation of your effect settings as you adjust them. In fact, once you understand how to read the diagram, it'll be obvious to you which parameter is which.

As with MFX structures, the sound flows from the left edge of the screen to the right, where you can see the Fantom-X's four physical outputs, or two output pairs, as labeled underneath onscreen. To trace a signal from the left edge to the right—in and out of processors—just trace its route, using your finger if you need to as you become familiar with the screen.
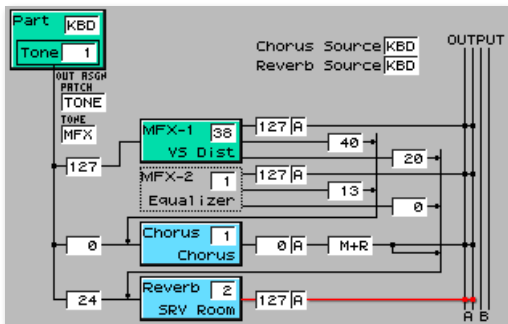
The first illustration on the next page is an example in which a tone's signal flows into MFX 1 (in red), while the output of MFX 1 goes to Output Pair A (in blue), to the chorus (in purple), and to the reverb (in yellow).
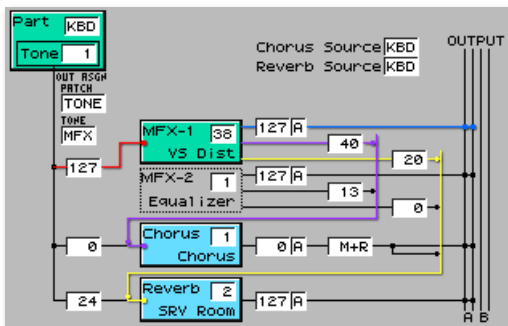
In this next illustration, the chorus output goes to the selected output pair (in red) and to the reverb (in blue).
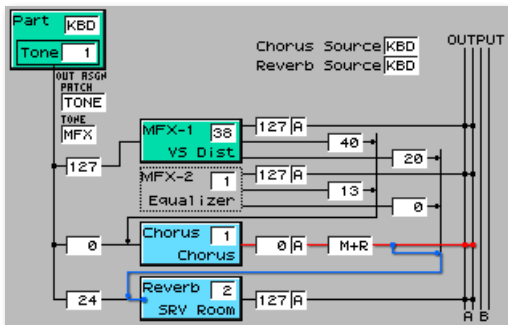


And the reverb goes to the selected output pair (in red).

## In Performance Mode

📌 To preserve your effects settings, be sure to write the performance to the Fantom-X's memory before selecting another performance or powering off.

## When You're First Setting Up a Performance

When you're first setting up effects for a performance, you'll probably want to start on the Effects Routing screen. Select the desired performance, and then press EFFECTS to display the Routing screen.
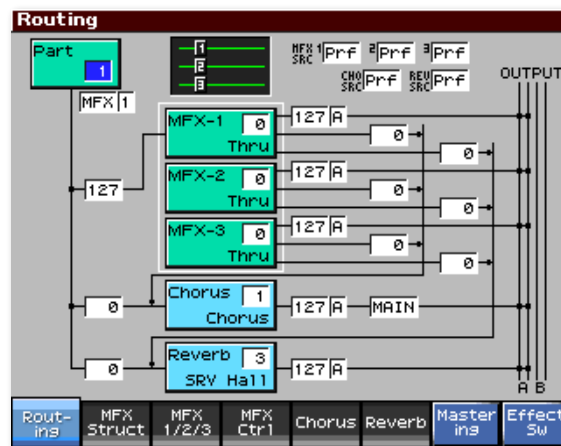


If you don't see this screen, press F1 (Routing).

On this screen, you can set up the output routing and send levels for each of the performance's parts. Since you can also select algorithms for the effect processors and configure the processor's outputs, it's a good place to start setting up a performance's effects.

The effect settings on this screen affect a part's entire patch or rhythm set as a whole. Output destination settings and send level values apply to all of a patch's tones, or all of a rhythm set's drum keys, at once, preserving the differences in their individual settings relative to each other.

## Same Stuff, Sort Of

In many ways, this screen works the same way for performances as it does for patches and rhythm sets. The main difference is that you're working with one part at a time instead of one tone or drum key at a time. Here's what we mean:

- *the send levels at the left edge of the screen*—function the same way for the selected part as they did for a selected tone or drum key.
- *effect processor algorithm selection and output settings*— work the same way as they do on the Patch mode Effects Routing screen, with the addition of one more MFX processor, and the fact that all three MFX processors are available at once.
- *the signal-flow diagram*—works exactly the same way.

## The Part Selector



The upper-left-hand green box in this screen is where you select a part, allowing you to set up its effects.

## Part Output Assign



This parameter selects the part's output destination. Choose:

- *MFX 1, 2, or 3*—Select MFX and then dial in the desired MFX processor's number in the box to the right.
- *Output Pairs A or B*—Select A or B to send the part's sound directly to the desired pair of output jacks.
- *Outputs 1, 2, 3, or 4*—Select the desired individual output to send the part's sound there in mono.
- *PAT*—This selects the output routing programmed into the part's sound. Use this setting to preserve individual tone or drum key output destinations. If the patch uses an MFX processor in Patch mode, you can use any of the three MFX processors in Performance mode—select the MFX processor that's most convenient for this purpose by dialing its number in the box to the right.

## MFX Structure



The MFX Structure diagram shows the currently selected MFX structure, described earlier. This is for informational purposes only—to change the MFX structure, press F2 (MFX Structure).

## Stealing Part Effects
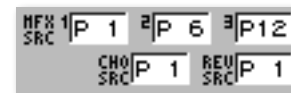


You can apply the effect settings from the sound used by any part to an MFX processor, chorus, or reverb. To do this, select the processor's SRC parameter and dial in the desired part's number. Select Prf to use the Performance's own effect settings.

When your musical arrangement hinges on the sound you select for a particular part—even though you're still undecided about which patch or rhythm set you want to use—set an MFX processor to use the part's effect. That way, as you try out each patch, its effect tags along automatically.

## When You're Adding More Parts

Once you set up a performance's effects and one of its parts, you'll want to set up the effects for any additional parts in one of two ways. Use the:

- *Performance Mixer 1 and 2 screens*—These screens provide a graphic view of your performance's settings, looking much like a physical mixing desk. To view the two screens, press MIXER, and press F8 to toggle between the Performance Mixer 1 and 2 screens.
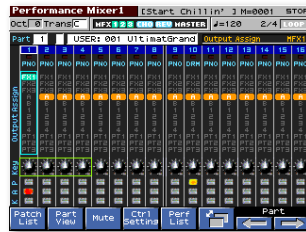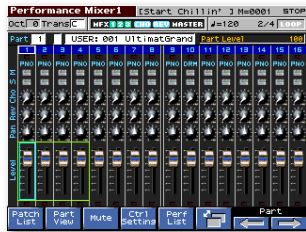


- *Part Level and Output Assign screens*—The Part View screens show the performance's settings as a table using text and numbers. While less fun to look at, this can also provide the quickest way to work. To view these screens, press MIXER or LAYER/SPLIT, and then F2 (Part View). You'll work on the Part Level and the Part Output Assign screens, as we'll see.



The Performance screens are discussed in detail in the Workshop booklets *Sequencing on the Fantom-X* and *Performing with the Fantom-X*. For now, we're concerned only with their effect-related parameters.

In both areas, you'll see output parameters that—having read this far—are now familiar, though they each have a look appropriate to their screens.

## What's Where: The Performance Mixer Screens

In the Performance Mixer screens, each part's parameters are presented in a vertical strip, just as you'd find on a physical mixing console. On these screens, you'll find the following output parameters:



*Cho*—sets the part's chorus send level.

*Rev*—sets the part's reverb send level.

*Level*—sets the part's basic output level.

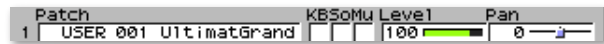*Part Output Select*—selects the part's output destination

Performance Mixer Screen 1          Performance Mixer Screen 2

## The Part Level and Output Assign Screens

On the Part Level and Output Assign screens, each part's output parameters are laid out in a horizontal strip.

On the Part Level screen—press F1 (Level Pan)—you'll find the part's Level parameter, which sets the part signal's basic volume.



The Part Output Assign screen—press F2 (Output Effect)—contains the rest of the part's effect settings.
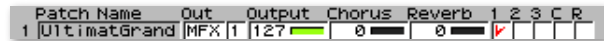


- *Out*—The Out parameter is actually a pair of settings. The left-hand box's value selects the part's output destination. When the destination is MFX, the right-hand box selects the desired MFX processor.
- *Output*—The Output parameter allows you to make fine adjustments to the volume of the part as it goes to the selected output destination without affecting its chorus or reverb send levels.
- *Chorus*—This parameter sets the part's send level going into the chorus processor.
- *Reverb*—This parameter sets the part's send level going into the reverb processor.
- *Source Switches: 1, 2, 3, C, R*—When you want a part's pre-programmed effect settings to be borrowed by one of the MFX processors in the performance, or by the chorus or reverb, check the appropriate box:
  - *1*—sets the part as the source for MFX 1's settings.
  - *2*—sets the part as the source for MFX 2's settings.
  - *3*—sets the part as the source for MFX 3's settings.
  - *C*—sets the part as the source for the chorus' settings.
  - *R*—sets the part as the source for the reverb's settings.

## Customizing Effects

Editing a Fantom-X effect to suit your needs is just a matter of setting its effect processor's parameters. To get to them, press EFFECTS, and then press:

- *F3 (MFX 1/2 or 1/2/3)*—repeatedly to display the desired MFX parameters.
- *F5 (Chorus)*—to display the chorus parameters.
- *F6 (Reverb)*—to display the reverb parameters.

Select the algorithm you want and adjust the available parameters.

The *Fantom-X Owner's Manual* has a description of all of the algorithms and their parameters, starting on Page 270.

For each algorithm, four parameters appear onscreen with Knobs 1-4 next to them. These are the four REALTIME CONTROL knobs, and this means that the four parameters can be set by simply turning the corresponding knob.

A number of the Fantom-X's effects are tempo-related, and they can easily be synchronized to your songs' tempos. To learn how to do this, see the Workshop booklet *Advanced Fantom-X Sequencing Techniques*.

## Setting Up Realtime Effect Controls

You can control the Fantom-X's MFX processors using the REALTIME CONTROL knobs and/or the D Beam in ASSIGNABLE mode. You can turn effect processors on and off using the ASSIGNABLE Sw buttons. Here's how to set up these devices and select the effect parameters they'll control.

## Configuring the Fantom-X's Realtime Controls

To set up the REALTIME CONTROL knobs, the D Beam, and the ASSIGNABLE Sw buttons:

1.  Hold down SHIFT and turn any of the knobs—the Control Setting screen appears. On this screen you can set the four knobs to transmit a range of MIDI messages that can control the desired MFX parameters.

💡 You can use pretty much any MIDI messages for realtime control. We suggest selecting ones that aren't already in use to avoid confusion.
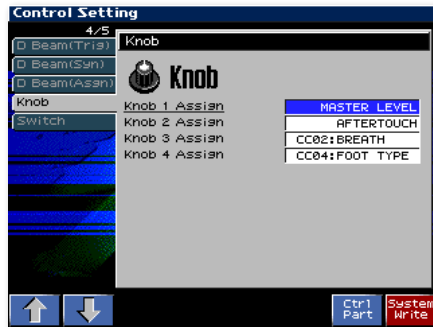


2.  Press F1 (↑) once to select the D Beam's Assignable tab and choose the type of MIDI messages it'll transmit. Set the lowest and highest values it can produce.
3.  Press F2 (↓) twice and set the effect processor on/off switch you'd like each ASSIGNABLE Sw button to control.
4.  When you're done, in:
    *   *Patch mode*—press F8 (System Write) to store the settings in global memory.
    *   *Performance mode*—write the performance to user or card memory.

## Manipulating MFX Parameters in Realtime

On any effects screen, press F4 (MFX Ctrl) to display the MFX Control screen. Press F4 (MFX Ctrl) as necessary to select an MFX processor, shown in the screen's upper-left-hand corner.
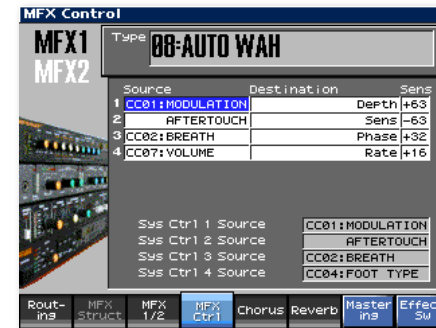


You can control up to four important parameters in each of the MFX processors in realtime, as you can see from the four numbered rows of parameters. Each row sets up control of one parameter.

For each of the rows, set the:

*   *Source*—The Source parameter selects the MIDI message you want use for controlling a parameter. Dial in the MIDI message being transmitted by the REALTIME CONTROL knob you wish to use, or the D Beam.
*   *Destination*—Destination selects the MFX parameter you'll be controlling.
*   *Sensitivity*—This parameter allows you to control the degree to which the realtime controls change the destination parameter's value. Set it to +63 for the maximum amount of possible change. Setting it to negative values causes higher realtime control values to lower the destination parameter's original setting.

You don't *have* to control four parameters in realtime. Just set up as many parameters for realtime control as you like.

The Sys Ctrl area at the bottom of the screen lists the MIDI messages currently assigned to the four System Controllers. These globally-available realtime control sources are available to any patch, rhythm set, or performance.

## The REALTIME CONTROL Knobs and D Beam

The REALTIME CONTROL knobs and D Beam have three realtime operational modes. The:

- *REALTIME CONTROL knobs*—can be set to control filter/envelope parameters, arpeggiator/rhythm parameters, or assignable parameters. To select the mode, repeatedly press the FILTER/ENV•ARP/RHY•ASSIGNABLE button—the current mode is indicated by a lit red LED. When you're controlling MFX parameters you've chosen, set the knobs to ASSIGNABLE.

- *D Beam*—can trigger a pad, act as a simple synthesizer, or control assignable parameters. When you want to control an MFX parameter you've selected, press ASSIGNABLE so it lights.

## When and Where Are Effects Saved

After you've set up your effects just so, save your work to make sure you don't lose it when you power-off, select another patch or rhythm set in Patch mode, or another performance in Performance mode.

## Saving Effects Settings in Patch Mode

When you've created or edited the effects associated with a:

- *patch*—write the patch to user or card memory to save your effects.
- *rhythm set*—write the rhythm set to user or card memory to save your effects.

## Saving Effect Settings in Performance Mode

To save your effects in a performance—when you're preparing to record or using splits and layers in performance, for example—write the performance to user or card memory.

When you set up effects during the process of recording a song, those effects—along with all of your other song data—can be saved in one operation using the Song Save or Save Song + Samples procedure, described in the Workshop booklet *Sequencing on the Fantom-X*.

## Moving Effects from Patch to Performance Mode

The Fantom-X is a great instrument for inspiring new musical ideas, particularly in Patch mode, where you can be experimenting with patches, rhythm sets and rhythms, and the arpeggiator. It's easy to record a new idea right in Patch mode.

When you want to add more parts to your arrangement, however, you've got to move your idea over into Performance mode, where multitrack sequencing takes place on the Fantom-X.

Since a patch's effect settings are often critical to its sound, you'll most likely want to move the patch into a performance with its effects intact so it sounds the same there as it did when inspiration first struck.

Here's how to do this:

1. Record your new idea on the Patch Play screen in Patch mode.

✎ To learn about recording, see the Workshop booklet *Recording on the Fantom-X*.

2. Press F7 (Kbd) and note the memory location of the patch you're using. If you've recorded with a rhythm, press F8 (Pad) and make note of the current rhythm set's memory location.

3. Press LAYER/SPLIT.

4. Select the performance USER: 01 Seq:Template.

5. Press ▾ so the Part 1 box is selected, and press F1 (Patch List).

6. Press F5 (Patch), and then find and highlight your patch.

7. Press F8 (Select).

8. If you've recorded using a rhythm, select Part 10 and repeat Steps 5-7.

9. Press EFFECTS and set the Effect Routing screen so it looks the way it does here.



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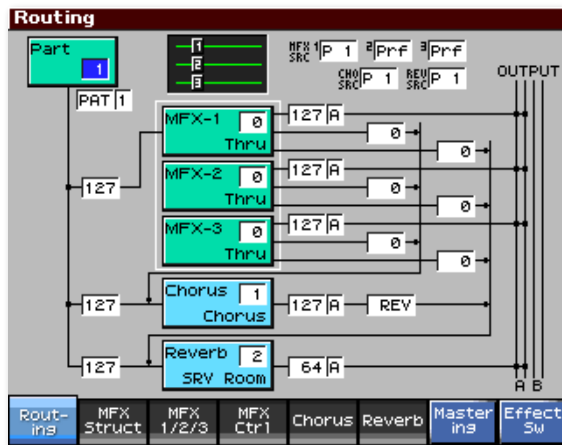
✎ On *your* Routing screen, the processor boxes should show the name of the algorithm your patch uses.

✎ If you recorded with a rhythm, Part 10 should be selected in the upper-left-hand corner. Set MFX 2 SRC to P10.

✎ If you manually changed the source of your chorus and reverb settings in Patch mode—as described earlier—set CHO SRC and REV SRC here to match.

10. Press RESET and then PLAY—your idea should now sound the same in Performance mode as it did in Patch mode.

✎ Remember to press SAVE and store your song in user or card memory. Use F2 (Save Song) or—if your patch or rhythm set uses any samples, or if you've added any audio tracks—F1 (Save Song+Samples).

## The End

We hope you've enjoyed this introduction to the powerful effects of the Fantom-X. Check out the other Workshop booklets, as well your *Fantom-X Handbook*, *Owner's Manual*, and the *Audio Track Expansion* guide. We're confident you'll have a great time with the exciting, inspiring Fantom-X.

✎ For the latest Fantom-X updates and support tools, visit the Roland U.S. Web site at www.RolandUS.com. If you need personal assistance, call our amazing Product Support team at 323-890-3745.