Korg's "Rhythm 55," aka KR-55A was originally introduced in 1979, replacing the far more spartan Mini Pops 35 and Mini Pops 120 machines. Though all of these were preset-only, with no ability for user-programmed rhythms, the KR-55 was still a large step forward, featuring 48 preset rhythms, 16 intro, and 16 fill patterns. Historically, the Roland TR machines of the late 70s and early 80s get a lot more attention, but the KR-55 sounds great, and its flexible mixer section allowed easy muting and soloing of drum sounds, resulting in endless variations of the preprogrammed onboard rhythms. Legendary early synth pop producer Daniel Miller used this to great effect on early Depeche Mode and Fad Gadget albums, where the KR-55 was used for the bulk of percussion sounds while an ARP2600 synthesizer provided kick drums - triggered via the KR-55.

In 1982, Korg released the updated KR-55B version. Along with some cosmetic alterations, the internal pattern memory was doubled to include 96 preset rhythms, 32 intro, and 32 fill patterns. The patterns and fills were also updated, with almost no identical patterns shared between the KR-55A and KR-55B versions.

The KR-55 has been used by many artists, including the aforementioned Depeche Mode and Fad Gadget, as well as Soft Cell, Cabaret Voltaire, Jean-Michel Jarre, and perhaps most famously on the 1982 Joe Jackson hit, "Steppin' Out." We felt the KR-55 had been overlooked in the annals of synth/drum machine history, so we've given it the full Cherry Audio treatment! Cherry KR-55C includes ALL of the rhythms of both versions for a whopping 144 patterns, 32 intros, and 32 fills, with UI appearance changing with KR-55A or KR-55B selection. Naturally, we added user rhythm programmability with a familiar x0x-style 16-button interface. KR-55C's sounds have been recreated using analog circuit modeling with a variety of user editable parameters including parametric EQ for every instrument. The unique effects section enables separate processing of each instrument sound, including overdrive, flanger/chorus, delay, and reverb. Finally, the master effects section includes a colorful and fun bus compressor and separate bus limiter for master amplitude control.

Terminology in this manual, so we're all on the same page:

A *pattern* refers to one of the built-in (*Pattern Mode* set to *Preset*) or user-created rhythm patterns (*Pattern Mode* set to *User*). A *beat* refers to a step number within a rhythm - for example, "beat 1" would be the first step in a pattern. **For clarity, we'll avoid using "beat" to refer an entire rhythm pattern.**

Also, italicized text generally refers to a specific control on the front panel, such as the *Measure* or *Inst Select* controls.

Pre-Purchase Demo Mode

If you haven't purchased the full version of KR-55C, it will run in demo mode. All functions will work, but inharmonic tones will occasionally sound (the LED next to *Demo* in the top toolbar will illuminate when the ugly tones are sounding). We've also added a handy button to make purchasing easy, so

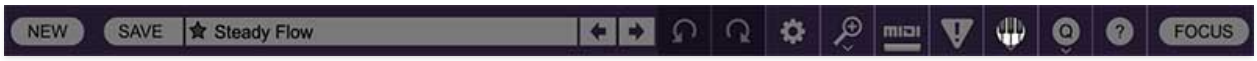
you've got no excuse! Of course, all the demo stuff disappears once KR-55C is purchased.

Technical Assistance

Cherry Audio's unique online store and automatic updating should make operation a smooth experience, but if you run into any issues or have questions, you can discuss issues online at the **Cherry Audio forums**.

... or you can communicate directly with one of our ~~Laurueate Educated~~ tech support staff at:

https://cherryaudio.kayako.com/



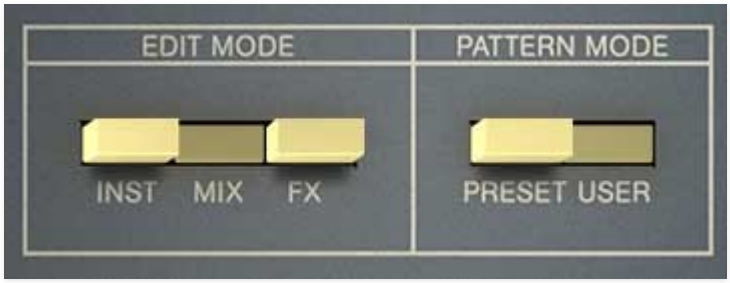
The purple strip at the top of the interface is where you'll load, save, and create patch presets. It contains utility functions such as undo/redo, UI zoom, under-the-hood settings, and more.

Anatomy of a Preset (Important!)

If you've used other Cherry Audio instruments, the patch browser should be familiar. Since KR-55C is a drum machine with pattern creation and storage integrated in the main UI, we'll go over the hierarchy of rhythm and sound storage.

A patch browser preset stores *all* current sound settings and patterns. What you'll hear when you hit play depends on the current *Pattern Mode* button selection at top right, but regardless, a patch stores the following:

Global/Edit Mode and Pattern Mode buttons



The current *Edit Mode* and *Pattern Mode* views are saved with a patch.

- **Pattern Mode / Preset**- The current A/B/C group and rhythm button selection
- **Pattern Mode / User / Programmer section Pattern mode**- A patch includes 98 rhythm patterns. In Pattern mode, the currently playing pattern is selected using the *Pattern Select* up/down buttons below.
- **Pattern Mode / User / Programmer section Song mode**- When *Song* mode is selected, a chain of user patterns of up to 99 steps can be created. A single song is saved with a patch.

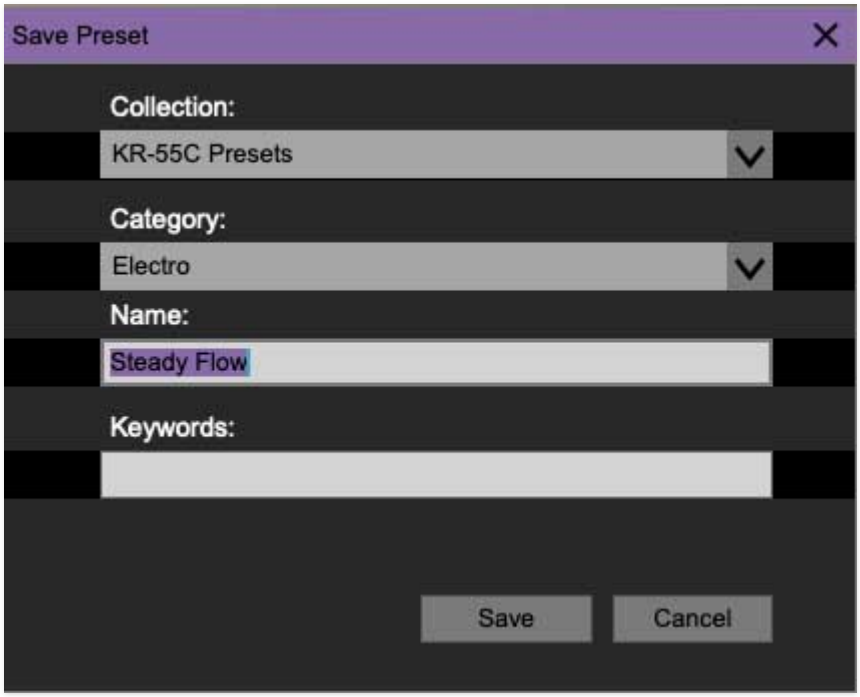
All other main panel settings are stored with the exception of Start/Stop state. Play or stop status is **not** stored with patches. When a new patch is selected, KR-55C remains in the current state; that is, if it's currently playing, it continues to play; if it's stopped, it stays stopped. This

may seem odd, but it's useful to remain in play mode when flipping through patches in the preset browser - otherwise you'd have to click the *Start/Stop* button every time you selected a new patch (and some guy on a forum would complain that we ruined his life).

Edit Mode Panel
All Mixer, Instrument, and FX panel settings are saved with a patch.

Top Toolbar and Preset Browser Controls

New- Opens a new blank patch. If an unsaved patch is currently open or you've modified an existing saved patch, a dialog asks if you'd like to save the patch in its current state. This greatly reduces the possibility of losing an edited unsaved patch.



Save- Use this to save patches. There are a couple of levels of hierarchy:

- **Collection**- This is the top level of organization, and contains entire "sets" of presets. The *KR-55C Presets* are the main included collection. We also include a *User Presets Collection* for storing your own presets, but you're free to create your own collections. To create a new collections, click in the *Collection* text field (where it says *User Presets* above) and

type a name. User-created sounds can be freely saved to any collection; we like to keep ‘em separated for organizational purposes.

- **Categories**- Within each *Collection* are a number of sound categories. As with collections, you’re free to create as many categories as you like. To create a category, click in the *Category* text field of the *Save* dialog window and type a new category name.
- **Patch**- A patch is an individual sound. To save a patch, simply type the name in the *Name* field and click *Save*.
- **Keywords**- You can add descriptive words such as “vintage,” “new wave,” “we like the boom,” etc., to patches to make them appear when terms are typed in the *Search* field. Use commas to separate multiple keywords entries.

Browsing Patches- Patches can be browsed by clicking the *<Select Preset>* field. To select a preset collection, click in the area that says *<All Collections>* or on the downward-facing arrow next to it.

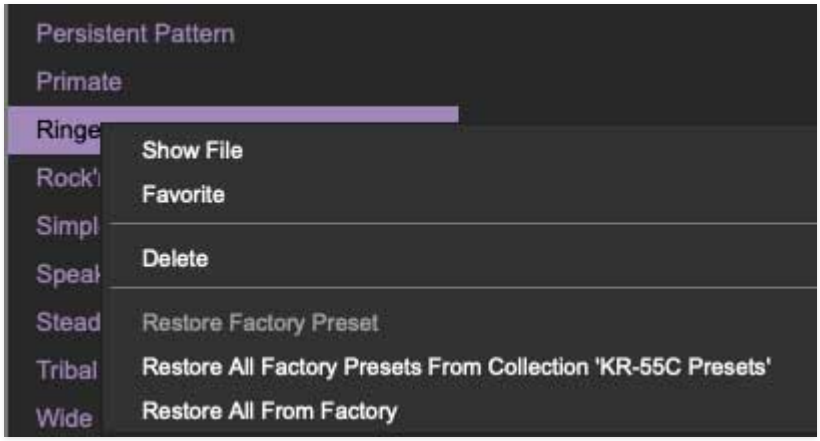
Clicking on the left-side categories narrows down which patches are displayed.

- **<All Presets>** will show presets from all collections and categories.
- **<Recent>** displays recently used presets.
- **Refresh**- This is the circular arrow button to the right of the downward arrow; clicking this checks the Cherry Audio server for new or updated presets.

Pin- Clicking the push-pin icon locks the patch selection list open, allowing fast and easy browsing and auditioning of patches. Click the icon again to disable pin mode. When in pin mode, the up and down arrow keys can be used to select patches. (Thanks to Starship/Phil Bennett for this useful feature suggestion.)

Preset- *Step Back/Forward Arrows*- These step to the previous or next preset. macOS [⌘+left/right arrow key] or Windows [CTRL+left/right arrow key] will navigate through presets back and forth in the currently selected collection/category.

Preset List Right-Click Functions



Show File- This displays the selected preset in the Mac or Windows folder containing it. This is useful for backing up or sending a preset file to another user.

Show In Original Category- Selects the preset within its category, i.e. the category will highlight in the left preset menu. The *Show In Original Category* command only displays if the preset was selected within the <*All Presets*>, <*Favorites*>, or <*Recent*> categories.

Favorites- Favorited presets will show in when the <Favorites> category is selected. A star will display next to the preset name. Right-click on the preset and reselect *Favorite* to un-favorite it.

Delete- Deletes the selected preset.

Restore Factory Preset- If one of the factory (i.e. not user) patches is edited and saved, selecting this command restores the patch to its unaltered "factory" setting. This menu will be grayed-out for user bank patches.

Restore All Factory Presets From 'KR-55C Factory Presets'- If any patches from the "factory" bank are edited and saved, selecting this command restores *all* of them to their unaltered "factory" setting.

Restore All From Factory- If any patches from the "factory" banks are edited and saved, selecting this command restores *all* of them to their unaltered "factory" setting.

Importing Presets with drag-and-drop

Presets can be imported singly or en masse (as a single compressed ZIP file) simply by dragging and dropping from the desktop anywhere on the user interface.

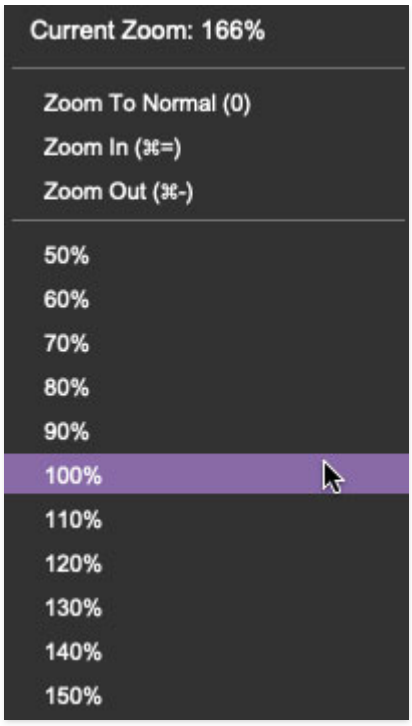
If a single .*preset file is dragged and dropped, the sound is immediately loaded and the standard Save Preset dialog appears; this lets you save the sound to the instrument's preset browser. Note that you don't have to save the sound to preset browser; if you just want to hear and play the sound, click the Cancel button in the Save Preset dialog - the sound will still be loaded.

Compressed zip files containing multiple sounds can also be drag and dropped onto the UI. This works the same as with single sounds, but instead of the *Save Preset* dialog, you'll see the *Import Preset Collection* dialog. The presets will be added as a new collection and available in the categories for which they were tagged.

Menu Strip Buttons

Undo/Redo- These circular arrows will undo or redo the last action. It remembers many steps, so if you really loused something up, keep on clickin'...

Settings- This is where user preferences for user interface, audio interfaces, user account, and more are configured. See the **Settings** section for full information.



Zoom Magnifying Glass- Click to resize the interface. Selecting *100%* returns the user interface to native size.

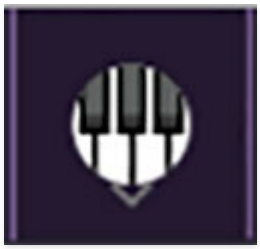
MIDI Tab- Opens the MIDI controllers tab for configuring internal and hardware MIDI controls. See the **MIDI Controllers Setup and MIDI Tab** section for full information.

! (MIDI Panic) - Click to send an all-notes-off message in case of, "why won't this thing stop making noise?!?" stuck-note incidents.

Q (Oversampling Quality)- The Q button sets KR-55C's internal oversampling rate; the higher the setting, the better audio fidelity will be, with the caveat that more computer processing power will be required.

Internal processing can be set to *1x* (same rate as the current sample rate of the host DAW or in the *Settings>Audio/MIDI* window for the standalone version) or to *2x*, *3x*, or *4x* the current sample rate. The sample rate is downsampled at the instrument output stage to match the current host sample rate.

For example, if the current DAW/instrument sample rate setting is 48 kHz, and oversampling is set to 2x, KR-55C's internal processing runs at 96 kHz, and is then reduced back to 48kHz at the output stage.



QWERTY Musical Typing Keyboard- Opens an onscreen keyboard allowing a standard QWERTY computer keyboard to be used for playing music notes. For more information, see **QWERTY Musical Typing Keyboard (MTK) s**ection.

? (Help) - Clicking this launches your web browser and opens the help document you're currently reading. Which means you're already here...

Focus Button

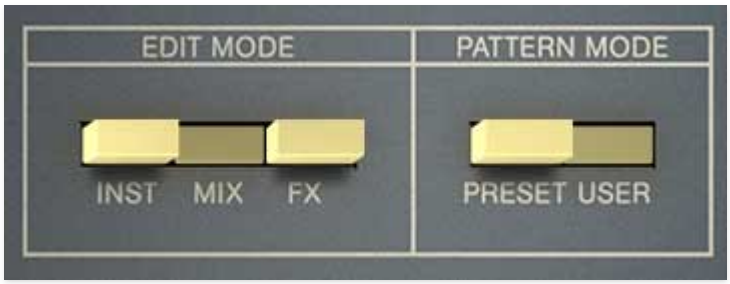
If you're using a tiny laptop, the user interface can potentially be hard to see. With this in mind, the *Focus* button conveniently blows up KR-55C's view to roughly twice its normal size within the current window size. Unlike the *Zoom* "magnifying glass" function, *Focus* doesn't affect the current window size. By default, the patch panel section fills the current window, but the view can be scrolled vertically and horizontally with a mouse wheel, track pad, or Apple Mighty Mouse finger-scrolling. Or if you're the last person on earth still using a single-button mouse, scroll bars will appear at the window edges when in *Focus* mode. (Drop us a line from your Lycos email account, 'kay?)

Using *Focus* mode couldn't be easier - just click the *Focus* button the top menu bar. To return to standard view, click *Reset*.

Cherry Audio Rhythm 55C logo - Clicking these in 55A or 55B mode displays “about” information, and shows the version number and current registered user ID.

Global controls are always onscreen regardless of Edit Mode and Pattern Mode view settings. These include the Edit Mode and Pattern Mode buttons themselves at top right, the "transport" Start/Stop and Intro/Fill-in buttons, etc. at the bottom right of the panel. Let's go over these, beginning with the Edit Mode and Pattern Mode buttons.

TOP-RIGHT PANEL CONTROLS



Edit Mode- These determine which panel displays in the area to the left, above the pattern buttons. Keep in mind that the Edit Mode buttons simply select what's currently viewed, they have no effect on pattern playback or sound.

- **Off**- Nothing displayed with a "blank" panel covering the area. This is pretty much like the original KR-55.
- **Mix**- The Mixer page is displayed. This includes the expected volume, pan, solo, and mute buttons as well as instrument effects bus "send" buttons and signal LEDs to indicate when an instrument it sounding.
- **Inst**- The Instrument Edit page features controls for fine (or not-so-fine) tuning instrument sound editing, plus a wide-range semi-parametric EQ for each instrument. Together, these allow minor to extreme sound tweaking!
- **FX**- The FX page features, you guessed it, KR-55C's array of effects, including overdrive, flanger/chorus, delay, reverb, bus compressor, and bus limiter.

Pattern Mode-

- **Preset**- Selects from one of KR-55C's 144 user rhythms. The Programmer section at right center is hidden.
- **User**- This allows users to program and play back their own custom rhythm patterns. The Programmer section at right center is viewable and its controls are active.

BOTTOM-RIGHT PANEL CONTROLS

Swing- When KR-55C is playing a 4/4 16-step beat, *Swing* delays every other 16th note by a by a percentage. If this doesn't ring a bell sonically, think of Bobby Brown's "Every Little Step" or imagine the ride cymbal in an old jazz tune... ting, ting-ting-ting, ting-ting-ting... that's swingin' baby! The amount of said every-other-16th-note delay ranges from 50% (i.e. no swing, i.e., don't mean a thing) to 71% (max amount of swing, Frank-approved... actually closer to Captain Beefheart, but you get the idea).

A few of KR-55C's preset rhythms are inherently swung - *Waltz*, *Jazz Waltz*, and *Rock Waltz*. These swing by subdividing steps a little differently: whereas most of KR-55C's patterns are two bars long with 16th-note resolution, *Waltz*, *Jazz Waltz*, and *Rock Waltz* are a single bar with 1/24th note resolution. This higher resolution allows the individual beats to be placed for "built-in" swing feel. Be aware that cranking up the swing knob will make them sound a little funny (like the jazzy little drummer inside the KR-55 had a few too many Manhattans).

Swing and the Factory Preset Patterns

The *Swing* knob affects the factory preset patterns (i.e. Pattern Mode set to *Preset*). But keep in mind that since swing affects every other 16th note, it won't have any audible effect on some of the simpler 8th note-based patterns. That's because these patterns don't have any "alternating 16th" notes to swing, capiche?

If you'd like the factory patterns to play back in their original state, make sure to leave the *Swing* control set to its minimum value. And if you'd like to learn more about swinging, too bad, we're a family company here, so you're on your own.

Sync- Selects between KR-55C's onboard clock and tempo control and external tempo lock from a DAW. The *Tempo* knob will gray out when *Sync* is set to *Ext* mode. *Sync* is a global control - that is, its setting isn't stored with presets. However, DAW projects will remember its current position. More on this in the DAW mode section below.

Host Sync operates a bit differently depending on whether KR-55C is running in standalone mode or as a plug-in in a DAW, so pay attention, please:

- **Standalone Mode-** When running standalone, KR-55C uses its own internal clock with BPM set by the *Tempo* knob. **The *Sync* switch defaults to the *Off* position and is disabled and dimmed.**
- **DAW Mode-** When used in a DAW, the *Sync* switch defaults to the *On* position. Start and stop is controlled by the DAW transport, and KR-55C's tempo is locked to the DAW project tempo.

  The *Sync* switch is global, that is, it's not stored per-preset. This was done to allow sync while auditioning patterns from the preset library. The potential downside is that some preset patterns have extreme tempo settings that might sound wrong or weird at the current DAW tempo project. However, in addition to "disconnecting" transport and tempo sync, switching *Sync* to the *Off* position also causes preset patterns to play back at their saved tempos, allowing the patterns to be heard as the programmer intended them.

If KR-55C is being used in a DAW, the *Tempo* knob operates differently dependent on the position of the *Sync* switch.

- **Sync / Off-** Tempo is independent of the DAW project setting and the knob works normally.
- **Sync / On-** Overall tempo is determined by the DAW project setting. When *Sync* is in the *On* position, the *Tempo* knob becomes a multiplier - patterns play in sync with DAW host tempo and the *Tempo* knob divides or multiples the host tempo from 1/4 to 4X of the DAW project tempo. A setting of *5* = original tempo.

  When *Sync* is enabled, the *Tempo* knob multiplier position is *not* saved with presets, however, its position will save with the DAW project.

Tempo knob and LED- When the *Sync* switch is set to *Off* position this sets the tempo of rhythms over a range of 30-350 BPM. The LED glows solidly in stop mode (just like the real KR-55), and flashes quarter notes in play mode.

About Tempo Range
The max tempo rate of 350 BPM may seems absurdly fast, and this would be true when playing 4/4 factory (which is most of them) or user patterns. The reason is that the *Waltz*, and *Ballad* factory patterns and the the *User* mode *3* division setting subdivides the steps differently, resulting in rhythms playing back slower. Try one of the the factory *Waltz* patterns compared to one of the *Rock* patterns and it's easy to hear why the tempo range has so much "headroom."

Volume and clip LED- Sets the overall instrument volume. Keep your eye on the *Clip* LED to prevent ugly digital distortion (enabling the Bus Limiter on the effects page helps to prevent this).

IT'S THE MODEL BUTTON AND IT'S LOOKING GOOD - THE MODEL and PATTERN GROUP

Model- There were two editions of the original instrument: the KR-55A and the KR-55B. The 55A was release first, with 48 preset patterns, 16 intro patterns, and 16 fill patterns. The 55B came out later and doubled the number of patterns with 96 preset patterns, 32 intro patterns, and 32 fill patterns. Other than one switch alteration to accommodate the extra patterns (see *Pattern Group* below), they were functionally identical. The 55B also featured updated cosmetics with a swanky black and gray motif and moderately more festive panel art. Because we're Cherry Audio and we're awesome (and we like to create tons of work for ourselves), KR-55C incorporates both versions into one fabulous plugin. Now how much would you pay?!?

By now you've probably figured out that the Model button selects between the 55A and 55B versions. When the switch clicked, the case art changes, as do most of the preset pattern names. Not that the 55B version doesn't just add more patterns - though some of the pattern names are the same, very few patterns are actually shared between them.

Clicking the *Model* switch when Pattern Mode is set to *User* changes the appearance of the enclosure, but has no other effect on operation.

Pattern Group- As mentioned, the 55B includes twice as many patterns, intros, and fills as the 55A. Switching the *Pattern Group* switch allows access to the "alternate" 55B preset patterns, intros, and fills. If *Model* is set to 55A position, the *Pattern Group* switch is dimmed and disabled. (Just waiting for some non-manual reading type to go nuts on the internet about how this a bug and we're a bunch of dummies.)

Intro/Fill-In / Inst Trigger- This button and its panel label change depending on whether you're in *Preset* or *User* Pattern Mode. In *Preset* mode, it beings pattern playback with a fill pattern before playing the selected preset rhythm (for more info, see the *Intro/Fill-In* section of the **Pattern Mode - Preset** chapter). When *User* mode is selected, it becomes *Instrument Trigger*, and triggers the currently selected drum sound in the Programmer section. It can also be used to "play" instruments into currently running user patterns in real time.

Start/Stop- Starts and stops playback of patterns or songs. The QWERTY keyboard space bar will start and stop KR-55C when running in standalone mode. It's disabled it in the plug-in version because most DAWs use the space bar to start and stop the transport.

Standalone Version Panel Mode Keyboard Shortcuts

We've incorporated a few "hard-wired" keyboard shortcuts into the standalone version only. These only work on the standalone version of KR-55C, not the DAW plugin, because most DAWs have their own keyboard shortcuts, and keyboard control focus (also, some DAWs are super random and buggy about how they handle this. We *definitely* aren't lookin' at you, Logic.)

The QWERTY keyboard *1*, *2*, and *3* keys select the *Instrument*, *Mix*, and *FX* views respectively - this works for the *1*, *2*, and *3* keys above the keyboard and the ones in the keypad. The space bar starts and stops playback.

Alternatively, you can custom assign additional QWERTY keyboard shortcuts in the same way MIDI controllers are assigned - right-click on any control, select *MIDI Learn*, and hit the keyboard key (or hardware USB/MIDI control) you'd like to assign. It's especially useful to assign the *Instrument Trigger* button when in *User* mode.

For more information on shortcut key assignment, check out the **MIDI Controllers Setup and The MIDI Tab** section.

In the chapters that follow, we'll go over each section's controls in detail.

The Pattern Mode buttons in the upper-right corner determine whether KR-55C plays one of its preprogrammed factory rhythms, or a user-programmed rhythm. We'll go over both modes in the following sections.

The original KR-55A included 48 preset rhythms, 16 intro, and 16 fill patterns, and the later KR-55B doubled this to 144 patterns, 32 intros, and 32 fills. You would think that the later version just added more patterns to the existing collection, but in reality they share very few patterns - almost all of the KR-55B patterns are different than the KR-55A patterns (even patterns with the same names are a little different). We've included all of the patterns, intros, and fills from *both* machines - believe us when we say that reverse-engineering these was no small task!

Playing Preset Patterns

To play a preset pattern, make sure the *Pattern Mode* button is set to *Preset.* Each of the black pattern select buttons selects three rhythm patterns, depending on the the currently selected A, B, or C group buttons on the right. Once a pattern is selected, press the *Start/Stop* button. Get ready to blow minds and pack the dance floor when you punch up that sweet *Foxtrot*!

Don't let the silly names put you off - many are totally usable in modern music contexts, particularly when instruments are selectively disabled using the volume knobs or mute buttons on the Mixer panel.

55A Patterns

There are a total of 48 patterns when the Model switch is set to the 55A position. To select a pattern, click the corresponding black pattern button at bottom left, and choose the desired pattern row with the A, B, or C buttons.

55B Patterns

Choosing the 55B Model switch position doubles the available pattern choices to a total of 96 patterns. Pattern selection operates the same as 55A, however, two separate variations are available for each pattern by choosing the *I* or *II* position with the Pattern Group switch.

Note that the even though some 55A and 55B patterns share the same names, the patterns are almost all different. Someone at Korg must've really been trying to impress their supervisor when cooking up the new-for-1982 improved KR-55B.

Intro/Fill-In

KR-55C includes nifty automatic intro and fill patterns. These are all one bar long. Intros and fills can only be used in *Preset* Pattern Mode - they are not *usable* in User Pattern mode.

When in 55A mode, there are a total of 16 intro patterns and 16 fill patterns with preset rhythm groups sharing the same intro and fills. For example, in 55A mode, the *Foxtrot*, *Shuffle*, and *March* rhythms share the same intro and

fill patterns. The easiest way to think about it is that there is one intro and one fill pattern for each black button.

In 55B mode, there are a total of 32 intro patterns and 32 fill patterns with preset rhythm groups (i.e. buttons) sharing the same intro and fills. These operate basically the same as 55A mode, but as with the preset patterns, there is an alternate set of intro and fill patterns depending on the Pattern Group switch position, so same analogy as above, but now there are two intros and two fill patterns for each black button.

The only exceptions are the 5/4 patterns, which basically work the same way, but there are not separate patterns for intro and fill - the intro and fill patterns are the same.

The Intro/Fill-In functions only works when Pattern Mode is set to *Preset*. When Pattern Mode is set to *User*, the *Intro/Fill-In* button turns into the *Inst Trigger* button, which can be used to play the currently selected instrument live when playback is stopped, or to insert drum hits for the currently selected instrument into patterns on the fly during playback.

Using the Intro Function

To begin a pattern with its associated intro pattern, use the *Intro/Fill-In* button to start playback instead of the *Start/Stop* button. The fill pattern plays in its entirety (1 bar) and the currently selected pattern begins on the downbeat.

Using the Fill-In Function

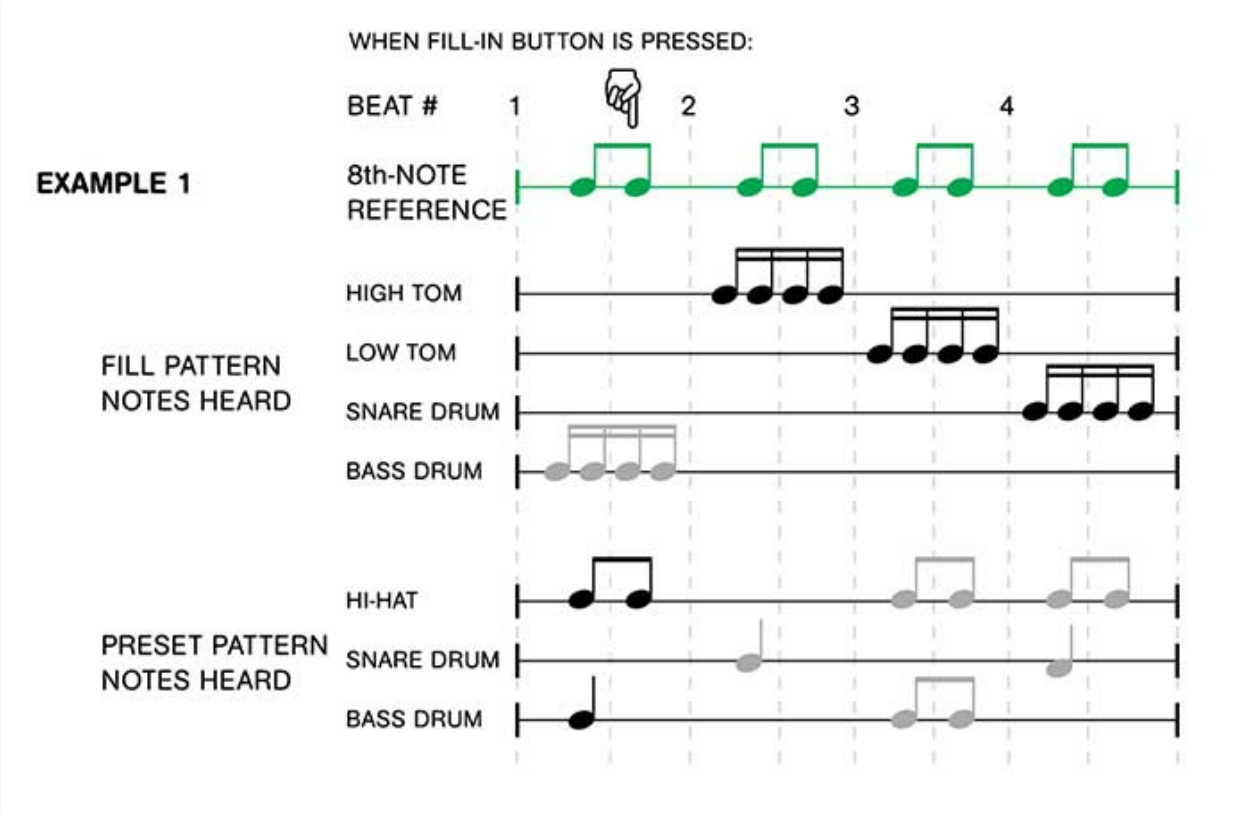
To trigger a fill pattern, click the *Intro/Fill-In* button while a pattern is playing. The way in which these play back is a little tricky, but makes sense:

When you hit the *Intro/Fill-In* button, you might expect the *entire* one-bar fill to play from that point , but that's actually not how it works. When the fill button is pressed, beginning at the next eighth note, the fill *replaces* the remainder of the bar, and on the next downbeat, the current pattern plays from the top. In order to make this work, the beginning of the fill gets shortened. The later in the bar the fill button is clicked, the more of the beginning of the fill pattern gets chopped off. Have a look at the diagrams below:

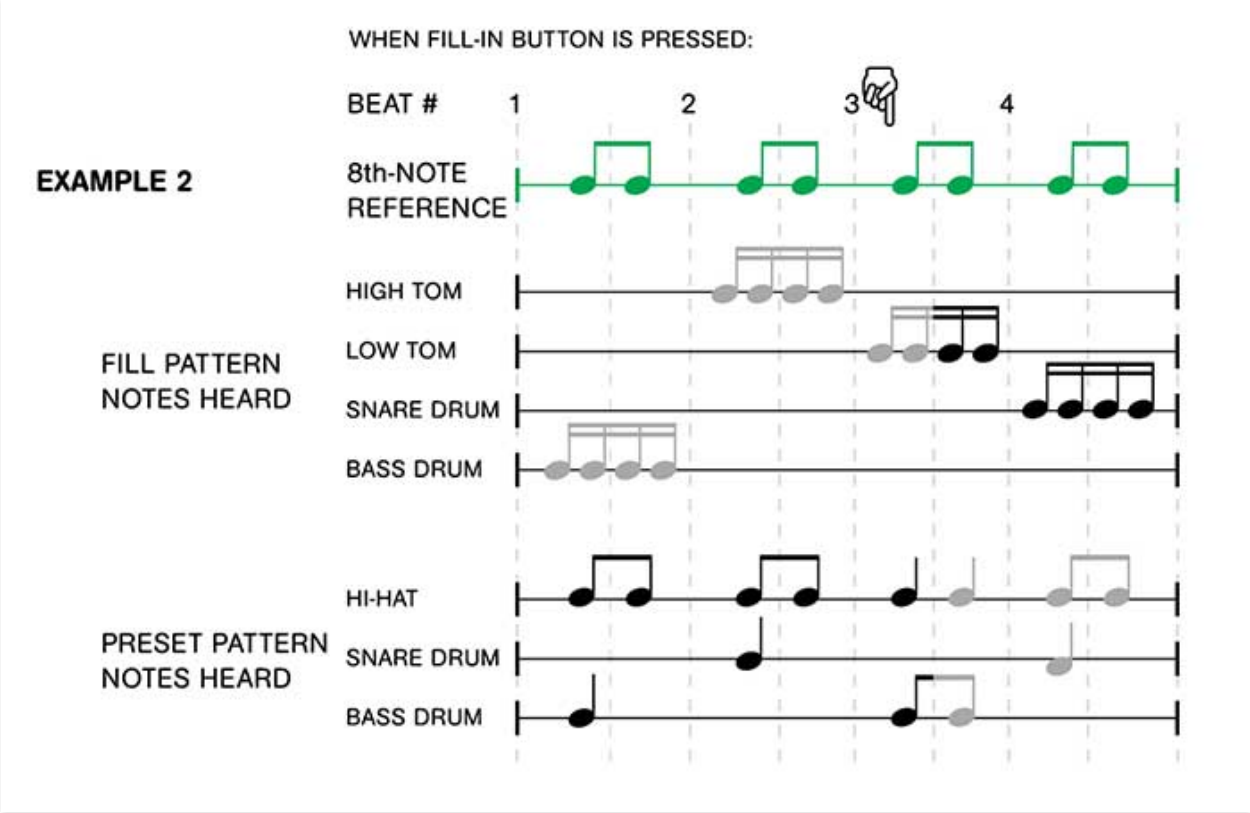
When the fill button is clicked, the fill begins at the next 8th note. For timing reference, the top green staff and dashed vertical lines represent this 8th-note "grid."

In the first example below, the fill button is clicked on the "and" of beat 1 (i.e., during the second 8th note of the bar), so fill playback begins on beat 2.

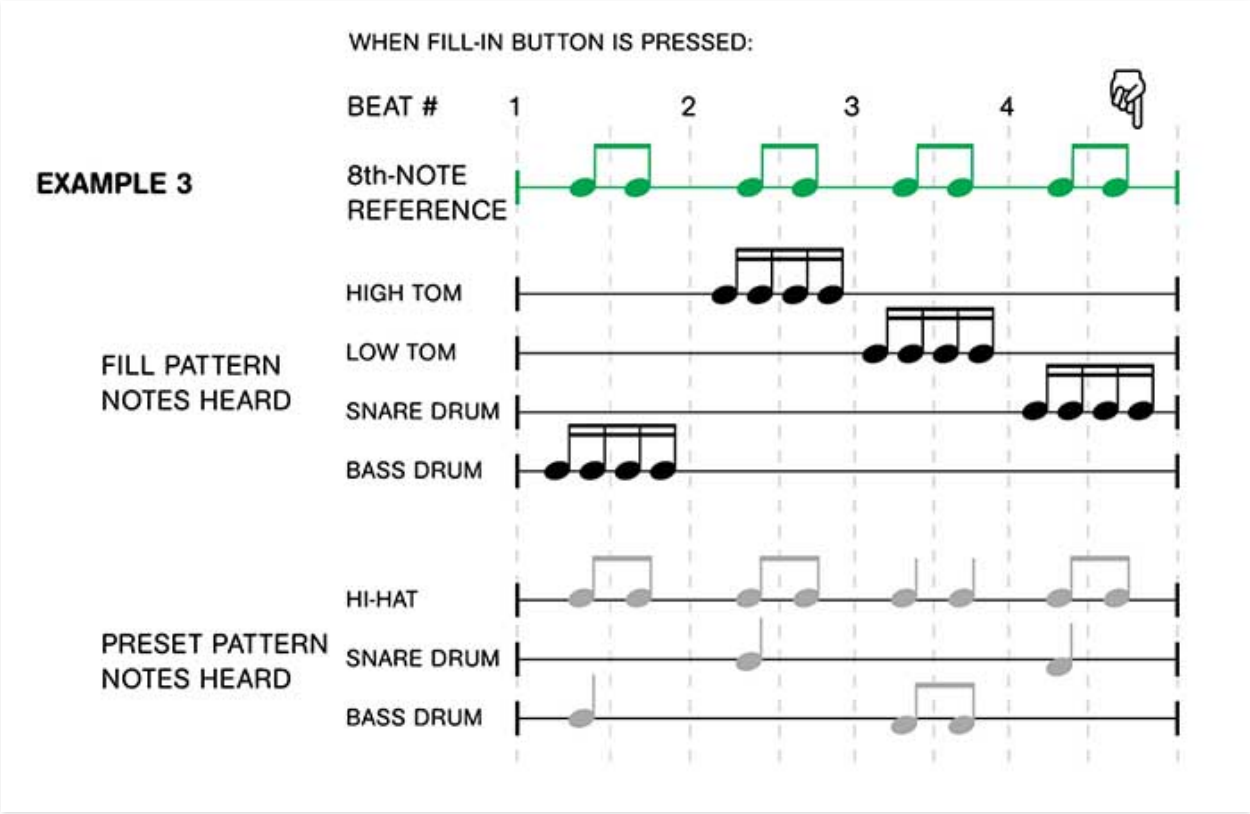
This means the preset pattern plays through beat 1, then the fill plays through beat 2, 3, and 4. On the next downbeat, the pattern begins from the the top.



In example 2, the *Intro/Fill-In* button is clicked immediately after beat 3. This means the fill begins playing on *3-and*. Not only does this cut off the first two beats of the fill, it also cuts off the first two 16th notes of the fill (in this case, the low tom).



Finally, In example 3, the *Intro/Fill-In* button is clicked on the *4-and*; that is, immediately before the next downbeat. This allows the entire one-bar fill to be heard.



You may have noticed that all the examples above are one bar long, but KR-55C's patterns are all two bars long - fill behavior works the same whether a fill is initiated during the first or second bar of pattern playback, and following a fill, the pattern always restarts from the top regardless of whether it was initiated during the first or second bar of the preset pattern. There's one exception to this, explained in the *Alternate Fill Pattern Substitution* section below.

If any of the above is above your understanding of rhythmic notation, the important takeaway is that the fill length heard is always adjusted so that the downbeat lands on the 1 of the next bar, at which point the current preset rhythm begins again from the top. This means it's impossible to hit the *Intro/Fill-In* button at the "wrong" time and cause the downbeat to land in a weird spot.

Waltz, *Ballad*, and *5/4* Fill-In

The *Waltz*, *Ballad*, and *5/4* patterns (clustered at bottom left) are the only KR patterns that aren't in 4/4 time. Waltz patterns are in 3/4, Ballad patterns are in 6/8, and the 5/4 patterns are (you guessed it) in 5/4 time. The fill functions works the same as explained above - their associated fills are also one bar, but in the same time signature as their associated patterns.

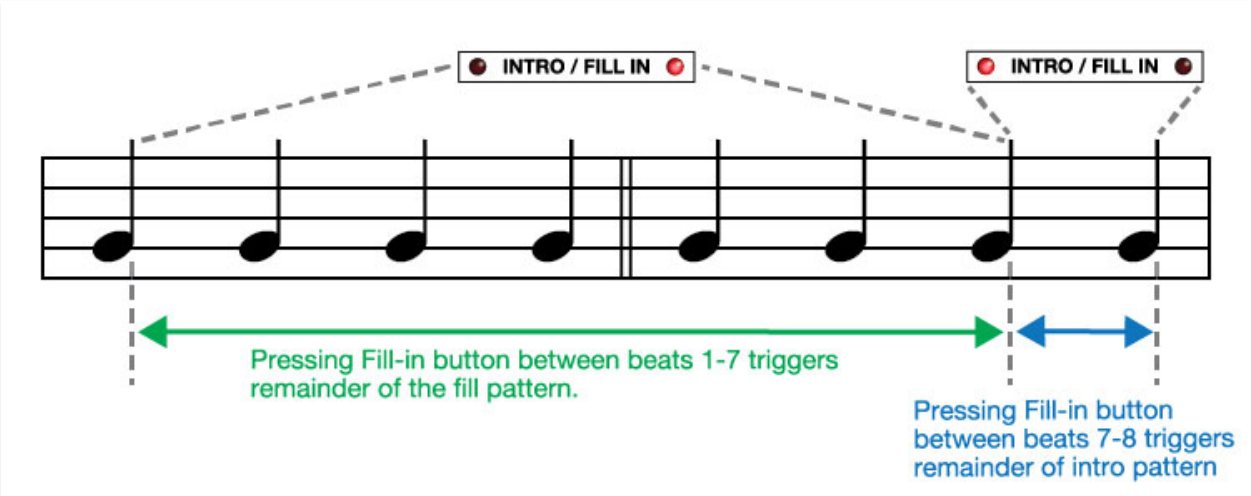
Alternate Fill Pattern Substitution

Alternate fill what-a-wa-wha? In case all of the above wasn't confusing enough, the original KR machines had one additional feature, intended to avoid redundancy when using fills (Because preset drum machine patterns aren't redundant at all... huh? Don't ask us.)

Depending on when in the bar you hit the *Intro/Fill-In* button, KR-55 *sometimes* plays the very end of the intro pattern instead of the fill pattern. Specifically, this occurs if the fill button is clicked on or after beat eight in the two-bar 4/4 patterns, on or after beat six in the 3/4 *Waltz* patterns, or on or

after beat eleven in the 6/8 *Ballad* patterns. The alternate fill function *doesn't* work for 5/4 preset patterns, because the intro and fill patterns are the same for 5/4 patterns. We know this is exhausting...

Alternate fills "replace" part of the current preset pattern as shown in the above diagrams, but only on the very last beat, or "and" of the last beat. The diagram below illustrates exactly what happens depending on *when* you mash the fill-in button over the duration of a two-bar pattern:



The good news is that the LEDs to the left or right of the *Intro/Fill-In* panel label illuminate to let you know whether the pattern is playing back between beats 1-7 or beat 8 - this makes it easy to tell which fill will be heard.

The original KR-55A and KR-55B were strictly preset units - there was no facility for users to create their own patterns. KR-55C allows full user programmability of patterns up to 32 steps in length, and also includes an easy-to-use song mode for arranging these patterns. With that in mind, KR-55 can be used either inside a DAW or in standalone mode as a totally independent rhythm machine.

In this chapter we'll go over all Programmer section controls. We'll further explore pattern and song programming in the chapters that follow.

Pattern Mode - Preset/User

When Pattern Mode (top right) is set to *Preset*, the Programmer section is hidden and the factory preset rhythm pattern buttons are displayed, like this:

In this mode, only the factory preset rhythms can be played. To program your own custom beats, click the *User* button in the Pattern Mode section. The Programmer section is revealed, and the factory preset rhythm pattern buttons become step number buttons, like this:

Now that we're in *User* mode and the Programmer section is visible, let's go over its controls:

Pattern/Song- Setting this to *Pattern* allows creation and editing of a single rhythm pattern. When set to *Song* mode, the Programmer section is used to create a chain of patterns.

- **Number of Steps /Song Step Number-**

  ***Patt* position**- When the switch is set to *Patt*, the LED display shows the number of steps in the current pattern - i.e. the length of the pattern before it cycles to the top. The length can be altered by clicking the up/down buttons, from 1 to 32 steps (with division switch set to *4* mode) or from 1 to 24 (with division switch set to *3* mode). To see how length affects the the pattern, click the *Start/Stop* button, and watch the LEDs on the large colored pattern step buttons.

  ***Song* position**- When set to *Song*, the Programmer allows up to 99 patterns to be chained together to create songs. Song mode is super easy to use - simply select a song step, then choose the user pattern you'd like to play on that step with the up/down buttons in the Pattern Select section below.

- **Pattern Select**

  ***Patt* position**- Each patch in the KR-55C's patch browser (in the purple strip at the top) stores 99 patterns - it's sort of like having an entire drum machine for each and every patch! When the Patt/Song switch is in *Pattern* mode, the *Pattern Select* up/down buttons choose which pattern can be played or edited. If the selected pattern is changed while playing, KR-55C waits until the current cycle finishes (the LED display will flash), then plays the newly selected pattern.

***Song* position- Selects which pattern will be on each *Song Step Number* above.**

Drag-Export- Clicking and dragging the *Drag-Export* button array to a DAW MIDI track allows the MIDI data of the current user pattern to be exported either to the desktop as a Standard MIDI file (when using in standalone mode or within a DAW) or to a DAW MIDI track (when using within DAW).

Instrument Select- Click and drag the Inst Select knob to choose the current instrument you'd like to program steps for with the colored pattern step buttons. This also affects which instrument gets triggered by the *Inst Trigger* (next to *Start/Stop*).

Copy- This allows duplication of entire patterns or single instruments from one *Pattern Select* number location to another. It's useful if you're assembling a song and want to create multiple variations of patterns.

- **Copy Current User Pattern**- Copies all instruments of the current user pattern into KR-55C's memory buffer.
- **Copy Current Instrument Pattern**- Copies the steps of the instrument currently selected with the the *Instruments Selector* knob. This one is especially nifty because it lets you copy the steps of *any* instrument to any other instrument (using the *Paste* button *Paste Instrument* command) in any pattern. It's really useful for "doubling up" instruments.
- **Duplicate Steps 1-16 to 17-32**- Copies the first "page" of steps to the second "page of steps." Handy if you have you'd like to double up (and vary) the pattern you've created within the first 16 steps.
- **Duplicate Steps 17-32 to 1-16** - Reverse of above.

  If the *3 / 4* division switch is set to *3*, the the *Duplicate Steps <xx-xx>* menus change to *1- 12* and *13-24* to accommodate the step button grouping.
- **Copy Preset Pattern**- Copies all instruments of the selected factory pattern into KR-55C's memory buffer. This is useful if you'd like to modify elements of a factory pattern, or use one of them in Song mode.
- **Copy Preset Fill**- Copies all instruments of the selected factory fill into KR-55C's memory buffer. This is useful if you'd like to modify elements of a factory pattern, or use one of them in Song mode.

Paste- Allows pasting entire patterns or parts of patterns. Note that **pasting a pattern or single instrument will overwrite the existing pattern or instrument**.

- **Paste Pattern**- Pastes all instruments of the current pattern into the current pattern location.
- **Paste Instrument**- This pastes a single instrument into the current pattern location. Use the *Instruments Selector* knob to choose which instrument will be pasted. Multiple instruments can be pasted by selecting them consecutively with the *Instruments Selector* knob and repeatedly pasting.

Erase- This initializes either the entire pattern or individual instruments.

- **Erase Current Instrument**- Disables all steps of the instrument currently selected with *Instruments Selector* knob.

- **Erase Current Pattern**- Disables all steps for all instruments of the currently selected pattern.
- **Erase All Patterns**- Disables all steps of all patterns in the current patch (i.e. the patch selected in the top purple menu strip). Prior to this operation, KR-55C will display an "*Are You Sure?*" dialog to avert potential calamity.

Both of the original KR-55 machines were strictly preset machines, with no facility for user-programmed patterns. This is a real shame, because they were great-sounding machines and almost certainly would've been far more successful if user programming was possible. With that in mind, Cherry KR-55C includes a comprehensive user pattern/song programming mode.

The pattern programming mode UI uses a variation of the familiar "xOx" Roland-style interface, and allows for patterns up to 32 steps in length in groupings of 3 or 4. Notes may also be "played in" in real-time using the *Inst Trigger* button, or you can skip all KR-55's onboard pattern and song programming and use it strictly as a sound module, triggered by a DAW (but where's the fun in that?).

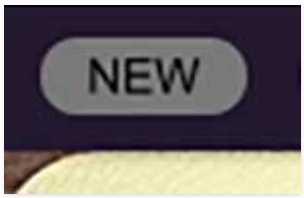
User Patterns and the Patch Browser

Each saved patch in the browser (purple menu strip at the top) consists of:

- 99 patterns, selectable with the up/down increment buttons in the *Pattern Select* selection. (*Patt/Song* switch set to *Patt*)
- 1 song, i.e. a set of chained patterns. A song can be up to 99 steps. Please see the next chapter for more information on Song mode.

Creating a User Pattern

Creating your own pattern is super easy. Here's how:



• Click the *New* button in the top-left corner.

• Set the Pattern Mode buttons at upper right to *User*.

• In the Programmer section, set the Patt/Song switch to *Patt*.

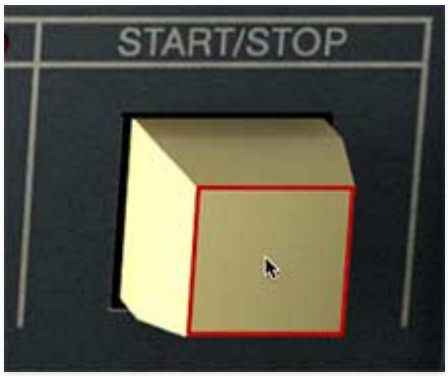
• In the Programmer section, choose the number location where you'd like the new pattern to reside using the up/down increment buttons beside the *Pattern Select* display. If you don't have any patterns currently programmed, you can leave it set to *1*. (Remember that every saved preset in the patch browser stores its own unique set of 99 patterns, so you don't need to worry about overwriting existing patterns.)

• Using the up/down increment buttons next to the *Num of Steps* display, select the number of pattern steps. This determines the pattern step where the rhythm will loop back to step 1.

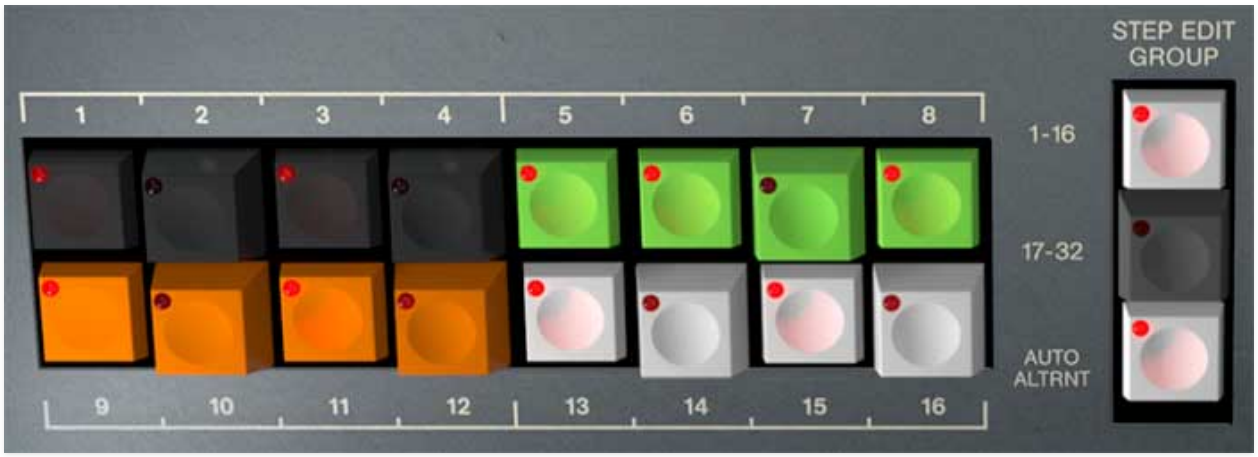
We recommend starting out with a simple 1 bar pattern with 16th-note step resolution. To do this, set *Num of Steps* to 16 using the up/down increment buttons.

The *Num of Steps* pattern length can be set to accommodate triplets (set Num of Steps to 12 or 24), or odd time signatures (set *Num of Steps* to 15, 21, or some other crazy thing that would do Howard Moon proud).

• Using the *Instruments Selector* knob, select the first instrument you'd like to program. Since there isn't an audible "click track" per se, it's helpful to begin by programming an instrument as a metronomic reference, such as a hi-hat or bass drum at quarter-note intervals (i.e., steps 1, 5, 9, and 13). These can easily be altered later when the rhythm is established.

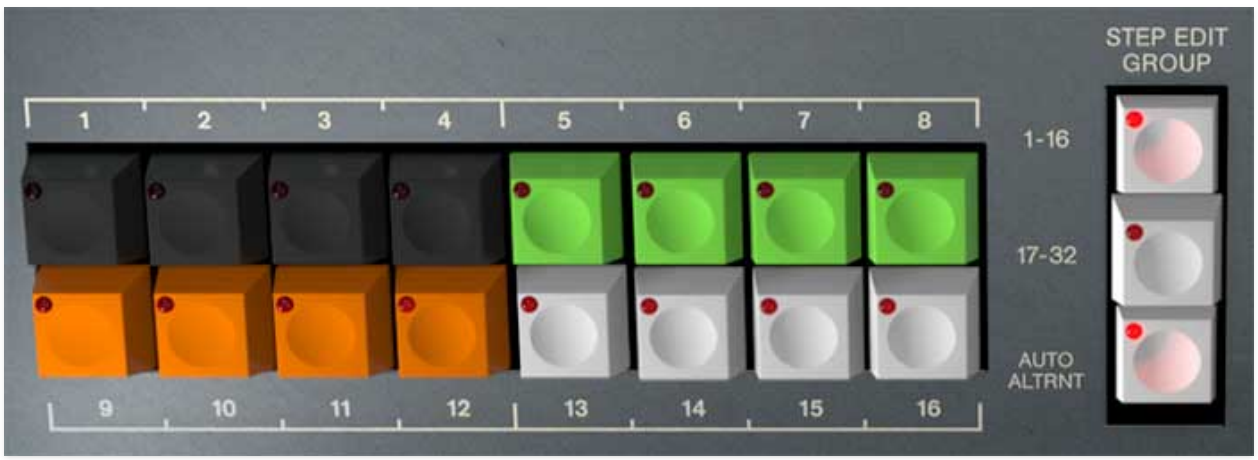


• Pattern steps can be entered with KR-55C in stop or play mode, but it's more creative and fun to program patterns while in play mode. To enter play mode, click the *Start/Stop* button



Additional instruments can be added by choosing them with the *Inst Select* and entering steps with the numbered buttons or in real-time with the *Inst Trigger* button.

User Mode Button Functions



Step Buttons 1-16 and 17-32- These enable and disables pattern beat steps for each instrument. The LED in the corner will illuminate if a step is active. The LEDs change to display active steps when instrument voices are select with the *Instruments Select* knob in the Programmer section. **Multiple adjacent buttons can be enabled or disabled by dragging the mouse pointer across them** - we're particularly fond of the this feature, particularly for enabling a bunch of consecutive high-hats (or rim shots, if it's "Time To Get Ill"). It's also useful for *disabling* consecutive buttons even if some are on and some are off. Finally, it's *also* real handy if you're enabling steps on the same 16th note divisions - for example, for a four-on-the-floor kick, drag from 1-9 and 5-13.

Step Edit Group- Earlier we mentioned that a pattern can be up to 32 beats long (i.e., 2 bars of 4/4 with 1/16-note resolution). Since KR-55C only has 16 step buttons, the Step Edit group buttons act as "shift" controls. The panel labels will change appropriately to indicate whether you're currently editing steps 1-16 or 17-32, or 1-12 and 13-24 if the programmer division switch is in *3* position.

If the current *Num of Steps* setting in the Programmer section is 16 or less, the *17-32* button won't be needed and will be dimmed and disabled. This will be the case if you're working with one-bar 4/4 patterns (i.e. 16 beats long). The same applies if the Programmer division switch is set to i and the *Num of Steps* is 12 or less.

Auto Alternate- When using patterns longer than 16 beats (or 12 beats in *3* mode), toggling *Auto Alternate* automatically switches between the first "bank" of steps and the second while playing. This makes it easier to see what's going when a pattern is playing. Disable *Auto Alternate* if you'd like to work on one set of steps while a pattern plays.

***Auto Alternate* button is dimmed and disabled if Num of Steps is set to 16 beats or less (or 12 beats or less in *3* mode).**

Inst Trigger- When Pattern mode is set to *User* the functionality of the *Intro/Fill-In* button becomes an individual instrument trigger button. When clicked, the currently sound chosen with the *Inst Select* knob is heard, and the two adjacent LEDs flash.

Inst Trigger has a few uses. When KR-55C is stopped, it simply one-shot triggers the sound currently selected with the *Inst Select* knob. When KR-55C is playing, it adds that instrument to the pattern, quantized to the closest step location. This is handy if you can "feel" where you'd like a hit more quickly than figuring out where it lies visually. If you frequently use the *Inst Trigger* button when programming patterns, consider assigning it to a hardware MIDI controller button or key via right-clicking it (full info on assigning hardware controllers can be found **here**).

The *Inst Trigger* button will not enter pattern notes when in *Song* play mode. We did this because it could potentially really mess up a bunch of patterns if they're changing rapidly while playing in song mode.

55A vs. 55B Model Setting in User Mode

Just a quick PSA - the *Model* setting only affects the built-in factory patterns. It makes no difference at all when programming user patterns, other than the style and color of the user interface. The same goes for the drum voices themselves - the sounds (and user edit parameters) are exactly the same in either mode.

In addition to user pattern programming, Cherry KR-55C also includes an easy-to-use song mode. In addition to the 99 user patterns discussed in the preceding chapter, each saved patch in the browser (purple menu strip at the top) includes a user-created song. A song can be thought of a simple list of patterns to play, that might look something like this:

SONG STEP NUMBER	PATTERN
1	1
2	1
3	3
4	2
5	LP (loop)

A song can be up to 99 steps long.

Using Song Mode

Song mode can only be used with user-programmed patterns (*Play Mode* set to *User*). It does not work with the built-in preset patterns. However, if you'd like to use one of the preset patterns in a song, the factory patterns are included in the preset browser in the *Factory KR-55A* and *Factory KR-55B* collections.

We'll assume you already have some user patterns programmed, so let's assemble them into a song:

- Make sure the Pattern Mode button is set to *User*.
- Set the Patt/Song switch to *Song.*
- The *Song Step Number* display (top number display) shows the current song step number; the *Pattern Select* display (bottom number display) shows the selected pattern number for the step.

  Select the desired pattern for step 1 number using up/down buttons beside the *Pattern Select* display, then click the up button beside the *Song Step Num* display to move to the next song step. Select the pattern number for song step 2. Continue adding pattern steps until the song is finished.

Special Song Step Types

Song mode includes the following useful special step types:

End Step- This stops song playback on the first beat of the bar. The end step can be selected by clicking the *Pattern Select* down arrow button a single time when the current selected pattern is 1. It appears as two dashes in the *Pattern Select* display.

Loop Step- Adding a loop step causes the song to jump back to the the beginning of song step number 1. Note that a loop step has no duration of its own - that is, the loop occurs immediately at the top of its song step. A loop step can be selected by clicking the *Pattern Select* down arrow button twice when the current selected pattern is 1. It appears as *LP* in the *Pattern Select* display.

Song Playback

Clicking the *Start/Stop* button begins or ends song playback. A song will always play back from the beginning - you'll see the *Song Step Num* display reset to step 1.

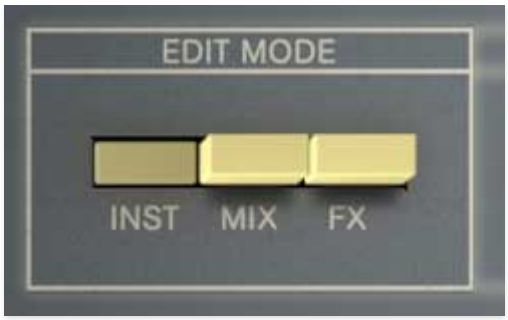
Playing Back Songs in a DAW

If the *Host Sync* switch is set to *Off*, KR-55C ignores DAW tempo, that is, it behaves as an independent entity.

When *Sync* is set to *Ext*, KR-55C will follow the DAW tempo and bar location. The only caveat to be aware of this your DAW has no way of knowing what time signatures you've used in KR-55C. If all song rhythms are in standard 4/4, this most likely won't be a problem, but if you're using odd time signatures, you'll need to manually set your DAW's master time signature track to accommodate the length of the KR-55C's song patterns, otherwise downbeats won't land on the first beat of bars in your DAW. If you're dabbling in crazy time signatures, we suspect you'll already have a solid command of odd time signatures in your DAW host as well.

(Incidentally, we don't get receive lot of support requests like this, "*Hey, I'm having trouble programming 'Siberian Khatru' by Yes into your sweet analog drum machine...*"

For more info on Sync, check out the *Sync* section in the Global Controls.



The only "edit" features of the original KR-55 were individual instrument volume controls. We've expanded things extensively with a mixer section including volume, pan, solo, and mute for each instrument and per-instrument effect send buttons, instrument voice edit controls, and effects edit pages. These controls are divided across dedicated Instrument, Mixer, and Effects pages, selected via the Edit Mode buttons.

On the original KR-55A and KR-55B, the drum voices were fixed and non-editable. Cherry Audio's KR-55C offers useful parameters that allow subtle or sometimes extreme modification of the stock sounds.

Voice Edit Parameters

The voice edit parameters are very similar for all instruments - enough that we won't individually explain them for each instrument. Suffice to say, they're implemented a little differently with the modeling synthesis under the hood, but we did our best to choose useful parameters. All of the instruments are analog-modeled, which offers far more flexibility for voice editing.

Beginning at the bottom:

Decay- Sets the amount of time for the voice to fade to silence. For the hi-hat, *Decay* affects the open hi-hat sound only (hence the *Open Decay* panel label).

Inverted Triangle Menu- This is easy to miss, but these are the upside-down triangles to the left of the *Decay* knobs. These access a few useful functions.

- **MIDI Learn Note - <*instrument name*>**- This enables custom MIDI note assignment. To assign a MIDI note, select the MIDI Learn Note menu; the white arrow begins to flash. Strike the MIDI key or button you'd like to assign. The arrows stops flashing and the note is assigned. **Custom note**

assignments are saved per patch - they are not a global for all patches.

- ***<instrument name>* MIDI Note**- This displays a list of all MIDI notes with the currently assigned note highlighted. The MIDI can be "manually" reassigned by selecting any note from the popup menu.
- **Reset To Default MIDI Note**- Initializes the instrument to its default note setting. Please see the **Using KR-55C as a DAW MIDI Sound Module** section for more information on default MIDI note assignments.
- **Reset To Default Sound Settings**- Initializes all voice edit sliders back to factory sound preset positions.

Tune- Sets the playback pitch of the instrument. Feel free to dial these to extremes for experimental madness.

Tone- As mentioned, the under-the-hood parameters vary from instrument to instrument, but the general idea is that *Tone* varies the amount of transient attack vs. instrument body.

Parametric EQ Amount- Sets the amount of the boost or cut for the instrument parametric EQ, with up to 15 dB of boost or cut. Note that the parametric EQ uses a relatively wide bandwidth for more musical tonality, as opposed to a narrow "surgical" sound.

Parametric EQ Frequency- Sets the center frequency of the instrument parametric EQ, from 50 to 12000 Hz.

Trigger LED- These illuminate any time an instrument is triggered.

The Mixer panel contains all associated Mixer controls plus Effects Routing Matrix buttons. All controls are duplicated for each of KR-55C's 11 instrument voices.

Mixer

Volume- Sets the level for each individual instrument voice. Master volume is set using the *Volume* control at the right side of the panel, which is always visible. As always, keep an eye on the Master Volume *Clip* light when setting individual instrument volumes.

M (Mute) / S (Solo)- These are standard mix mute and solo buttons, respectively. Their LED's will illuminate when engaged, and can be combined in any fashion. The *Solo* LEDs flash when engaged - hopefully minimizing the occurrence of, "why isn't this thing making any sound?!?" scenarios.

Pan- All of KR-55C's instruments are inherently mono; the Pan knobs set the position of the instrument in the stereo field.

Effects Routing Matrix

Effects Send Buttons (Drive/Mod/Echo/Verb)- These toggle buttons allow KR-55C's effects to be applied to individual instruments **in any combination**. They operate like using send knobs to route mixer channels to

effects on bus inserts, but instead of knobs, KR-55C uses buttons that send signal at "full blast." This configuration makes it really easy to, for example, add overdrive to the bass drum, reverb to the snare, flanging to high hats, etc. We think you'll find that the buttons make it really fast and fun to use (as opposed to twirling 44 tiny send knobs).

Trigger LED- These illuminate any time an instrument is triggered - these are the same as the Trigger lights on the Mixer page.

The Effects panel contains KR-55C's four individual effects, a global Bus Compressor, and a global Bus Limiter.

Individually Assignable Effects

The Overdrive, Flanger/Chorus, Delay, and Reverb are configured so that each instrument can be separately assigned to each effect using the Effects Routing Matrix on the Mixer page (more info on the Effects Routing Matrix section **here**)

Overdrive

Mode buttons- Enables Overdrive and selects the type.

- **Off**- Overdrive effect is disabled.
- **Tube**- This is the mellower distortion mode. Use it to add just little bit of vintage hair to sounds.
- **Fuzz**- Aggressive and raunchy vintage fuzz tone.

Tone- This is a tilt-style EQ; rotating counterclockwise from center increases bass, rotating clockwise increases treble.

Level- Overall volume; this doesn't affect the amount of distortion. Because increasing drive amount causes an overall volume increase, *Level* can be used to balance things out.

Drive- Amount of distortion.

Flanger/Chorus

Mode buttons- Enables Flanger/Chorus and selects the type.

- **Off**- Flanger/Chorus effect is disabled.
- **Flanger**- Flange mode is enabled.
- **Chorus**- Chorus mode is enabled. Note that the *Feedback* knob is disabled when in Chorus mode.

Feedback- Sets the amount of internal feedback when in Flange mode. Higher values result in a more intense flange sound.

Depth- Sets effect depth, i.e. the amount of modulation.

Manual- Sets the delay time length from 1-13ms. Shorter delay times result in more of a "jet passby" swoosh, particularly with *Res* at higher settings.

Speed- Sets the modulation from 0.01-6 Hz speed.

Sync- Engaging the *Sync* switch locks the modulation sweep time to master tempo. When engaged, the *Speed* knob snaps to note values ranging from 1/64th note triplet to 8 beats. *Sync* mode locks to the Main panel *Tempo* knob setting when using the KR-55C standalone version or the current project tempo when the plug-in version is used in a DAW.

Echo

Mode buttons- Enables Echo and selects the type.

- **Off**- Echo effect is disabled.
- **Digital**- Clean sounding digital delay.
- **Tape**- Reproduces the effect of a vintage "space echo" tape echo.
- **Ping-Pong**- Echoes alternate between audio channels.

Feedback- Routes the output to the input for additional repeats. Be careful at high settings as this can result in runaway feedback madness.

Level- Sets the volume of the echo repeats.

Sync- Engaging the *Sync* switch locks the echo time to master tempo. When engaged, the *Time* knob snaps to note values ranging from 1/64th note triplet to 8 beats. *Sync* mode locks to the Main panel *Tempo* knob setting when using the KR-55C standalone version or the current project tempo when the plug-in version is used in a DAW.

Time- Sets echo time, from 1 to 2000 ms. If the *Sync* switch is enabled, time settings snap to synchronized note values (see *Sync* above).

Reverb

Mode buttons- Enables Reverb and selects type.

- **Off**- Reverb effect is disabled.
- **Room**- Recreates a vintage algorithmic-style medium room verb.
- **Plate**- A medium-to-large studio plate-style algorithm.
- **Galactic**- Cherry Audio's exclusive, giant, spacey reverb.

Tone- This is a tilt-style EQ; rotating counterclockwise from center increases bass, rotating clockwise increases treble.

Level- Sets the volume of wet reverb signal.

Decay- Sets the length of reverb release time/size of room.

Gate- This sets the threshold of the integrated noise gate. At full clockwise position, the gate effect is disabled. The gate threshold increases as the knob is rotated counterclockwise. This allows reverb tails to be abruptly chopped off for the reverb effects that launched a thousand 80s hits!

Global Effects

The Bus Compressor and Bus Limiter are global for the entire instrument and both used for control of dynamics, but the Bus Compressor is colored sounding and intended for "glueing" a drum mix together, or at extreme settings, smashing the heck out of it, whereas the Bus Limiter is designed to

keep overall levels under control in a transparent fashion.

The Bus Compressor is after the Overdrive, Flanger/Chorus, Echo, and Reverb in the signal path, and *before* master volume knob. Conversely, the Bus Limiter is *after* the master volume knob, to prevent you from setting your DAW on fire. (What? It could happen...)

Bus Compressor

Off/On- Enables and disables Bus Compressor effect.

Input- Sets the input level feeding the compressor. This is important, because higher levels make the compressor more reactive and heavy-handed (which can be a good thing!).

Output- The most rudimentary explanation of a compressor is that it levels signal dynamics by making quiet signals loud, but in reality, it's reducing the volume of peaks. This results in an overall loss of signal level. The *Output* knob introduces "make-up gain" in order to compensate for this loss of level. Its setting isn't critical, but the *Off/On* switch can be used to set it by comparing the relative level of un-effected vs. compressed signal.

Reduction Meter- Shows the amount of compression applied. The needle nominally sits at zero dB, and moves to the left to indicate how much compression is occurring.

Detect HP- This one can be a little hard to wrap your head around. The detector is the part of the compressor that listens to incoming program to determine the amount of gain reduction. Because bass-heavy material tends to affect gain reduction to a far greater degree, loud and/or distorted kick drums will cause the compressor to "pump;" in other words, every time a loud kick drum hits, the volume of the entire pattern will temporarily dive, dependent upon the settings of the Attack and Decay knobs. (Depending on

what you're doing, this may actually be just the desirable "PA overload" effect you're looking for.)

Placing a highpass filter into the detector circuit reduces the affects of bass-heavy material on overall compression and helps to alleviate this phenomena. The *Detect HP* knob sets the frequency of detector circuit highpass filtering with the highpass frequency increasing as the knob is turned clockwise.

Note that because the *Detect HP* is not in the actual audio path, it does not affect the EQ or frequency content of the actual audio content.

Attack- Sets how long it takes for the onset of compression. If you're not experienced with compressors, the Attack parameter can seem a little "backwards," but think about it like this:

Fast attack times (low knob settings) mean that compression occurs quickly; in the case of drums this means that the initial transient gets tamed and smushed, and makes the duration of the drum hit sound at a more even volume (instead of quick spike).

Slow attack times (higher knob settings) mean that when the compressor gets hit with the big volume spike of drum, it doesn't turn the volume down nearly as quickly, and "lets through" some of the transient for more impact.

The secret of good compression settings for drums is to experiment - you generally want to let a little transient through, but still have enough compression to increase the apparent overall volume.

Release- Sets how long it takes for the compressor to recover or "let go" of the signal. What you need to know is that longer release times (higher knob setting) are more gentle, and lower release times (low knob setting) result in more aggressive sounding drums (hooray!).

Bus Limiter

Off/On- Enables and disables Bus Limiter effect. The LED above the switch indicates current enabled or disabled status.

Assigning internal and external hardware controls adds a whole new dimension of control and musicality to KR-55C, and it's really easy to do. The MIDI Tab is where all controller assignments can be viewed and tweaked - it can be opened by clicking the *MIDI* logo button in the top purple menu strip.

First we'll show how to assign an external hardware controller to a KR-55C control, then we'll go over all parameters in the MIDI Tab.

Basic External Hardware Control Assignment

This is the quick, "I just want to assign a hardware control right now!," section. We recommend reading this whole section to best take advantage of MIDI control assignments.

In this example, we'll assign a hardware slider/knob control to the Snare Drum *Decay* knob. Begin by opening the *Instrument Edit* page by clicking the *Inst* button under Edit Mode in the top-right corner.

In the Snare Drum section, right-click on the *Decay* knob, and select *MIDI Learn* in the popup menu.

A transparent purple overlay appears over the slider indicating that it's in learn mode. Now move the desired hardware control device. The purple overlay disappears and the hardware control will move the *Decay* slider. If you get cold feet (or accidentally put the wrong control into learn mode), learn mode can be aborted by right-clicking and selecting *Stop Learning* or thwacking the [ESC] key.

This is the basic procedure for assigning hardware controllers to any KR-55C control.

Once a MIDI controller has been assigned, in addition to real-time control of any parameter, you'll also be able to record and play back controller data from a DAW.

The MIDI Tab

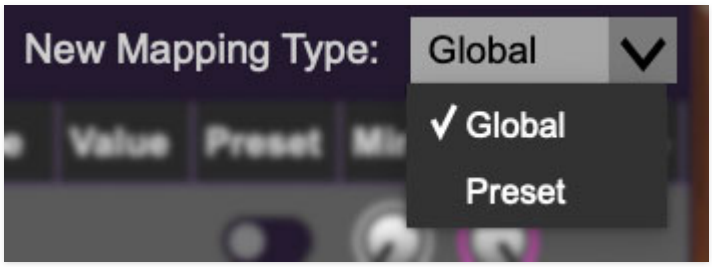
This is command central for all MIDI controller assignments. Here you'll be able to fine-tune and see information about all currently assigned controllers.

To view or hide the MIDI Tab, click the *MIDI* button in the purple top toolbar.

MIDI Learn button- This is almost exactly the same as enabling MIDI learn mode by right-clicking a control. Click the *MIDI Learn* button to enter learn mode (all controls turn purple). **Unlike right-clicking on specific controls, where KR-55C automatically exits controller assignment mode, clicking the *MIDI Learn* knob "stays on" to enable assignment of multiple hardware controls**. This lets you assign a gaggle of controls in one swell foop.

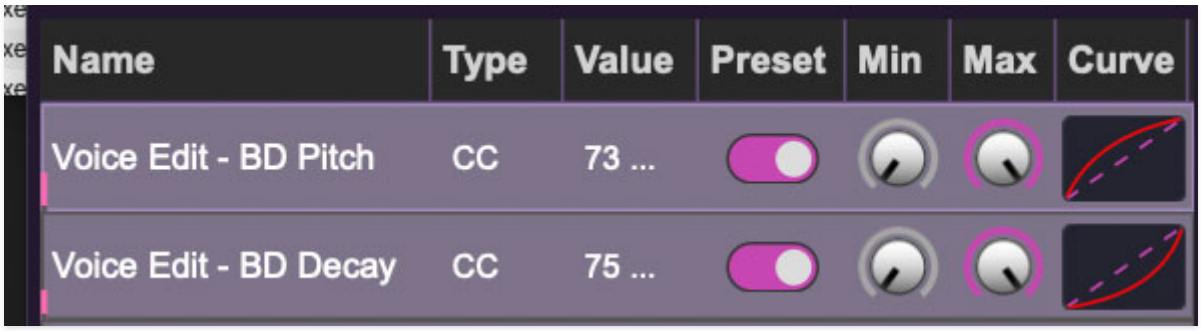
To assign multiple controls, click *MIDI Learn*, click an onscreen control, move the desired hardware knob or slider, continue clicking and assigning on-screen controllers until all desired controls are assigned, then click *Stop Learning* to exit learn mode.

Remember that a single hardware knob/slider/button isn't limited to controlling just one parameter - a single hardware controller can be "multed" to operate as many controls as you'd like.



New Mapping Type- This popup menu selects whether newly assigned MIDI mappings will be global (affects all sounds and doesn't change when different presets are selected) or saved with individual presets.

MIDI Tab Columns



Name- Displays the name of the parameter being controlled.

Type- There are five possible types of controller automation:

- **Note**- Notes played on a MIDI keyboard controller, expressed as C-1 to G9
- **CC (MIDI Continuous Controller)**- The standard 128 MIDI controller numbers as defined in the MIDI spec. More specifically, these are the controllers transmitted by hardware knob and slider controls. MIDI CC's can be used to control parameters in real-time or recorded and played back within DAW software.
- **MMC (MIDI Machine Control)**- The MIDI control protocol for tape machine-style transport controls. Back in the dark ages, this was used to control wonky old Tascam and Fostex reel-to-reel monsters, but it's useful if your MIDI controller has tape-style transport control buttons.
- **Aftertouch**- Besides sounding like a 1981 Melissa Manchester record, some keyboard controllers transmit controller data when keys are pressed and released as they're held down. The vast majority of keyboard controllers with aftertouch transmit "mono" aftertouch only; in other words, aftertouch data is the sum of all keys to one single data stream.
- **Key**- This allows keys of the computer QWERTY keyboard to at as button controls for onscreen controls.

Value- Displays the specific automation controller. In the case of a *Note* this would show a MIDI note number (C-1 to G9, for a MIDI CC, this would be the MIDI CC controller number, etc. Clicking on the value opens a pop-up menu where all values are displayed and can be selected.

Preset- This slider works in conjunction with the *New Mapping Type* menu. In the left position (gray background), the MIDI mapping is global (affects all sounds and doesn't change when different presets are selected), in the right position (lavender background), the MIDI mapping is saved with, and only affects the current sound preset.

The *Preset* switch is super nifty, because it means MIDI mappings can easily be set to global or per-preset status at any time.

Min- Sets a limit on the lowest value any automation control can set a mapped controller to. This actually recalibrates the range of the automation controller to the remaining parameter range.

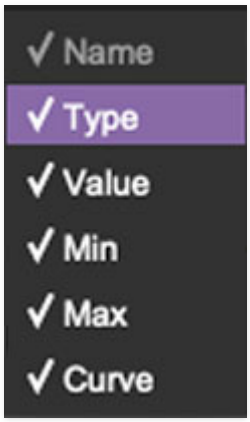
Max- Sets a limit on the highest value any automation control can set a mapped controller to. This actually recalibrates the range of the automation controller to the remaining parameter range.

- ***Super Tricky Min-Max Tricks***- Not only can parameter ranges be limited via the the *Min* and *Max* knobs, mapped control destinations can be completely inverted by setting the *Min* knob all the way up and the *Max* knob all the way down (or anywhere in between).

  Limiting and inverting parameter ranges with the *Min/Max* controls is particularly useful when multiplexing a single hardware control to operate multiple parameters. Along with the *Curve* control, the customization possibilities are super flexible.

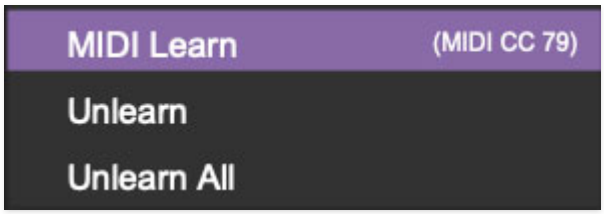
Curve- These allow the customization of how incoming MIDI CC controls affect the movement of onscreen controls, ranging from exponential to linear to logarithmic curves.

MIDI Tab Column Configuration Right-Click Menus



Right-clicking anywhere in the top row (*Name*, *Type*, *Value*, etc.) displays the column configuration menu. Checking/unchecking these allows hiding and display of each column. This has no effect on assignments.

MIDI Tab Parameters Right-Click



Right-clicking on an assigned parameter opens the menu above.

MIDI Learn- This is used to change the controller assigned to a particular parameter.

Unlearn- Deletes the selected automation parameter.

Unlearn All- Deletes all controller assignments for the patch. A warning dialog pops up prior to deletion in order to thwart potential unlearn-related disasters.

MIDI Controller Suggestions

Following are some MIDI controller assignments we find particularly useful:

- Assigning button controllers to the Panel Mode Main, Voice Edit, and Effects/Mixer select buttons lets you rapidly switch between KR-55C's three UI windows. Note that the QWERTY keypad 1/2/3 keys are already hardwired this way when using the standalone version of KR-55C. You can do the same when using KR-55C inside a DAW. The only caveat to using QWERTY keys within a DAW is that some DAWs get finicky about QWERTY key priority with plugins (and by "some," we mean Logic...).
- Similar to above, assigning button controllers to the Mixer *Mute* buttons makes it easy to experiment with muting instruments. This is a nice way to get a lot of mileage out of the factory preset rhythms.
- Try assigning a button or any keyboard controller key to the *Inst Trigger* button when creating patterns in *User* mode. This is nice, because KR-55C "records" hits into the current pattern while in play mode.

If KR-55C is being used in a DAW, you may want to forego its internal pattern and song programming and instead use the DAW for programming and playing MIDI notes. This might be a little less fun than clicking colorful buttons on and off, but it allows far more flexibility in terms of note placement/quantization and velocity.

No special setup is required as KR-55C always responds to incoming MIDI note data from a MIDI/USB controller or the DAW itself, but there are a few things to be aware of.

Sync

Make sure that *Sync* switch in the Tempo sectio is set to *Off* to prevent the internal pattern sequencer from playing back when DAW play is initiated.

Velocity

When using KR-55C's onboard pattern programming, notes alway play at full volume, but when using a DAW, note volume is always controlled by MIDI velocity. This offers a whole other level of expression, but if you'd the

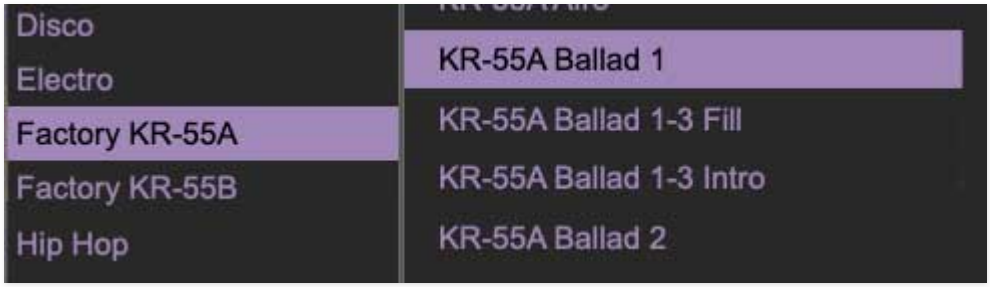
everything-loud-all-the-time vintage drum machine experience, make sure to crank up note velocities - most DAWs have editing facilities that make this easy to do.

Transferring KR-55C Patterns to a DAW using Drag-Export

The *Drag-Export* button in the Programmer section makes it really easy to copy patterns to a DAW. Simply click and drag the *Drag Export* button array to the desired position in the KR-55C instrument DAW timeline/grid (you can also drag to your computer's desktop to create Standard MIDI file - super cool, right?). Keep in mind that *Drag-Export* works for patterns or entire songs.

When playing back the newly created MIDI clip, make sure to set *Host Sync* to the *Off* position, otherwise the pattern will simultaneously play fromKR-55C's sequencer *and* the DAW, and no one wants that malarkey.

Drag-Exporting Factory Preset Rhythms



When Pattern Mode is set to *Preset*, a plastic cover (ok, not really plastic) conceals the Programmer section, including the *Drag-Export* button - bummer! But there's a simple workaround - all of the factory preset patterns, intros and fills for both the 55A and 55B are included as user patterns in the preset browser. Simply select the pattern you'd like in the preset browser and use the *Drag-Export* button as detailed above.

Default Voice MIDI Mapping

The onboard instrument default MIDI notes assignments are shown in the table below. We mostly stuck to Standard MIDI drum mapping, but a few were changed in order to avoid three octaves jumps for some of the percussion voices. The good news is that MIDI note assignments are easily custom editable; more about this below the table.

INSTRUMENT	MIDI NOTE NUMBER	KEYBOARD KEY
BASS DRUM	36	C2
SNARE	38	D2
CYMBAL	49	C#3
HI-HAT CLOSED	42	F#2
HI-HAT OPEN	44	G#2
LOW TOM	43	G2
HIGH TOM	45	A2
LOW CONGA	40	E2
HIGH CONGA	41	F2
RIM SHOT	37	C#2
COWBELL	52	E3
CLAVES	39	D#2

CUSTOMIZING MIDI NOTE MAPPING

MIDI note assignments for drum voices can be customized by clicking on the triangles to the left the *Decay* controls on the Instrument Edit page. The easiest way is to select MIDI Learn Note; the triangle begins flashing. Tap the note on the keyboard you'd like to assign, and that's all. Alternatively, select the second menu *<instrument name> MIDI Note*, and choose the note from the popup menu.

Instrument can be reset to their default MIDI note by (you guessed it) selecting *Reset to Default MIDI Note*. This is actually handy if you forget the original mapping note.

The hi-hat menu includes two separate MIDI note assignments - one for the closed hi-hat voice and one for the open one. These are actually the same "voice," i.e. sound source, under the hood with separate envelopes for realistic-sounding opening and closing hats.

Custom MIDI note mappings are individually saved per patch - they are not globally altered.

KR-55C can be used in "multi-out" mode, meaning that each instrument sound can be routed to separate outputs within a DAW virtual mixer. This is useful for individual panning, using third-party effects plugins, or routing to separate physical outputs of a multi-output audio interface.

The procedure for configuring multi outs varies depending on which DAW you're using, so you may need to consult your DAW's owners manual, or find a YouTube video where some windbag yabs about nothing for six minutes and explains the actual procedure in the last 12 seconds of the video (Invariably, this video begins with, "*Hey guys*...").

Regardless of which DAW you're using, when loading/opening the KR-55C instrument plug-in, select the *KR-55C Multi Out* version.

KR-55C Multi Out Configuration

Stereo Mix outputs 1-2 operate exactly the same as the standard stereo version of KR-55C, that is KR-55C's onboard mixer section controls and onboard effects will all operate as usual. **We recommend turning the stereo mix DAW fader (the mixer channel with the KR-55C instrument) down to zero when using separate outputs, because mixing the instrument stereo outs with separate outs can get confusing.**

The remaining individual instrument outputs are pre-mixer fader; in other words, they're unaffected by the onboard mixer's *Level* and *Pan* controls, and KR-55C's onboard effects are *not* applied. Though the individual outs will show as stereo pairs, all of KR-55C's individual instruments are inherently mono.

KR-55C Multi Out separate outputs are configured as follows:

STEREO MIX	1-2
BASS DRUM	3-4
SNARE	5-6
CYMBAL	7-8
HI-HAT	9-10
LOW TOM	11-12
HIGH TOM	17-18
LOW CONGA	19-20
HIGH CONGA	21-22
RIM SHOT	23-24
COWBELL	25-26
CLAVES	27-28

Using KR-55C Multi Out in Logic Pro

Configuring multi out instruments in most DAWs is relatively easy, but in their admirable quest to simplify easy tasks by wildly overcomplicating them, it's a little confusing in Logic.

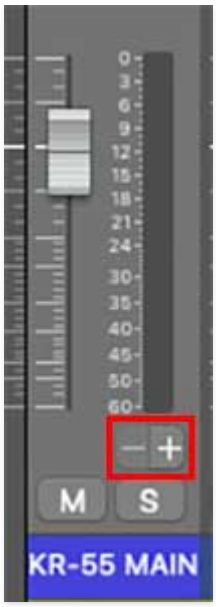
Essentially, you'll need to create mixer auxiliary channel strips to route separate each separate output. An aux mixer channel is the same thing you'd use when adding a bus effect (for example, if you were routing multiple sources to a single reverb effect), but instead of setting the aux's input to a "bus" selection in its popup menu, you'll set it to one of KR-55C's individual audio outputs.

If you know your way around Logic's mixer, these can be configured manually, but Logic Track Mixer multi out instrument channel strips have an easy-to-overlook shortcut that simplifies the process.

For this example, we'll assume you're using the Logic Track Mixer, as opposed to the old-school Logic Environment Mixer.

Open an instance of KR-55C in a DAW instrument channel; make sure to select *KR-55C Multi Out*.

Open the Track Mixer either by clicking the mixer button in the top left of the menu strip (this may or may not be present depending on your Logic header setup), or with the top menu *View>Show Mixer*.



In the main KR-55C instrument mixer channel strip, click the **+** button beneath the output meter to add aux channel strips. Repeat this step for each separate out you'd like to use. It should look like the image below.

The aux channels default names will be something like *Aux 1*, *Aux 2*, etc.; in the image below, we've double-clicked and renamed them to match each instrument out.

The aux channel strips can now be used to individually set volume and panning, and third-party effects can be added either to the individual out aux channel strips, or by inserting effects to additional aux channels and using the individual out aux channel strip send knobs. This is the most flexible approach, because it allows independent volume and panning adjustment of dry and effect signals. Note that the although KR-55C's instruments are all inherently mono, the aux buses will show up in stereo. For best results, we recommend leaving them in stereo mode (otherwise panning can get kooky).

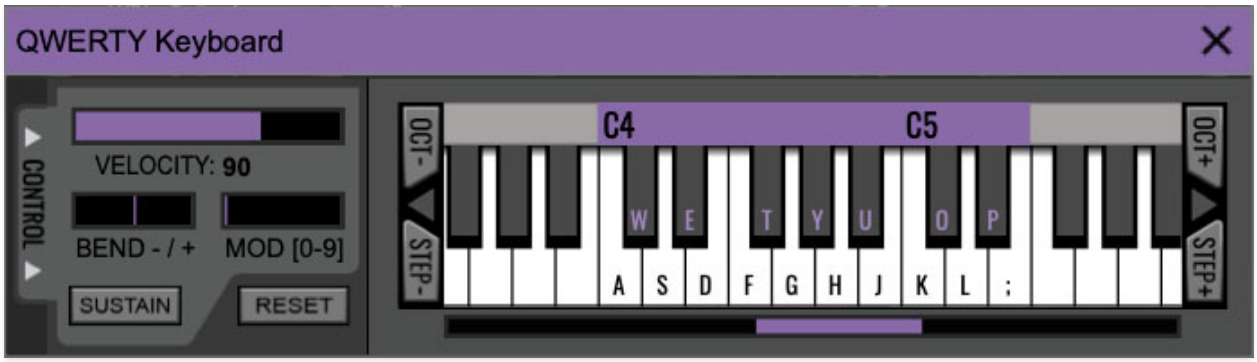
The aux channel inputs (i.e. instrument outputs) can also be reassigned by clicking the inputs buttons and selecting a different KR-55C source (i.e. instrument). We've added red bars around the input buttons in the image below:

We know the names are a little cryptic; unfortunately Logic doesn't let us give them custom names on the programming side. Below is a table showing each instrument and its seven-character Logic aux in selector name:

INSTRUMENT	LOGIC AUX BUS NAME
BASS DRUM	KR-53-4
SNARE	KR-55-6
CYMBAL	KR-57-8
HI-HAT	KR-9-10
LOW TOM	KR11-12
HIGH TOM	KR13-14
LOW CONGA	KR15-16
HIGH CONGA	KR17-18
RIM SHOT	KR19-20
COWBELL	KR21-22
CLAVES	KR23-24

Routing Instruments To Separate Audio Interface Physical Outputs

By default, all mixer channels and aux busses sum to Logic's master stereo outputs. To send KR-55C's individual outputs to separate physical outputs on a multi-out audio interface, click the *Outputs* buttons on the individual out aux channel strips (these will say *St Out* by default), scroll down, and select the desired *Output* or *Bus* destination.



If you don't have a MIDI keyboard attached to your computer, the standard QWERTY computer keyboard can be used to play notes - we're pretty sure you've got one of those!We'll refer to this as the "MTK." Following is a list of MTK keyboard modifiers and functions:

Opening and Closing the MTK - click the the circular keyboard icon in the top toolbar. To close the MTK, click the keyboard icon in the top toolbar, or click the *X* in the top right corner.

Play Notes- To trigger notes, simply press the corresponding computer keyboard key or mouse click the onscreen keys.

Adjust Currently Visible MTK Range- Slide the purple scroll bar horizontally to adjust the currently visible keyboard range.

Adjust Overall Visible Keyboard Range- Clicking and dragging the right edge of the MTL window allows the overall size of the window to be adjusted. This lets you view more or less of the onscreen keyboard. Note that the MTK window's borders cannot exceed the overall outside dimensions of the MG-1 Plus window.

Shift Range Up/Down Octave- Click the *OCT-* and *OCT+* buttons at the top left and right of the onscreen MTK. The current range is displayed above the keyboard. **KR-55C's C2-C3 default MIDI note assignments fit perfectly into the MTK keyboard's default range setting.**

Shift Range Up/Down Semitone- Click the *STEP-* and *STEP+* buttons at the bottom left and right of the onscreen MTK. The current range is displayed

above the keyboard.

Hide/View Controllers- Clicking *CONTROL* at the far left hides and displays velocity, bender, mod, and sustain control parameters. Hiding the control view makes more space available for the keyboard.

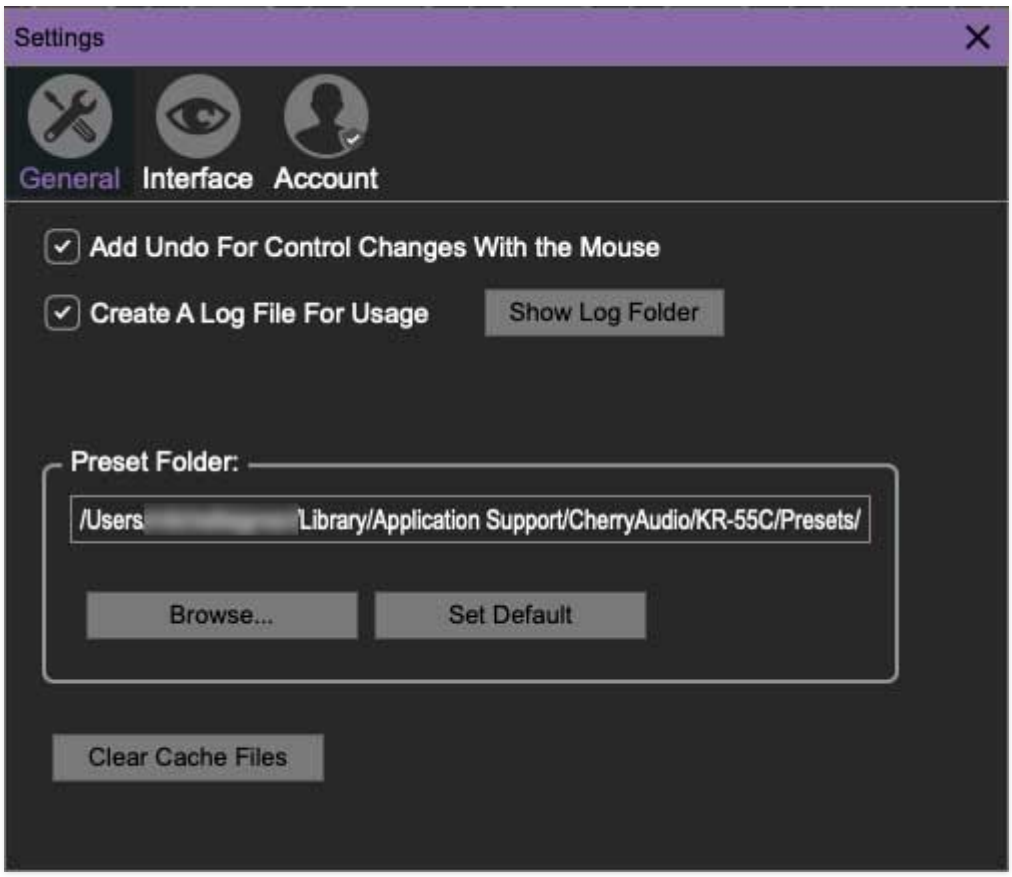
Mod Wheel- To add mod wheel modulation, press the number keys from *0-9* (above the character keys) while playing a note. The modulation amount will vary from none (*0*) to full modulation (*9*). Note that modulation will "stick" at the selected number; to disable modulation, click the *0* key. Mod can also be engaged by clicking the mouse in the mod bar area. (Mod Wheel doesn't affect any KR-55C parameters by default, but it can be used as a MIDI control source for any control. For more information about assigning MIDI controls, please see **MIDI Controllers Setup and The MIDI Tab** section.)

Reset- Initializes all MTK parameters including keyboard range and control parameters.

Settings

Clicking the settings gear opens a window with multiple tabs for configuring various "under-the-hood" settings. These are mostly set-and-forget kind of parameters - all the controls you'll use frequently are on the Edit Mode *Instrument*, *Mix*, and *FX* panels.

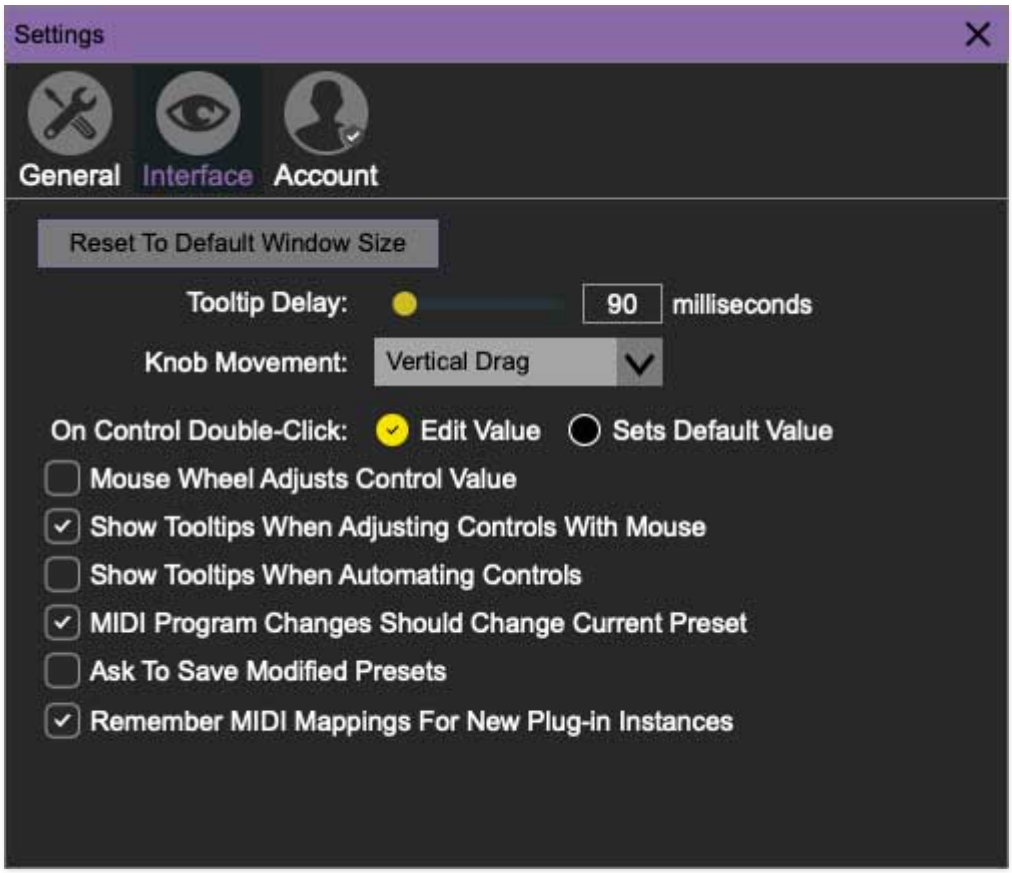
General



- **Add Undo For Control Changes With the Mouse**- Enabling this allows undo of knob/slider/button adjustments. You'll want this on if you want the ability to undo all aspects of patch editing and programming.
- **Create A Log File For Usage-** This creates a text doc of all internal and routines during use. It is mainly intended for our tech staff should you experience any issues. Clicking *Show Log Folder* opens the folder containing KR-55C log file docs.
- **Load Last Preset On Startup (Standalone Only)**- Automatically loads the last preset used when the standalone version is started.

- **Preset Folder-** Displays the current location of sound presets. This can be changed by clicking and typing in the field.
  - **Browse...** - Displays the current location of preset folder in the file manager.
  - **Set Default-** Sets the current displayed *Preset Folder* path as the default location
- **Clear Cache Files-** Deletes all log files, temporary patches, and the image cache.

Interface



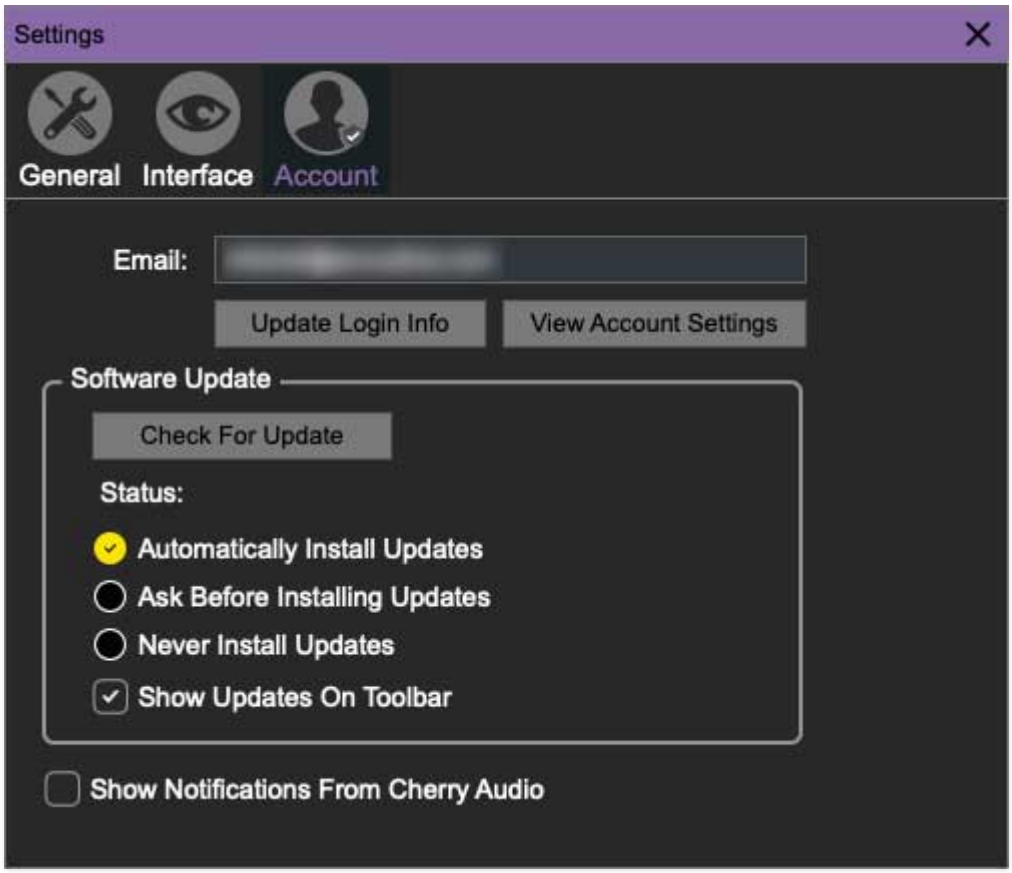
Allows customization of user interface settings.

- **Reset To Default Window Size-** Resets the workspace to default size. Use this to reset the window size if the window somehow becomes too large for your display and can't be resized.
- **Tooltip Delay-** Tooltips are those informative bits of text that pop up when hovering over a control (go ahead and try it, we'll wait...). The *Tooltip Delay* setting defines how long you must hover before the tooltip

pops up. You might want to set it to a faster time than default if you're one of those highly caffeinated, impatient types (e.g., me).

- **Knob Movement-** Defines how mouse movements relate to turning onscreen knobs. It defaults to *Vertical Drag*, but can be changed to *Horizontal Drag*, or *Rotary Drag* if you're one those folks that cut their teeth on the *Steinberg Model E* VST back in 2000.
- **On Control Double-Click**- Defines what happens when the mouse is double-clicked on a control. If *Edit Value* is selected, an exact number can be entered by typing the number and hitting [ENTER] or [RETURN]. If *Sets Default Value* is selected, double-clicking a control resets it to its default value.
- **Mouse Wheel Adjusts Control Value-** Enabling this lets you adjust knob, slider, and switch values by moving the mouse wheel. This works great with a standard mouse wheel, but you'll want to disable it if you're using an Apple Magic Mouse (which will move the control AND scroll the window).
- **Show Tooltips When Adjusting Controls With Mouse-** Displays parameter tooltips/values when the mouse is hovered over a control or as a control is moved with mouse clicked.
- **Show Tooltips When Automating Controls-** Displays parameter tooltips/values next to controls any time a control is changed, i.e. if a control is moved via an assigned MIDI controller or a *Perform* panel knob, etc.
- **MIDI Program Changes Should Change Current Preset-** Allows MIDI program change messages to change KR-55C patches.
- **Ask To Save Modified Presets-** This opens a dialog window asking if you'd like to save changes if a patch has been edited and a new patch is selected. If you're the type that likes to click through presets and tweak a control here and there, it can be annoying to have a window pop-up asking if you'd like to save every time you switch presets - if you're that person, keep this off.
- **Remember MIDI Mappings For New Plug-in Instances**- When enabled, all global MIDI Tab controller settings are stored and apply to new instances.

Account



Settings for personal login information and account.

- **Email**- Displays the email address of the current login.
- **Update Login Info**- Clicking this opens the same email and password login screen you'll see when initially launching.
- **View Account Settings**- This opens your personal account page on the Cherry Audio Store website containing information about modules purchased and more.

Software Update

- We often fix bugs and make improvements; below are options defining how KR-55C handles updates.

- **Check For Update-** Click this to see if an updated version is available.

Status-

- **Automatically Install Updates**- Updates are automatically downloaded and installed.
- **Ask Before Installing Updates**- By default, updated versions automatically download when available. Checking this box defeats automatic updates and will ask if you'd like to install updates when they

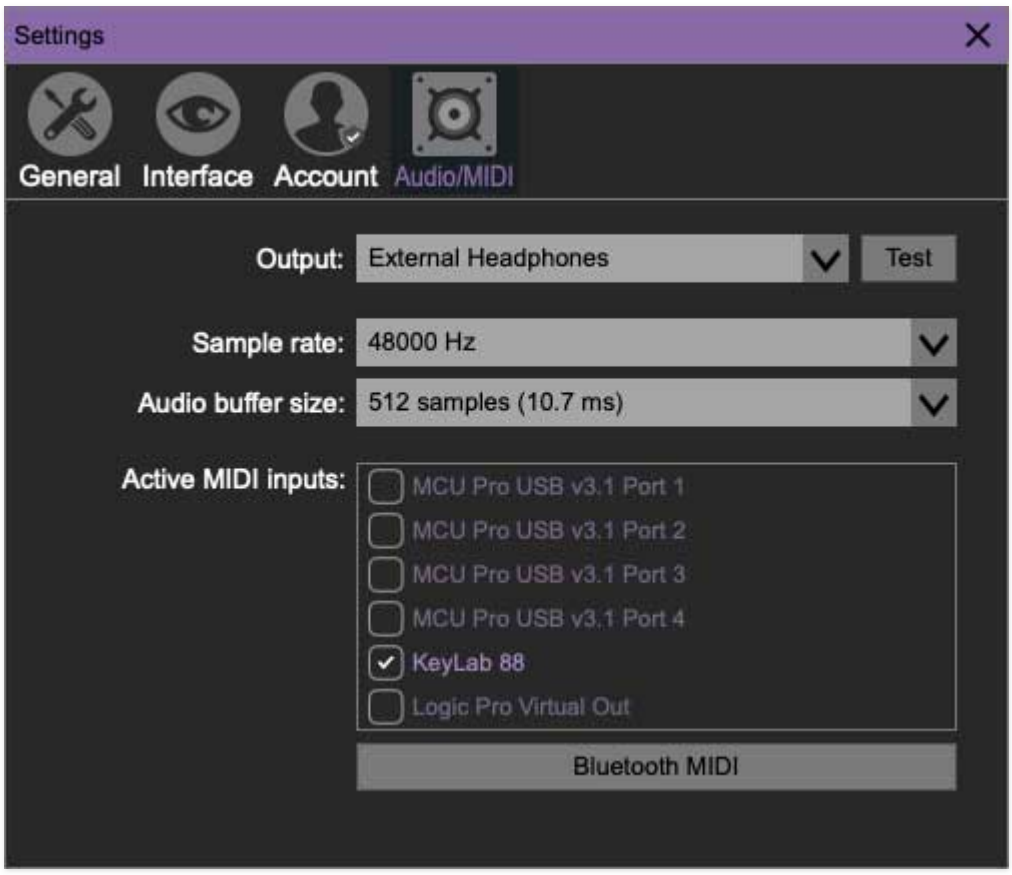
become available.

We'll never make changes that can potentially "break" existing patches but we recommend enabling *Ask Before Installing Updates* if you're using KR-55C for live performances or other "mission critical" situations.

- **Never Install Updates**- Updates are never automatically installed.
- **Show Updates On Toolbar**- Checking this will display an icon in the toolbar next to the logo letting you know there's an update available.

Show Notifications From Cherry Audio- We occasionally will fire off in-app advertisements; disabling this checkbox will hide them. We hate repetitive, annoying ads as much as you, so we don't use this feature too often.

Audio/MIDI



These are settings for audio and MIDI hardware input and output.

This tab is only visible in the standalone version of KR-55C.

- **Output**- Use this drop-down menu to choose a physical audio output source. This defaults to *Built-In Line Output*, i.e. your computer's onboard system audio, but you'll get better fidelity with an external professional audio interface. The biggest audible difference is usually reduced background noise or hum, but external audio hardware also offers greater flexibility in terms of number of inputs and outputs and built-in mic or low-level instruments pres (i.e. electric guitars). The *Test* button will produce a sine wave when clicked; this will help with troubleshooting, aka, "WHY THE HECK ISN'T THIS MAKING ANY NOISE?!?"
- **Sample Rate-** This sets the global sample rate. Lower sample rates offer better performance, but if you have a fast computer, high sample rates may offer slightly improved fidelity (at the very least, they'll give you something to bicker about on gearspace.com).
- **Audio Buffer Size**- As with any digital audio app, this defines performance vs. note latency, and will largely depend upon computer CPU speed. A professional external audio interface will almost always exhibit better performance than "built-in" system audio. Lower settings will result in less latency (in the form of faster response to notes played), but will increase the chances of audio gapping or crackling noise.
- **Active MIDI Inputs**- Enable MIDI input sources, i.e. MIDI/USB keyboards, pad controls, MIDI knob/fader control surfaces, etc. Check boxes to enable one or more devices. **If a MIDI/USB controller isn't working in standalone mode, make sure the appropriate box is checked here.** (We put this this piece of info *way* at the back of the manual, to make it extra challenging to figure out why things aren't working.)