



One-Riff Editor

User Manual

Edit and audition the 16 riffs your PianoHack reads from microSD

What's inside this manual

- What the One-Riff Editor does, and why riffs are written in C
- Setting up the microSD card and opening the editor in your browser
- Walk-through of every control: dropdown, 49 note boxes, piano, paste
- The new Riff Player — preview your riff with Up Arrow / Left Arrow
- Saving back to phRiffs.txt (Chrome/Edge direct vs. Safari/Firefox)

1. Welcome

The **PianoHack One-Riff Editor** is a small, single-page web tool that lets you create, edit, audition, and save the **16 riffs** your PianoHack plays through its **1-Button Riff** feature. It runs entirely in your browser — no install, no internet connection — and reads and writes the **phRiffs.txt** file that lives on your PianoHack's microSD card.

If you are new to the PianoHack itself: it is a MIDI add-on box that sits between your MIDI controller and your sound source. It listens to incoming MIDI notes and re-maps them to the right notes for the currently selected chord and key — turning clunkers into right notes while you focus on rhythm and dynamics. The **1-Button Riff** feature lets you assign up to 16 melodic riffs (each up to 49 notes long) to single keys or MIDI buttons, so you can fire off a melody one note at a time with whatever timing feels right. This manual covers *only* the editor used to author those riffs.

Who this manual is for

- **PianoHack owners** who want to customize the 16 riffs that ship by default.
- **Songwriters and worship/cover players** who want their own intros, hooks, and melodic lines available at the press of one button.
- **Bass players, guitarists, and producers** who already know a few MIDI note numbers and want a quick way to enter them.

About this version

This manual covers **PianoHack Riffs Editor v22 — Riff Player**. Compared to earlier versions, v22 adds a built-in **Riff Player** (green and orange buttons under the 49 note boxes) that lets you preview any riff one note at a time, right inside the editor, using the on-screen buttons or the **Up Arrow** and **Left Arrow** keys. The file is named `PianoHack_1-Riff_Editor_v_22.html` and ships on the microSD card alongside `phRiffs.txt`, `phRiffs_backup.txt`, and `ReadMe.txt`.

2. How Riffs Work on the PianoHack

Before you open the editor, it helps to understand exactly what a riff *is* from the PianoHack's perspective.

The four rules of a riff

- **Up to 16 riffs.** The PianoHack reads riffs 1 through 16 from the `phRiffs.txt` file. The editor shows them in a dropdown.
- **Up to 49 notes per riff.** The editor lays out 49 numbered boxes for you. Empty boxes are ignored — the firmware pads internally, so a short riff is just as valid as a long one.
- **Notes are MIDI numbers from 1 to 127.** Middle C is **60**. C an octave higher is **72**. Each step of **1** is one semitone (half step) up or down.

- **Always write in the Key of C.** This is the most important rule. The PianoHack transposes your riff in real time to whatever key the unit is set to. If you write in C, your riff plays correctly in every key. If you write in D, your riff will be wrong in 11 keys out of 12.

Why "all riffs in C" matters

When you change the PianoHack's key (for example, with the **Set Key** CC buttons), the unit transposes your stored C-major riff up or down by the right number of semitones. Writing in C is what makes one set of 16 riffs usable in every song you'll ever play.

What playing a riff actually does

When the PianoHack is in 1-Button Riff mode and you press a trigger key (any note on MIDI channel 9, by default), the unit outputs *one note* of the currently-selected riff. Press the trigger again — next note. Keep pressing — the riff cycles through to the end and then wraps back to the start. You control the rhythm and the dynamics; the editor just decides *which notes* come out, in what order.

The v22 editor includes a **Riff Player** that simulates exactly this behavior in your browser. You can audition any riff one note at a time before you ever touch the PianoHack. See section 8 for the full walk-through.

3. What You'll Need

Hardware

- A **microSD card, 32 GB or smaller**, formatted as **FAT32**.
- A **microSD card reader** for your computer (USB or USB-C adapter).
- Your **PianoHack**, of course — for testing your riffs once they're saved.

Software

- **Google Chrome or Microsoft Edge** — recommended. These browsers can save the edited file *directly back* to your microSD card.
- **Safari or Firefox** — also supported, but they will save by downloading a replacement phRiffs.txt that you then drag back onto the microSD card.
- A plain text editor (TextEdit, Notepad, etc.) — optional, only if you want to hand-edit phRiffs.txt outside the visual editor.

Files on the microSD card

Create a folder named **PianoHack** at the root of the microSD card. Inside that folder you should have four files:

File	What it is
PianoHack_1-Riff_Editor_v_22.html	The editor itself. Double-click to open in your browser.
phRiffs.txt	The active riff file. This is what the PianoHack reads on power-up.

phRiffs_backup.txt	A default backup. Copy and rename to phRiffs.txt to start over.
ReadMe.txt	A short text-file summary of these same instructions.

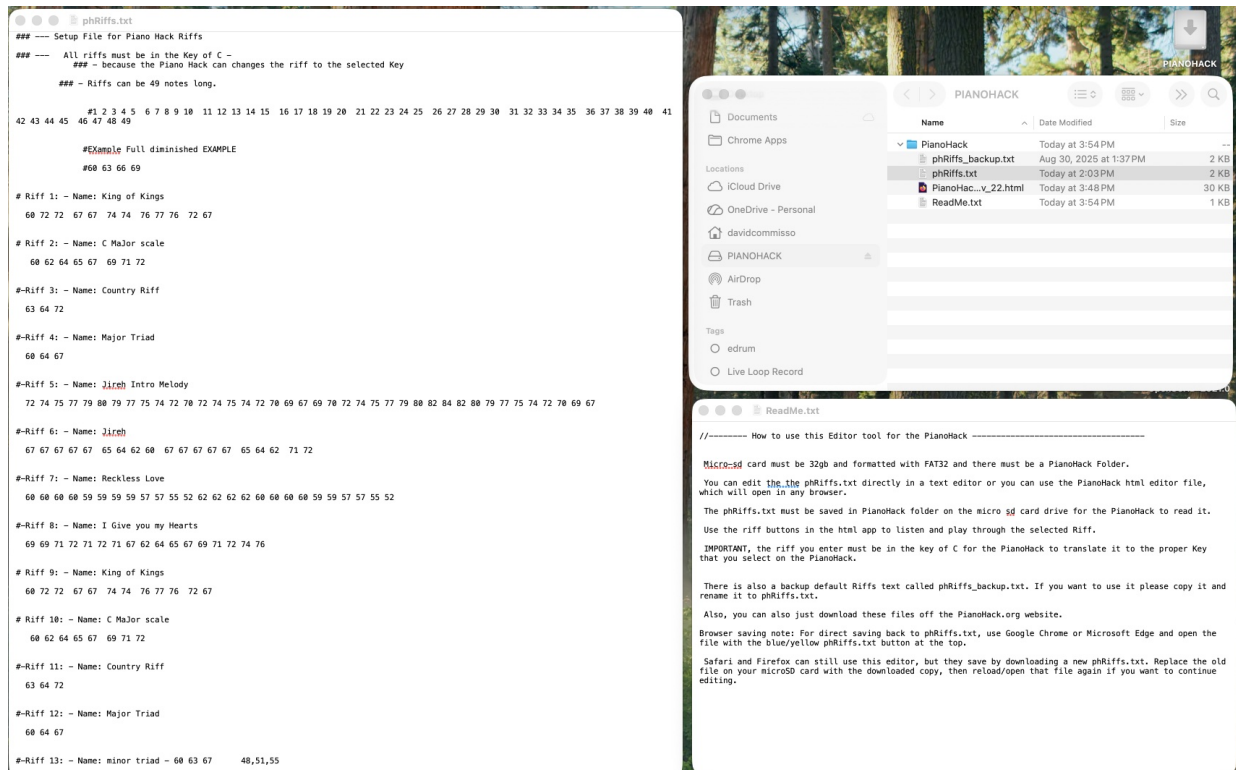


Figure 1 — The PianoHack folder on the microSD card showing all four files, with phRiffs.txt open in TextEdit and ReadMe.txt shown for reference. Your card may look slightly different in Finder/Explorer, but the filenames must match exactly.

4. Opening the Editor

Insert the microSD card into your computer's reader and locate the **PianoHack** folder. Then follow these steps:

1

Open **PianoHack_1-Riff_Editor_v_22.html** in **Google Chrome** or **Microsoft Edge**. The easiest way is to right-click (or Control-click) the file, choose **Open With**, and pick **Google Chrome** or **Microsoft Edge** from the list. The editor will open as a single page; nothing is uploaded, everything runs locally.

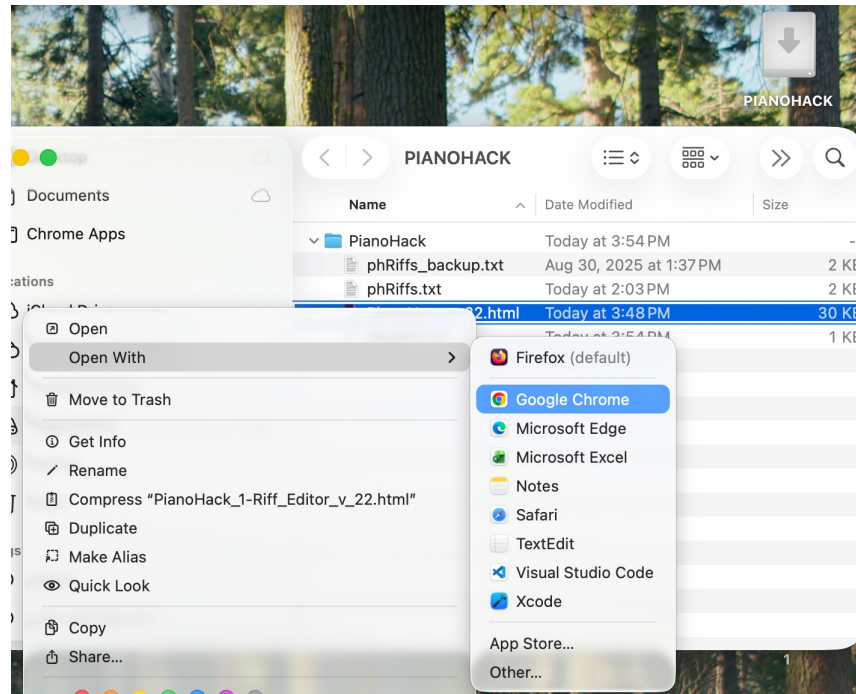


Figure 2 — Right-click the editor file and choose Open With → Google Chrome (Mac shown).

2

When the editor loads, you'll see the page title **PianoHack Riffs Editor — Dropdown (v22 · Riff Player)**, an orange button labeled **Click to Open phRiffs.txt**, and 49 empty note boxes below.

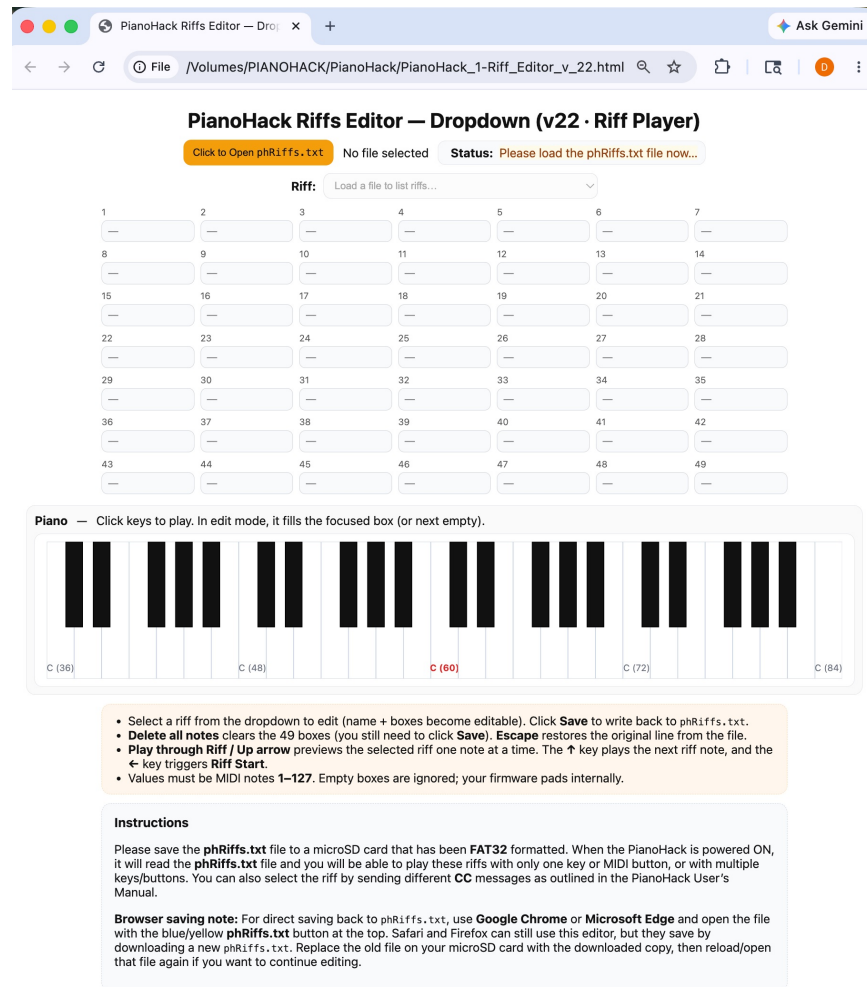


Figure 3 — The v22 editor immediately after opening, before any file is loaded. The 49 note boxes are greyed out until you load *phRiffs.txt*.

3

Click the orange **Click to Open phRiffs.txt** button. In the file-picker that appears, navigate to your microSD card → **PianoHack** folder → select **phRiffs.txt** and click **Open**.

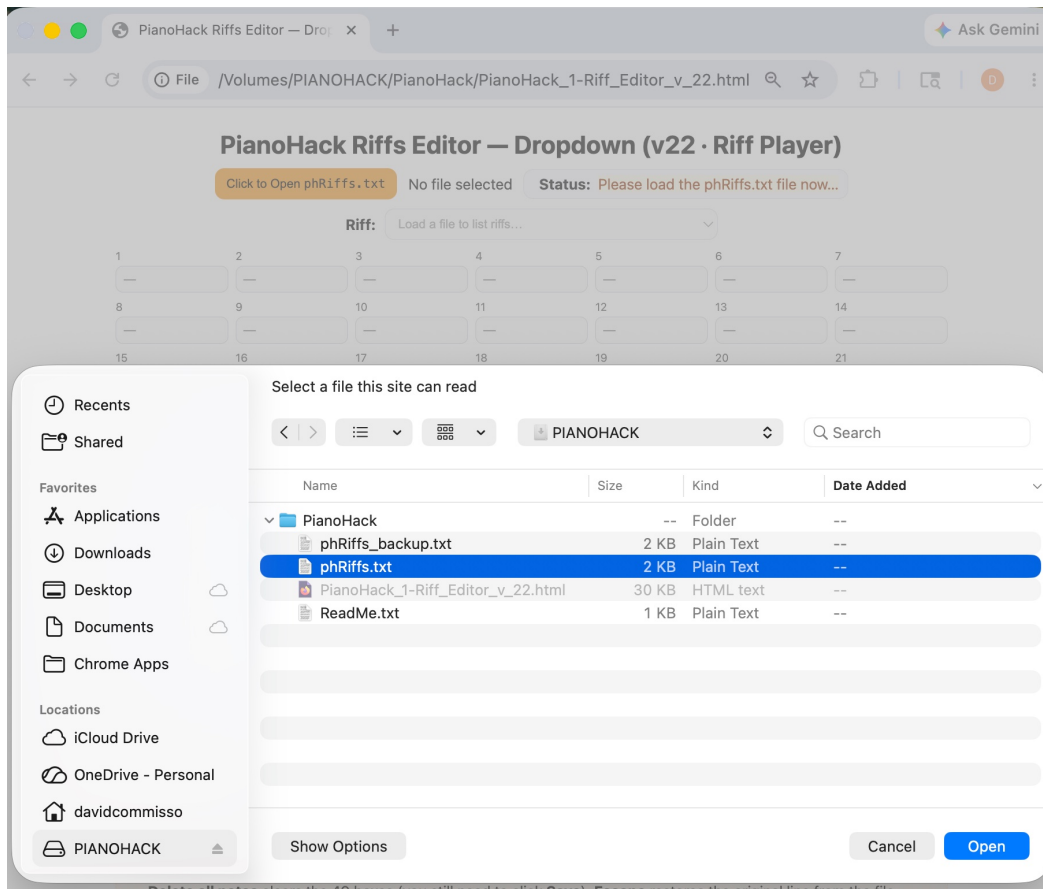


Figure 4 — Opening *phRiffs.txt* from the *PIANOHack* microSD volume. Select the file and click *Open*.

4

The editor reads the file, fills the dropdown with all 16 riffs, and turns the orange button blue. The status chip turns green and reads **File is Loaded — direct saving is enabled**.

PianoHack Riffs Editor — Dropdown (v22 · Riff Player)

phRiffs.txt Loaded

Status: File is Loaded — direct saving is enabled.

Riff: Select a riff...

Figure 5 — When the file is successfully loaded (Chrome/Edge), you'll see the blue **phRiffs.txt Loaded** button and the green **File is Loaded** status.

Chrome / Edge vs. Safari / Firefox

In **Chrome** or **Edge** the editor has full read/write access and **Save** will write back to the same file on the microSD card (after a one-time browser permission prompt — see section 9). In **Safari** or **Firefox** the button shows **phRiffs.txt Loaded (Read-Only)**; **Save** will instead download a new *phRiffs.txt* that you must drag onto the card, replacing the old one.

5. A Tour of the Editor

Once the file is loaded and you select a riff from the dropdown, the editor reveals all of its controls. Here is the full layout, top to bottom:

PianoHack Riffs Editor — Dropdown (v22 · Riff Player)

phRiffs.txt Loaded Status: Editing Riff: 16

Riff: 16 — I Give you my Heart

Edit Name: I Give you my Heart

1	2	3	4	5	6	7
69	69	71	72	71	72	71
8	9	10	11	12	13	14
67	62	64	65	67	69	71
15	16	17	18	19	20	21
72	74	76	—	—	—	—
22	23	24	25	26	27	28
—	—	—	—	—	—	—
29	30	31	32	33	34	35
—	—	—	—	—	—	—
36	37	38	39	40	41	42
—	—	—	—	—	—	—
43	44	45	46	47	48	49
—	—	—	—	—	—	—

Save Escape (Revert) Delete all Notes in this Riff

Play through Riff / Up arrow Riff Start (←) Played note 3 of 17. Next press will play 4.

Use these buttons to play through the Riff, test, and hear what it will sound like. You provide the rhythm and tempo — just like on the PianoHack.

Paste Multiple Notes (Separated by a Space or Comma) Fills the note boxes in edit mode. Not saved until you click **Save**.

69 69 71 72 71 72 71 67 62 64 65 67 69 71 72 74 76 Paste to boxes Cancel

Piano Riff note 3 of 17: 71 (B4) Click keys to play. In edit mode, it fills the focused box (or next empty).

C (36) C (48) C (60) C (72) C (84)

Figure 6 — The full v22 editor with Riff 16 ("I Give you my Heart") loaded. Note the new green **Play through Riff** button and the orange **Riff Start** button under the 49 note boxes — these are the Riff Player controls new in v22.

Region-by-region reference

Top bar

Shows the **file button** (orange before loading, blue after) and a **Status** chip. Status messages turn green for success, amber for warnings ("Editing Riff: 16"), and red for errors.

Riff dropdown

Lists all 16 riffs by number and name (e.g. *16 — I Give you my Heart*). Pick one and the editor instantly switches into edit mode for that riff.

Edit Name field

The mint-green box just under the dropdown. Type a new name here and it will be written into the riff's header line when you click Save.

49 note boxes

Yellow numbered fields, 1 through 49. Each box holds one MIDI note number (1–127). Boxes you leave empty are simply ignored. While the Riff Player is running, the currently-playing box is highlighted in blue.

Save / Escape (Revert) / Delete all Notes

Save writes your changes back to phRiffs.txt. **Escape (Revert)** throws away your unsaved changes and restores the riff exactly as it was when you opened the file. **Delete all Notes in this Riff** clears all 49 boxes — note that you still need to click Save to commit the deletion.

Riff Player (NEW in v22)

The green panel just below the buttons. The green **Play through Riff / Up arrow** button plays the next note of the current riff; the orange **Riff Start (←)** button resets playback to note 1. The status text tells you exactly where you are (e.g. *"Played note 3 of 17. Next press will play 4."*). The **Up Arrow** and **Left Arrow** keys are keyboard shortcuts for the same two buttons.

Paste Multiple Notes

The purple button opens a single text field where you can paste a whole riff's worth of notes at once, separated by spaces or commas. See section 7 for details.

Piano keyboard

A four-octave visual piano from **C(36) to C(84)**, with Middle C highlighted in red. Click any key to hear it and — if you're in edit mode — drop that key's MIDI number into the focused box (or the next empty one). While the Riff Player is running, the currently-playing key is highlighted blue, and the label above the piano shows something like *"Riff note 3 of 17: 71 (B4)"*.

6. Editing a Riff — Step by Step

Here is the most common workflow. Once you have done it once or twice you can stop reading and just *do* it.

1

From the **Riff:** dropdown, choose the riff you want to change (for example, *16 — I Give you my Heart*). The name field and all 49 boxes light up yellow to show they are now editable.

2

Optional: type a new name in the **Edit Name** field. This is what will appear in the dropdown next time.

3

Edit notes. You have three ways to put a value into any box:

- a. Type a MIDI number (e.g. 60 for Middle C) directly into the box.
- b. Click a box to focus it, then click a key on the on-screen piano — the MIDI number drops in automatically and focus moves to the next empty box.
- c. Use the **Paste Multiple Notes** button to fill many boxes at once.

4

Audition your work. Click the green **Play through Riff / Up arrow** button (or press the **Up Arrow** key) to step through the riff one note at a time. Each note plays through your speakers and the corresponding box lights up blue. Click **Riff Start (←)** or press the **Left Arrow** key to return to note 1 at any time.

5

Clean up. Empty boxes you don't need are fine — leave them blank. If you want a fresh start, click **Delete all Notes in this Riff**.

6

Click the blue **Save** button. The Status chip will turn green and say something like **Saved Riff 16**. Your changes are now on the microSD card.

Changed your mind?

Click the orange **Escape (Revert)** button at any time *before* you save. It restores the riff to exactly what was on disk when you loaded the file.

Sample riff: "I Give you my Heart"

Here is what one of the default riffs looks like as MIDI numbers. All values are in the Key of C — the PianoHack will transpose at playback:

69 69 71 72 71 72 71 67 62 64 65 67 69 71 72 74 76

That's 17 notes. The remaining 32 boxes stay empty.

7. The Paste Multiple Notes Feature

If you already have a riff written out as a sequence of MIDI numbers — in a notebook, in a text file, or copied from another riff — you don't have to enter them one box at a time. The **Paste Multiple Notes** field accepts the whole sequence in one go.

How to use it

- 1 Make sure a riff is selected for editing (the boxes are yellow).
- 2 Click the purple **Paste Multiple Notes (Separated by a Space or Comma)** button. A text field and a blue **Paste to boxes** button appear.
- 3 Type or paste your notes into the field. Both spaces and commas are accepted as separators, so any of these work:

60 62 64 65 67 69 71 72
 60, 62, 64, 65, 67, 69, 71, 72
 60, 62, 64, 65 67 69, 71, 72
- 4 Click **Paste to boxes**. The 49 yellow boxes refill, left-to-right, with your notes. Extra boxes stay empty. Then click **Save** to commit, just like normal.

Out-of-range values are clamped, not rejected

If you paste a number above **127** or below **1**, the editor silently snaps it to the nearest valid MIDI value. Numbers it can't read at all (letters, symbols, blank entries) are skipped. Anything after the 49th valid number is also dropped.

8. The Riff Player (New in v22)

The Riff Player is the headline new feature in v22. It lets you audition any of your 16 riffs *inside the editor*, one note at a time, just like you would on the PianoHack itself. You don't need to save the file, eject the card, plug it back into the PianoHack, and play through it to find out whether you got the notes right. You can hear it before you ever leave the browser.

Two controls, two keyboard shortcuts

Button	Keyboard	What it does
Play through Riff / Up arrow (green)	Up Arrow	Plays the next note of the current riff. After the last note, wraps back to note 1.
Riff Start (orange)	Left Arrow	Resets the riff to note 1. The next press of Play through Riff plays note 1.

What you'll see while a riff plays

- The **active note box** (one of the 49 yellow fields) gets a bright blue glow so you can see exactly which step you're on.

- The **on-screen piano key** for that note is highlighted blue, and the label above the piano updates to read something like *"Riff note 3 of 17: 71 (B4)"* — telling you the step number, the MIDI value, and the note name.
- The **status line** inside the green Riff Player panel reads *"Played note 3 of 17. Next press will play 4."* so you always know what's next.
- **Editing resets playback.** If you change a note in any of the 49 boxes, the Riff Player resets to the start so you don't accidentally audition stale playback.

Why this matters

The Riff Player simulates the PianoHack's actual playback behavior: one note per trigger press, wrapping around at the end. Whatever you hear in the browser is what you'll hear out of your sound module when you save and plug the card back into the PianoHack. Use it to catch typos, octave errors, and "hmm, that's not what I meant" moments before you commit.

Tip: use the keyboard, not the mouse

Click anywhere on the green Riff Player panel (or any non-input area of the page) first to give it keyboard focus, then just tap **Up Arrow** repeatedly — you don't have to keep moving the mouse to the button. Tap **Left Arrow** to jump back to the start. This is the fastest way to audition a riff at your own tempo.

9. Saving Your Work

The editor handles saving in two different ways depending on which browser you opened it with.

Chrome and Edge — direct save

These browsers support the modern File System Access API. The editor opens `phRiffs.txt` with read access; the first time you click **Save**, the browser shows a one-time permission prompt asking whether the page may write to the file. Click **Save changes** and from then on the editor writes directly back to the *same file* on the *same microSD card*. No drag-and-drop required. After save, the status chip turns green and reads **Saved Riff N**.

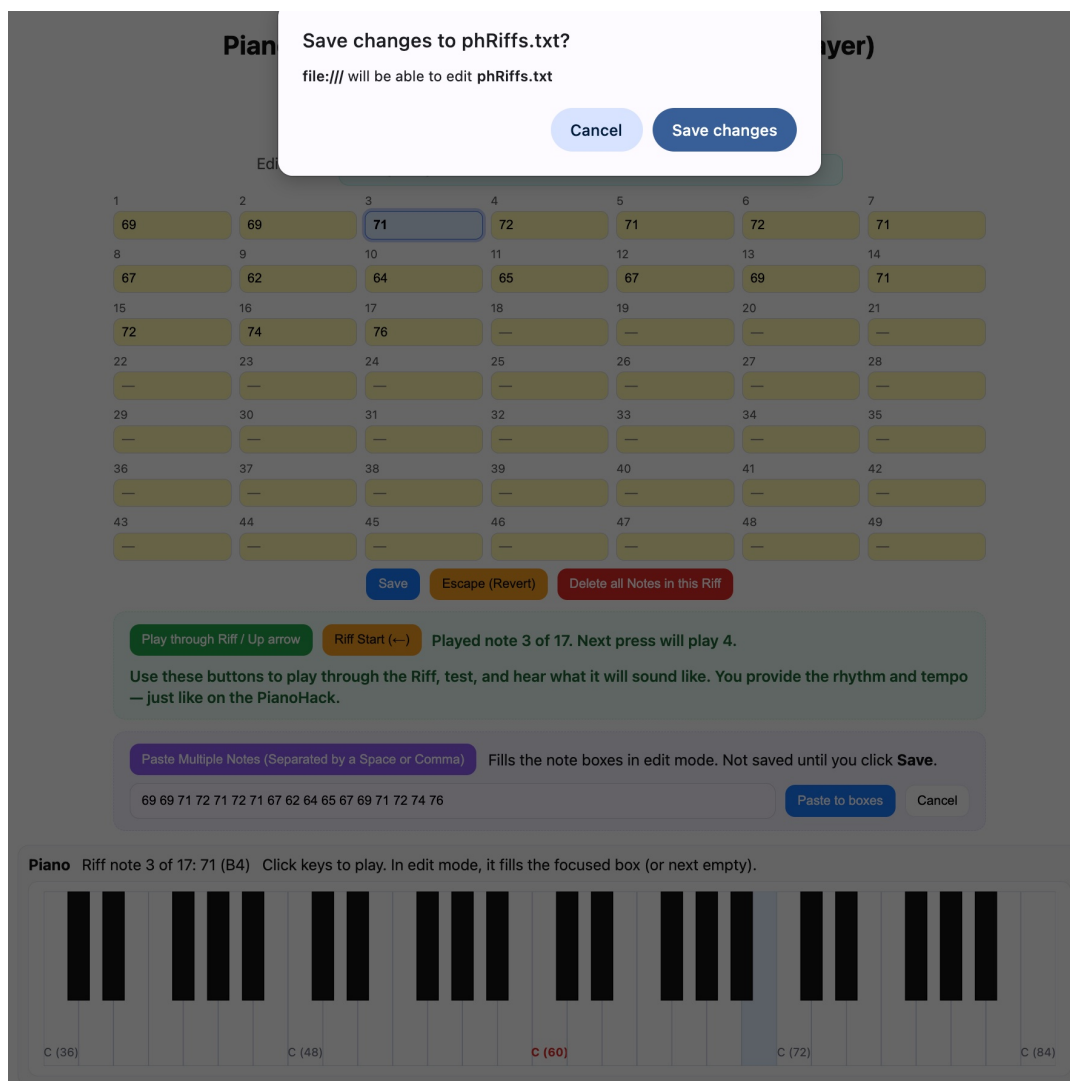


Figure 7 — The one-time browser permission prompt the first time you save. Click **Save changes** to grant write access. The editor will remember this for the rest of the session.

Safari and Firefox — download a replacement

These browsers open the file as read-only. The editor still lets you edit normally, but when you click **Save** it instead **downloads a new copy** of phRiffs.txt to your computer's Downloads folder. To put it onto your PianoHack, you must:

- Drag the newly-downloaded phRiffs.txt into the **PianoHack** folder on your microSD card.
- When the system asks, choose **Replace** to overwrite the old file.
- If you want to keep editing, re-open the (replaced) file inside the editor.

If a direct save ever fails

Even in Chrome/Edge, if the editor cannot write back to the card for any reason (card removed, file locked, permissions revoked), it will automatically fall back to the download-a-replacement behavior and tell you so in the Status chip. Your changes are never lost — they end up in your Downloads folder.

What ends up in phRiffs.txt

Each riff occupies two lines in the text file: a comment header with the riff number and name, then a line of MIDI numbers separated by spaces. For example, after editing Riff 16 to the I-Give-you-my-Heart sequence, the file contains:

```
#-Riff 16: - Name: I Give you my Heart  
69 69 71 72 71 72 71 67 62 64 65 67 69 71 72 74 76
```

You can open phRiffs.txt in any text editor at any time to inspect or hand-edit it — but most of the time the visual editor is faster and safer.

10. Using the On-Screen Piano

The piano below the buttons is a four-octave keyboard running from **C2 (MIDI 36)** to **C6 (MIDI 84)**. Each **C** key is labeled with its MIDI number; **Middle C (60)** is labeled in red so you can find it at a glance.

Three ways the piano helps you

- **Audition individual notes.** Click any key with the mouse to hear it played. This is the quickest way to confirm "yes, that's the note I meant" before committing it to a box.
- **Enter notes by clicking.** While editing a riff, click the box you want to fill (or just start clicking the piano — the editor will pick the next empty box automatically). Each piano click drops that key's MIDI number into the focused box and advances focus.
- **Follow along with the Riff Player.** When the Riff Player is stepping through a riff, the currently-playing key lights up blue and the label above the piano (*Piano · Riff note N of M: V (note name)*) updates in real time.

MIDI numbers worth memorizing

60 = Middle C · **62** = D · **64** = E · **65** = F · **67** = G · **69** = A · **71** = B · **72** = C (one octave above middle). Add 12 to go up an octave, subtract 12 to go down. Sharps/flats are the in-between numbers (e.g. C# = 61, F# = 66).

Octave reference (C-major notes)

Octave	C	D	E	F	G	A	B
C2	36	38	40	41	43	45	47
C3	48	50	52	53	55	57	59
C4 (mid)	60	62	64	65	67	69	71
C5	72	74	76	77	79	81	83
C6	84	—	—	—	—	—	—

The C4 row is tinted red because that's the Middle C / MIDI 60 row highlighted on the on-screen piano.

11. Tips, Tricks, and Riff Ideas

Quick wins

- **Audition before you save.** The Riff Player exists for exactly this reason. Tap Up Arrow a few times after every edit.
- **Start from the C major scale.** The default Riff 2 is 60 62 64 65 67 69 71 72. Modify a few notes and you've got a custom melody in seconds.
- **Repeat short patterns.** Many memorable riffs are 4–8 notes long with a few repeats. You don't need to fill all 49 boxes.
- **Use rests with your trigger button.** The PianoHack steps one note per trigger press, so you create rhythm by *when* you press, not by leaving gaps in the riff.
- **Octave jumps are cheap.** Repeating a note 12 semitones higher (e.g. 60 72 72) gives a riff instant character. The default *King of Kings* riff opens exactly this way.
- **Save a known-good riff to a spare slot.** If you're about to experiment, copy your favorite riff's numbers into the paste field, then open an unused riff slot and paste them in as a backup.

Common riff patterns in C (safe starting points)

Idea	MIDI sequence
C major triad	60 64 67
C minor triad	60 63 67
Full C major scale up	60 62 64 65 67 69 71 72
Scale up & down	60 62 64 65 67 65 64 62 60
Octave hook	60 72 72 67 67 74 74 76 77 76 72 67
Pentatonic noodle	60 62 64 67 69 67 64 62
Bass-style root/fifth	48 55 48 55 48 55 48 55

Paste any of these into the Paste Multiple Notes field and tap Up Arrow to audition before saving. All values are in C — the PianoHack will transpose them to whatever key the unit is set to at playback.

12. Troubleshooting

The editor opens but the dropdown stays empty.

You haven't loaded a file yet. Click the orange **Click to Open phRiffs.txt** button at the top and select the file from your PianoHack folder on the microSD card.

Status chip says "Loaded read-only" in Chrome/Edge.

You may have selected the file from a downloaded copy or from a location the browser treats as restricted. Try opening the file directly from the microSD card volume.

The save permission dialog never appears in Chrome/Edge.

If the editor reports "saving as a download" the very first time you click Save, your browser may have File System Access disabled or the file was opened from a restricted location. Re-open the file directly from the microSD card volume in a regular Chrome or Edge window.

Up Arrow / Left Arrow don't do anything.

Click anywhere inside the editor page first to give it keyboard focus. If your cursor is in a note box or the paste field, arrow keys move between fields instead of triggering the Riff Player — click outside those fields (for example, on the green Riff Player panel) first.

Clicking Save does nothing visible.

Check the Status chip. If it's amber and mentions "downloaded", look in your Downloads folder for the new phRiffs.txt and copy it back to the microSD card.

The PianoHack doesn't play my edited riff.

Confirm three things: (1) the microSD card is FAT32, (2) the file is named exactly phRiffs.txt inside a folder named PianoHack, (3) you wrote the notes in the Key of C and selected the correct riff number (CC#27 on channel 7) on your controller.

My riff plays in the wrong key.

Almost always this means the riff was written in a key other than C. Re-enter it in C. The PianoHack's Set-Key buttons handle transposition for you at playback.

Some notes seem skipped or clamped.

MIDI values outside 1–127 are clamped to the nearest valid value. Empty boxes are skipped. Both behaviors are by design.

I accidentally cleared all notes in a riff.

If you haven't clicked Save yet, click **Escape (Revert)** and the original riff comes back. If you've already saved, copy the matching riff out of phRiffs_backup.txt (use a plain text editor) and paste it back in using the Paste Multiple Notes field.

Editor looks broken on a phone or tablet.

The editor is designed for desktop browsers. It will run on mobile in an emergency, but the 49-box grid and four-octave piano need a wider screen to be usable.

13. Quick Reference Card

Editor buttons at a glance

Button / Control	What it does
Click to Open phRiffs.txt (orange)	Loads phRiffs.txt from the microSD card.
phRiffs.txt Loaded (blue)	Shown when the file is open. Click again to load a different file.
Riff: dropdown	Selects which of the 16 riffs to edit.
Edit Name field (mint)	Renames the selected riff.
49 yellow note boxes	Hold MIDI note numbers 1–127. Empty = ignored.
Save (blue)	Writes changes back to phRiffs.txt (or downloads a replacement).
Escape (Revert) (orange)	Throws away unsaved changes. Restores the original riff.
Delete all Notes in this Riff (red)	Clears all 49 boxes. You still need to click Save.
Play through Riff / Up arrow (green)	Plays the next note of the current riff. Up Arrow key = same.
Riff Start (orange)	Resets playback to note 1. Left Arrow key = same.
Paste Multiple Notes (purple)	Opens a field to paste a whole riff at once.
Paste to boxes (blue)	Fills the 49 boxes from the pasted text.
Piano keys	Audition a note, or drop it into the focused box.

Keyboard shortcuts

Key	Action
Up Arrow	Play next note of the current riff (Riff Player).
Left Arrow	Reset the riff to note 1 (Riff Start).

Three rules to remember

- **Always write riffs in the Key of C.** The PianoHack transposes at playback.
- **Empty boxes are fine.** A 4-note riff is just as valid as a 49-note riff.
- **Chrome/Edge saves directly; Safari/Firefox downloads a replacement.** Either way, your changes are preserved.

Have fun making riffs. The whole point of the PianoHack is to put your musical ideas one button press away.