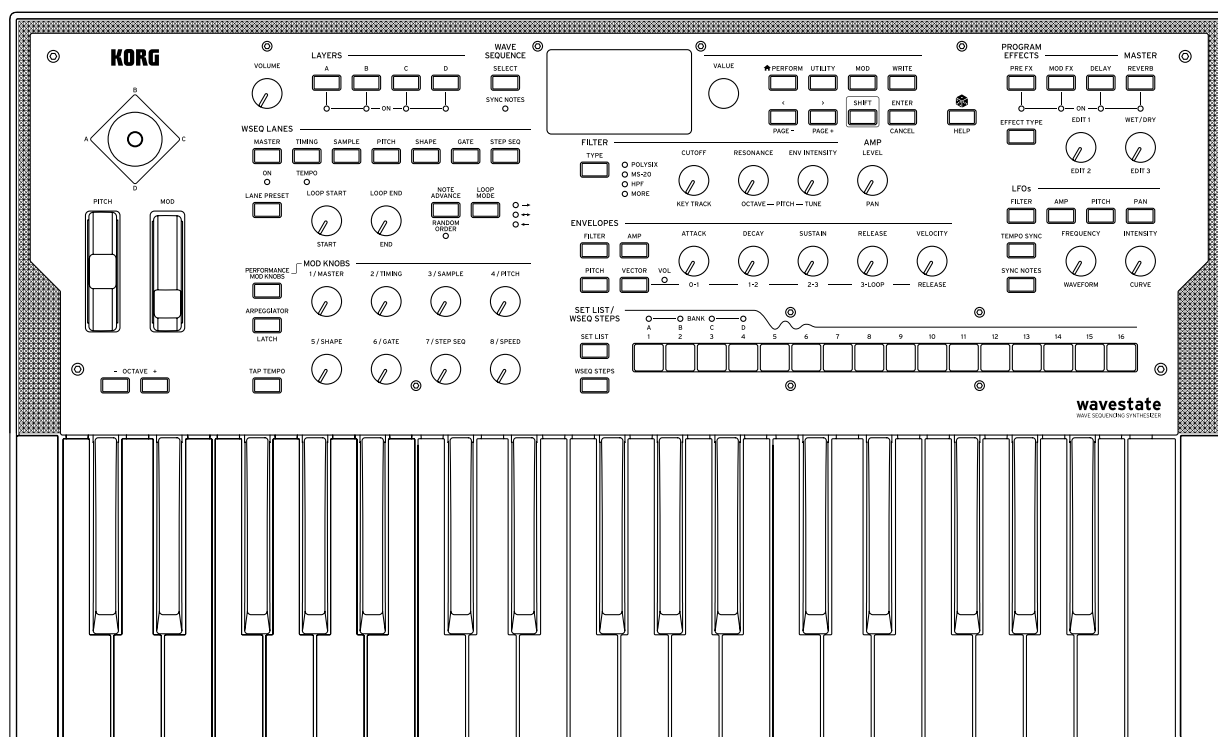# wavestate

WAVE SEQUENCING SYNTHESIZER

Editor/Librarian Owner's Manual

KORG

E3

Contents

Introduction

About the wavestate Editor/Librarian

The wavestate Editor/Librarian lets you organize and edit data on a wavestate connected to a Mac or Windows computer via USB, and transfer sound data back and forth between the wavestate and the computer.

For instance, you can:

- Edit Set Lists, Performances, Programs, Wave Sequences, and Wave Sequence Lanes
- See the progress of sequences and the results of modulation in real-time
- Back up and restore all of the wavestate's data
- Use Import and Export to transfer sounds to and from your computer, from one wavestate to another, and to and from the wavestate native plug-in
- Edit metadata for user sounds (Set Lists, Performances, Programs, Wave Sequences, and Wave Sequence Lanes), including the Name, Categories, and Collections (as shown on the wavestate's display), as well as additional meta-data including the Author and per-sound notes

Think of the Editor/Librarian as an external display for the wavestate

✏ *Important*: It's best to think of the Editor/Librarian as an external display for the wavestate, instead of as a separate program. Everything that you see in the Editor/Librarian's main and Set List windows is actually stored on the connected wavestate.

When you make edits or import data with the Editor/Librarian, you are directly editing the data on the connected wavestate. The Editor/Librarian can export data to your computer (for backup, or for transferring to another wavestate), but it has no data of its own. This also means that the Editor/Librarian cannot be used "off-line;" it only functions when connected to a wavestate.

Changes in Editor/Librarian version 1.1

wavestate owners are eligible for a significant discount on the wavestate native plug-in, via a coupon code tied to the wavestate hardware's unique ID. wavestate Editor/Librarian version 1.1 adds support for generating these coupon codes, support for Wave Sequence Step Solo, and other minor improvements. wavestate software version 2.1.0 is required.

Cautions

Do not disconnect your wavestate from USB, or turn its power off, while the Editor/Librarian is running.

Do not operate your wavestate while data is being transmitted.

Operating requirements

To use the wavestate Editor/Librarian, you need a wavestate running software version 2.1.0 or later, a USB cable, and a USB-capable Mac or Windows computer that satisfies the requirements below.

Note: Full functionality is not necessarily guaranteed with all computers, even if they satisfy these system requirements.

MacOS

Operating system: Mac OSX 10.12 or later, including macOS 11 and 12.

Windows

Operating system: Windows 7 SP1 or later, including Windows 8,Windows 10, and Windows 11. 64-bit versions only; 32-bit versions are not supported. Touch panel operation is not supported.

Installation

wavestate software version 2.1.0 or later is required

Check the software version of the wavestate:

1. **Press UTILITY and then SHIFT + < (PAGE -).**

This will take you to the About page. The version number is shown at the top of the screen. If the version is 2.0.1 or earlier, you'll need to update the wavestate before continuing. The latest wavestate software can be downloaded from the Korg website (http://www.korg.com/).

What's installed on my computer, and why?

The Editor/Librarian communicates with the wavestate using networking over USB, as opposed to MIDI. To automatically identify and connect with the wavestate over the network, the Editor/Librarian uses the mDNS standard. On Windows, this requires Apple Inc.'s Bonjour, and so this is installed along with the Editor/Librarian application.

USB Network setting

The USB Network parameter is on the MIDI & USB page. To get there:

1. **Press UTILITY twice, and then hold SHIFT and press > (PAGE +).**

If this page is named MIDI, and the USB Network parameter does not appear, please update to wavestate software 2.0 or later before proceeding.
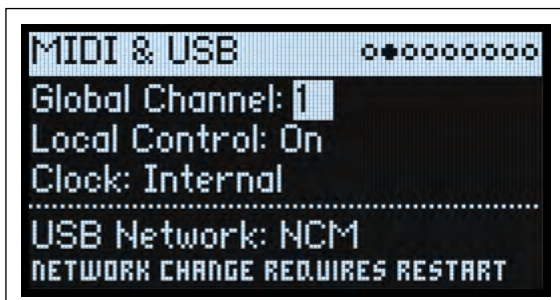
USB Network

[RNDIS, NCM]

RNDIS: This is the RNDIS protocol, primarily for use with Windows 7 and 8.

NCM: This is the Network Control Model protocol, for use with MacOS and Windows 10.

🔺 *Important:* Changes to this parameter take effect only after the wavestate has been turned off and restarted.

MacOS

To install the software on MacOS:

1. **On the wavestate, make sure that the USB Network parameter is set to NCM.**

For more information, see "USB Network" on page 2. If you change the setting, restart the wavestate before proceeding.

2. **Connect your wavestate to the computer via USB.**

3. **Open the wavestate Editor/Librarian [version number] .dmg file in the Finder.**

The disk image will open.

4. **On the disk image, open the wavestate Editor/Librarian [version number] .pkg file.**

The installer will start.

5. **Follow the on-screen instructions to complete the installation. Enter your administrator password when prompted.**

The installation will run, and the Editor/Librarian application will be installed in Applications/KORG/wavestate.

Windows

To install the software on Windows:

1. **Double click "Korg wavestate Editor/Librarian [version number] Installer.exe."**

The installer will start.

2. **Follow the on screen instructions to complete the installation.**

The installation will run. Two separate items are installed: Apple Inc.'s Bonjour, which allows the computer to communicate with the wavestate through USB Networking (see below) and the Editor/Librarian application.

3. **After the installation is complete, if you have not already configured the NCM or RNDIS driver, do so now.**

The wavestate uses either NCM or Microsoft's RNDIS to communicate with the computer. If you've had to update the wavestate software, you'll already have done this configuration, and can simply launch the Editor/Librarian and get going! Otherwise, follow the instructions below. Note that the process works slightly differently for Windows 7, 8, and 10.

In some cases, the wavestate may not be immediately recognized after installation. If this occurs, simply restart your computer.

RNDIS configuration: Windows 7

After connecting the wavestate to a Windows 7 computer, there will be new entries in the Device Manager under "Other Devices" and also under "Sound, video and game controllers."

1. **On the wavestate, make sure that the USB Network parameter is set to RNDIS.**

For more information, see "USB Network" on page 2. If you change the setting, restart the wavestate before proceeding.

2. **Plug in the USB cable from the wavestate.**

3. **Open the Start Menu, and select Control Panel.**

The Control Panel opens.

4. **Click on Hardware and Sound.**

The Hardware and Sound window appears.

5. **Under Devices and Printers, click on Device Manager.**

The Device Manager appears.

6. **Confirm that a new RNDIS device is present under "Other devices."**

7. **Right click on the new RNDIS device and select "Update Driver Software".**

8. **Click "Browse my computer for driver software."**

9. **Click "Let me pick from a list of available drivers on my computer."**

10. **Select "Network Adapter" for the device type and click "Next."**

11. **Select "Microsoft Corporation" for the Manufacturer and click "Next."**

12. **Select "Remote NDIS Compatible Device" for the Model and click "Next."**

A pop-up window titled "Update Driver Warning" appears.

13. **Click "Yes" to continue installing the driver.**

Wait for the process to complete, and close the window when done.

RNDIS configuration: Windows 8

After connecting the wavestate to a Windows 8 computer, there will be new entries in the Device Manager under "Other Devices" and also under "Sound, video and game controllers."

1. **On the wavestate, make sure that the USB Network parameter is set to RNDIS.**

For more information, see "USB Network" on page 2. If you change the setting, restart the wavestate before proceeding.

2. **Plug in the USB cable from the wavestate.**

3. **Open the Device Manager.**

There are various ways to do this, but the easiest is from the Power User Menu:

- Press the WIN (Windows) key and the X key together.
- The Power User Menu appears.
- Select Device Manager from the menu.

The Device Manager appears.

4. **Confirm that a new RNDIS device is present under "Other devices."**

5. **Right click on the new RNDIS device and select "Update Driver."**

6. **Click "Browse my computer for driver software."**

7. **Click "Let me pick from a list of available drivers on my computer."**

8. **Select "Network Adapter" for the device type and click "Next."**

9. **Select "Microsoft" for the Manufacturer and click "Next."**

10. **Select "Remote NDIS Compatible Device" for the Model and click "Next."**

A pop-up window titled "Update Driver Warning" appears.

11. **Click "Yes" to continue installing the driver.**

Wait for the process to complete, and close the window when done.

NCM configuration: Windows 10

1. **On the wavestate, press UTILITY twice and then make sure that the USB Network parameter is set to NCM.**

For more information, see "USB Network" on page 2. If you change the setting, restart the wavestate before proceeding.

2. **Plug in the USB cable from the wavestate.**

3. **Open the Device Manager.**

There are various ways to do this, but the easiest is from the Power User Menu:

*   Press the WIN (Windows) key and the X key together.
*   The Power User Menu appears.
*   Select Device Manager from the menu.

The Device Manager appears.

4. **Confirm that a new NCM device is present under the "Other devices" heading.**

5. **Right click on the new NCM device and select "Update driver."**

6. **Click "Browse my computer for driver software."**

7. **Click "Let me pick from a list of available drivers on my computer."**

8. **If necessary, select "Network Adapter" for the device type and click "Next." Otherwise, skip to the next step.**

9. **Select "Microsoft" for the Manufacturer.**

10. **Select "UsbNcm" for the Model and click "Next."**

A warning may appear: "Installing this device is not recommended." If so, press "Yes" to continue.

Wait for the process to complete, and close the window when done.

Using the Editor/Librarian

Starting the wavestate Editor/Librarian

1. **Install the software and connect the wavestate via USB, as described under "Installation" on page 2.**

A USB connection is required.

2. **Start the wavestate Editor/Librarian.**

You can find the wavestate Editor/Librarian application in the following locations, depending on the operating system being used:

In MacOS, the wavestate Editor/Librarian is installed into Applications/KORG/wavestate.

In Windows, you can find the wavestate Editor/Librarian under KORG/wavestate in All Programs, the Start Menu, etc.

Using the Editor/Librarian with two or more wavestates

✎ *Important:* Before connecting multiple wavestates, make sure to set each instrument's System ID to a different number.

To set the wavestate's System ID:

1. **Press the UTILITY button to go to the System Setup page.**

If a different page appears at first, press UTILITY again.

2. **Set the System ID parameter, at the bottom of the page, as desired.**

The specific number isn't important; just make sure that all connected wavestates have different System IDs.

3. **In the wavestate Editor/Librarian, use the Devices menu to select the desired wavestate.**

Note that data cannot be copied directly from one wavestate to another; instead, use Export to save the data from the first wavestate, and then Import to load the data into the second wavestate.

Two modes: Editor and Librarian

The buttons in the upper right of the main window select whether you're working with the Editor or the Librarian. For the most part, you can simply switch between the two without thinking about it. It's important to note, however, that some menu commands may be available only in one mode, and that undo is handled separately for each mode.

Menu commands

In general, menu commands for file operations, such as importing, exporting, backing up, and restoring, are available only when the Librarian is active. Similarly, menu commands for saving Performances are available only when the Editor is active.

Undo/Redo

The wavestate Editor/Librarian supports multiple levels of undo and redo for most actions, including importing data, deleting, renaming, editing Set Lists, editing parameters, and so on. For instance, you could import a bundle file containing a thousand objects, and then rename all of your Programs, and safely undo both actions in turn. Note that restoring from a backup is *not* undoable.

Undo/redo buffers are maintained separately for the Librarian and Editor modes. You'll see this in the menu commands, whose names change based on the mode to either Librarian Undo/Redo or Editor Undo/Redo, respectively.

Using the Editor

Basic use

Note: This manual describes how to use the Editor application. For details about how to use the wavestate, and how its functions and parameters work, please see the wavestate Operation Guide.

Knobs and sliders

To edit knob values, drag vertically, or use the mouse wheel or drag on the trackpad.

To edit slider values, drag in the direction of the slider. Most sliders also support the mouse wheel or dragging on the trackpad; parameters that appear in scrolling lists (such detailed effects editing) are an exception.

Double-click knobs and sliders to center them.

Graphic editing

Envelopes, LFOs, Key Zones, Key & Velocity Zones, and Master EQ can be edited directly in their respective graphics. To do this:

1. **Hover the cursor over the graphic to show a colored handle (either a dot or a line).**
2. **Drag the handle to edit the value.**

For Envelopes, there are handles for Curve in the middle of the A/D/R segments.

For Key & Velocity Zones, option-drag to edit the fade zone.

Selecting, saving, and renaming sound data in the Editor

Performances contain many smaller pieces of sound data, including Programs, Wave Sequences, Wave Sequence Lanes, and Effects Presets. You can save and rename these directly from the Editor. To do so:

1. **Click the sound data's name to open the selection dialog.**

You can save and rename Programs, Wave Sequences etc. directly from the Editor. To do so:

1. **Right-click on the sound data name to bring up the contextual menu.**
2. **Select Save, Save As New, or Rename, as desired.**

Copy/Paste

You can use copy/paste with:

- Layers
- Programs
- LFOs
- Envelopes
- Vector Envelope
- Filter & Amp Key Track
- Mod Processors
- Individual effects (Pre FX, Mod FX, Delay, Reverb, and Master EQ)
- Filter settings
- Arpeggiator settings

For example, you can copy from one LFO to another in the same Program, or copy the Filter or Arpeggiator settings from one Layer to another.

To use copy and paste with any of the above:

1. **Right-click (or control-click on MacOS) on the title of the section that you'd like to copy, such as Filter LFO, Arpeggiator, or Mod Processor 2.**

A contextual menu will appear.

2. **Select Copy from the contextual menu.**
3. **Right-click (or control-click on MacOS) on the title of the section to which you'd like to Paste.**

Note that this has to be the same type as the copy source; for instance, you can't copy an LFO to an Envelope.

4. **Select Paste from the contextual menu.**

Copy/Paste for Wave Sequence Steps

Wave Sequence Steps support Copy and Paste, as well as Cut, Insert Before, Insert After, and Delete. Shift-click to select a range of Steps, or select multiple non-continuous items by holding down the Command key on MacOS, or the Ctrl key in Windows. Once you've selected the desired step(s), right-click (or control-click on MacOS) to bring up the contextual menu and choose the desired copy/paste operation.

If you have cut or copied multiple steps, and then select a range of steps as the Paste destination, the following will happen:

*   If a single step is selected, the steps will be pasted starting at that step, and then replace as many steps as necessary following that step.
*   If you've selected exactly the same number of steps as are on the clipboard, even if they are discontiguous, Paste will replace only those selected steps.
*   If you've selected fewer steps than are on the clipboard, even if they are discontiguous, Paste will replace the selected steps, and then replace as many steps as necessary following the last selected step.
*   If you've selected more steps than are on the clipboard, Paste will replace the selected steps with a loop of the clipboard, stopping at the last selected step.

If you select a range of steps as the Insert Before or Insert After destination, only the first or last step matters. Insert Before refers to the first selected step, and Insert After refers to the last selected step.

If the Lane doesn't already contain enough steps to complete the paste operation, more will be added to the end, up to the maximum of 64.

Wave Sequence editing

Wave Sequence Inspector →
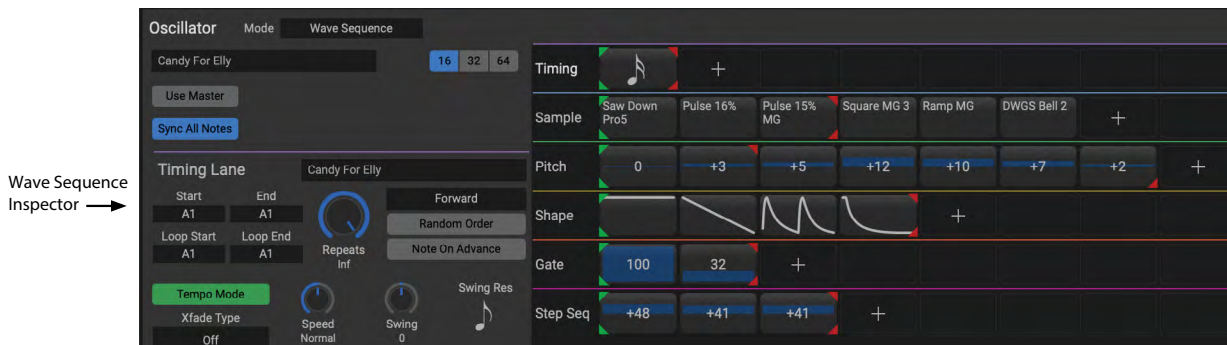
Wave Sequence Inspector

This area shows details for the currently selected Lane or Step.

To edit Lane parameters, click on the Lane's title. To edit Step parameters, click on a Step.

Changing the number of displayed steps

Use the 16/32/64 step buttons to adjust the viewable range of the display, to show 16, 32, or 64 steps, respectively.

Editing Start, End, and Loop steps

The triangles above the Steps show the Loop Start (green) and Loop End (red). The triangles below the Steps show the Start (green) and End (red). To edit, just click and drag on the triangles.

Editing values on the Step graphics

For the Pitch, Gate, and Step Sequence lanes, as well as the Timing Lane when Tempo is off, drag on Steps in the graphic to edit the Transpose, Gate time, Step value, or Duration, respectively.

For the Sample and Shape lanes, as well as the Timing Lane when Tempo is on, click and hold to bring up a popup menu to select the Multisample, Shape, or note value, respectively.

Solo Step

Step solo mode makes the Lane temporarily loop on the selected Step, for auditioning Multisamples or shapes, troubleshooting, etc.

To enter Step Solo mode:

1. **Right-click or control-click (macOS) on a Step to bring up the contextual menu.**
2. **Select the Solo Step command.**

The Step will be marked with a yellow outline.

The Wave Sequence will play as if that Lane was set to loop on the selected Step. Other Lanes will continue to play normally. If you select other Steps in the current Lane, solo will follow the selected Step.

To exit Step Solo mode, bring up the contextual menu and un-select Solo Step.

Only one Lane at a time can be in Step Solo mode. If you enter Step Solo mode for a second Lane, the first Lane's Step Solo mode is turned off automatically. Changing to a different Layer also turns off Step Solo mode.

Modulation

The Editor shows real-time modulated values as orange dots on knobs and sliders. If a parameter is shown only as a text or numeric box, and it is modulated, the text is shown in orange.

Modulation inspector

The modulation inspector in the upper right shows the modulation routings, if any, for the selected parameter (marked by an orange box). You can also add new modulations or delete existing ones.

Drag and drop modulation routings

To create a modulation routing using drag and drop:

1. **Click on the *name* of any of the following: the Mod or Pitch wheel, Mod Knobs, Kaoss Physics, Envelopes, LFOs, Filter or Amp Key Track, or Mod Processors.**

For the Mod Knobs and wheels in particular, make sure to click on the name, and not the control or value display!

2. **Drag to a modulation destination.**

Modulating one mod source with another

You can also drag-and-drop to modulate one mod source with another. To create this sort of routing via drag-and-drop:

1. **Click on the name of the mod source, as above.**
2. **Drag and hold over the tab for the desired modulation destination.**
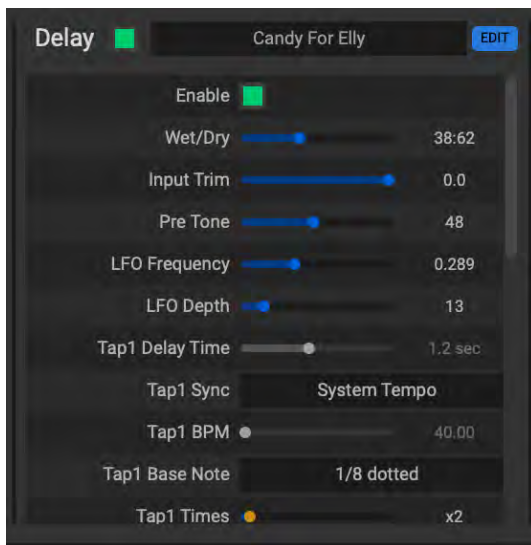
For example, to modulate the Filter LFO, hold over the LFOs tab.

After a moment, the tab will open.

3. **Once the tab opens and displays its contents, drag to the desired destination.**

Effects

Using the Editor, you can edit internal effects parameters and save Effects Presets.

Press the EDIT button next to the effect name to show the full list of effects parameters.

Modulation of internal parameters is allowed only from the FX Edit 1/2/3 knobs. To modulate effects from other sources, such as the Mod Wheel or the Mod Knobs, assign the internal parameter to one of the FX Edit knobs, and then modulate the FX Edit knob from the desired source.

Effects

Using the Librarian

Import and export

Import and export let you transfer data between the wavestate and the computer. This lets you import new sounds, transfer sounds from one wavestate to another (and to and from the wavestate native plug-in), or back up and restore specific data. (For backing up the entire contents of the wavestate, see "Backup and restore" on page 11.)

⚠ *Important:* make sure to read "Think of the Editor/Librarian as an external display for the wavestate" on page 1.

Importing data

To import data from your computer to the wavestate:

1.   In the File menu, select the Import… command.

A standard file open dialog will appear.

2.   Select the wavestate file(s) to import.

You can select and import multiple files at once.

3.   Press the Open button.

The data in the file(s) will be imported into the wavestate. A message will appear to confirm the import, including information about which files have been added.

Data conflicts

If some of the imported data appears to be different or updated versions of the internal data, a dialog will appear with the text:

"A different or changed item already exists in the database for <item name>"

The dialog offers several options:

Cancel: the item will not be imported.

Overwrite: the item will be imported, replacing the version in the wavestate.

Make Unique: the item will be imported, and its UUID (see "UUIDs" on page 10) will be changed so that it does not conflict with the version already in the wavestate.

Apply to All: the choice of Cancel, Overwrite, and Make Unique will be applied to all conflicting files in the Import.

If a Set List is imported, and some of its constituent Performances were made unique, then the Set List is edited to point to the new Performances.

UUIDs

The wavestate uses a database to keep sounds organized. Internally, sounds are identified not by their names, but rather by a unique tag attached to the file, called a UUID ("Universally Unique Identifier"). This means that even if a sound's name has been changed, the system still knows it's the same sound.

When you write a sound from the wavestate front panel, "Overwrite" keeps the UUID the same, and "Save As New" creates a new UUID.

When you import data, the UUIDs in the sounds to be imported are compared with those already in the database. If a sound has the same UUID, but its contents are different, you'll see the dialog described under "Data conflicts" on page 10.

Exporting data

When exporting two or more pieces of data, you can either save them as separate files or as a single Bundle file.

Exporting as separate files

To export data from the wavestate to your computer as separate files on disk:

1.   In the Main Window, select the data that you'd like to export.

For more information, see "List and selection" on page 15.

2.   In the File menu, select the Export… command.

A standard file open dialog will appear.

3.   Navigate to the location to save the files.

4. **Press Open to select the current directory and save the files.**

Exporting as a bundle

To export multiple pieces of data from the wavestate to your computer as a bundle:

1. **In the Main Window, select the data that you'd like to export.**
2. **In the File menu, select the Export Bundle… command.**
3. **Navigate to the location to save the bundle, and enter a name for the file.**
4. **Press Save to save the bundle file.**

Importing and exporting Set Lists

Set Lists refer to up to 64 Performances. When you export a Set List, both the Set List and its referenced Performances are saved together. This makes it easy to transfer groups of sounds between two or more wavestates.

File Types

The wavestate Editor/Librarian uses the file types below.

Type	Extension	Contents
Performance	wsperf	A single item of the specified type.
Program	wsprog	
Scale	wsscale	
Wave Sequence	wswaveseq	
Master Lane	wsmasterln	
Timing Lane	wstimingln	
Sample Lane	wssampleln	
Pitch Lane	wspitchln	
Gate Lane	wsgateln	
Shape Lane	wsshapeln	
Step Seq Lane	wsstepseqln	
Set List	wssetlist	One Set List and all of its referenced Performances
Bundle	wsbundle	Multiple items of any type.
Backup	wsbackup	The entire contents of the wavestate.

Backup and restore

Backing up all data

1. **In the File menu, select the Backup… command.**

The Main Window will change to show the Backup window.

2. **Enter a brief descriptive note.**
3. **If desired, enable the Include User Sample Bank option.**

If this box is checked, the current User Sample Bank will be included in the backup file. Note that this can significantly increase both the size of the backup file (up to 4 GB!), and the time required to complete the backup.

4. **Press Start to begin the backup, or Cancel to return to the Main Window.**

A progress bar shows the status of the backup, and a message appears when the backup is complete.

5. **Press the Done button to return to the Main Window.**

Restoring data

✎ *Important:* Restoring from a backup will delete all of the data currently in the wavestate. If a subset of the data types is selected during the restore, only the data of the selected types will be deleted.

1. **In the File menu, select the Restore… command.**

A standard file open dialog will appear.

2. **Select the wavestate backup file to use for the restore.**

The Main Window will change to show the restore dialog. This shows the text note stored with the file, and includes a series of check-boxes to select the types of data which will be restored. By default, all data types are selected except for Calibration Data and the User Sample Bank.

⚠ *Important:* Only select Calibration Data when restoring to the identical physical instrument which created the backup. Otherwise, leave it un-checked.

3. **If desired, select the types of data to restore.**

4. **Press Start to begin the restore, or Cancel to return to the Main Window.**

A progress bar shows the status of the restore, and a message appears when the restore is complete.

Tip: Merging data

If you want to merge your current state with a previous state, use Export and Import instead. If you have a backup file and want to merge it with your current state, first Export all data, then restore from the backup, and then re-Import the data.

Editing Set Lists

With the Editor/Librarian, you can:

• Duplicate Set Lists

• Add Performances to Set Lists via drag-and-drop

• Re-arrange, cut, copy, and delete the Slots in a Set List

• Copy from one Set List to another

Duplicating Set Lists

To duplicate a Set List:

1. **In the Main Window, select one or more Set Lists.**

It may help to select the Set Lists tab first, so that only Set Lists are shown. For more information, see "Main Window" on page 14.

2. **In the Edit menu, select the Duplicate command.**

You can also right-click on the Set List in the Main Window and use the contextual menu.

The selected Set List(s) will be duplicated, with a number appended to their name.

Adding Performances to a Set List

To add Performances to a Set List:

1. **Open a Set List window.**

With the default Preferences settings, you can open the window by double-clicking on a Set List in the Main Window. For more information, see "Preferences" on page 18.

2. **Select one or more Performances in the Main Window.**

3. **Click and hold on a selected Performance, and drag it over a Slot in the Set List window.**

The Performance will be pasted over the Slot. If you're dragging multiple Performances, they will be pasted over the Slot and immediately subsequent Slots, as necessary.

Re-arranging Slots in a Set List, or copying from one Set List to another

You can re-arrange the Slots in a Set List, such as using cut, copy, paste, and insert, using three different methods:

• Commands in the Edit menu

• Commands in the pop-up contextual menu (right-click, or control-click on MacOS)

• Drag-and-drop

You can open multiple Set List windows at once. If one of the windows shows the Set List currently selected on the wavestate, the note "(Active)" appears after its name in the title bar.

Using commands in the Edit menu or contextual menu

To re-arrange Slots using the Edit menu:

1. **Select the Slots that you'd like to copy, cut, or delete.**

You can select two or more non-continuous Slots using command-click on MacOS, or Ctrl-click in Windows. Alternatively, select a continuous range of Slots by using Shift-click.

2.   Select the Cut, Cut and Shift Slots, Copy, or Delete command, as desired.

You can either select the commands from the Edit menu, or bring up the contextual menu by right-clicking/control-clicking on one of the selected Slots. For details on how these work, especially Cut and Shift Slots, see "Edit menu" on page 19.

If you delete a Slot, its contents are replaced by the Init Performance.

If using Paste or Insert Before, continue:

3.   Select the destination Slot.

✎ *Important:* if multiple Slots are selected, only the lowest-numbered selection affects the Paste or Insert Before operation; other selections are ignored. For more information, see "Paste" on page 19 and "Insert Before" on page 20.

4.   Select the Paste or Insert Before command, as desired.

Using drag-and-drop

To re-arrange Slots using drag-and-drop:

1.   Select the Slots that you'd like to copy or cut.

2.   Click and drag on top of a Slot to Paste, or to the space between Slots to Insert Before.

The effect on the original Slots depends on whether or not you hold the Option key (MacOS) or Alt key (Windows), and whether you're dragging within a single Set List or from one Set List to another, as shown in the table below.

Destination	Drag action	Edit action	Affect on Original Slots
Same Set List	On top of a Slot	Paste	Changed to Init Performance
	On top of a Slot, holding Option/Alt	Paste	Remain unchanged
	Between Slots	Insert Before	Removed, as with Cut and Shift Slots
	Between Slots, holding Option/Alt	Insert Before	Remain, shifted down with the rest of the Slots
Different Set List	On top of a Slot	Paste	Original Slots always remain unchanged
	Between Slots	Insert Before	

Note that dragging to a different Set List always leaves the original Slots intact; option-drag is not required.

Windows

This section provides a brief explanation of the wavestate Editor/Librarian's screens and their functions.

Main Window

This is the central window for the wavestate Editor/Librarian. It has two basic states, controlled by the buttons at the top right: Editor and Librarian.

Librarian

This shows lists of all the data on the connected wavestate.

Librarian Window

Current Performance

This shows the Performance currently active on the connected wavestate. This will update if you change the Performance on the wavestate, or if you select a Performance using the Editor/Librarian. For more information, see "Performance Selection" on page 18.

Show/Hide Inspector panel

This button controls whether or not the Inspector panel is shown (see "Inspector" on page 15). You can hide the Inspector to create space for more and/or wider metadata columns.

LIBRARIAN and EDITOR buttons

The buttons in the upper right of the main window select whether you're working with the Editor or the Librarian.

Search Field

This filters the list by searching for text in any of the metadata fields.

Lock icons: factory data is write-protected

All of the data shipped from the factory is write-protected, including Performances, Programs, Effects presets, and so on. This is shown by the lock icons in the list and at the top of the Inspector panel. Factory sounds can't be deleted, and their original versions can't be changed, including metadata such as name, author etc. However, you can duplicate them and then edit however you'd like.

Data type tabs

The list can show the Performances, Programs, Wave Sequences, Wave Sequence Lane presets, Scales, Effects presets, and Set Lists on the connected wavestate. These tabs choose which type(s) of data are shown in the list. *All Data* shows all types of data at once.

Metadata columns

For each item, the list shows the Type, Name, Collection, Category, Author, and Notes, as well as whether or not the item is locked factory data. You can drag the top of the columns to re-arrange them, or to resize the columns.

Click on a column heading to sort; click again to reverse the sort order. The triangle icon shows which column is selected for sorting, and the direction of the triangle (up or down) shows the sort order.

The numbers on the left are only intended for navigating in the list, and will update depending on the way that the list is sorted. Individual items do not have fixed numbers.

Inspector

This panel lets you view and edit the metadata for the selected items, including the Name, Collection, Categories 1 & 2, Author, and Notes. If more than one item is selected, and the items have different settings for a metadata field (such as the name or category), the field shows the note "<Multiple Values.>"

If the lock icon is shown, the selection includes factory data, and the fields cannot be edited. You can, however, copy text to paste elsewhere.

The Inspector panel can be hidden or shown by using the Show/Hide Inspector panel button in the upper right corner of the window, and can be resized by dragging its left edge.

List and selection

This list shows the contents of the connected wavestate, as filtered by the data type tabs and search field.

Click on an item in the list to select it. Selecting Performances and Set Lists can, optionally, also select them on the connected wavestate. For more information, see "Preferences" on page 18.

Select multiple non-continuous items by holding down the command key on MacOS, or the Ctrl key in Windows. You can also select a range of items by using Shift.

Editor

This shows the parameters for the current Performance.

Editor Window

Current Performance

This shows the Performance currently active on the connected wavestate. This will update if you change the Performance on the wavestate, or if you select a Performance using the Editor/Librarian. For more information, see "Performance Selection" on page 18.

Modulation Inspector

This shows the modulation routings for the selected parameter. You can add or delete routings from the list, and add Intensity Modulation to existing modulation routings.

LIBRARIAN and EDITOR buttons

The buttons in the upper right of the main window select whether you're working with the Editor or the Librarian.

Layers A-D

These tabs select which of the Layers will be shown, and whether they are on (button lit green) or off.

Wave Sequence Editor

This area lets you select and edit the Wave Sequence Steps, and view the Wave Sequence in real-time.

Wave Sequence Inspector

This area shows the parameters for the selected Wave Sequence Lane or Wave Sequence Step.

Keyboard, Mod Sources, and Effects tabs

These let you edit the key and velocity zones, LFOs, Envelopes, Key Tracking, Mod Processors, and effects. You can drag from the mod sources here to modulate parameters in the main part of the screen, or even other modulation parameters; see "Drag and drop modulation routings" on page 8.

Set List window

This window shows all 64 Slots of a Set List. You can open multiple Set List windows at once. If one of the windows shows the Set List currently selected on the wavestate, the note "(Active)" appears after its name in the title bar.

Set List window
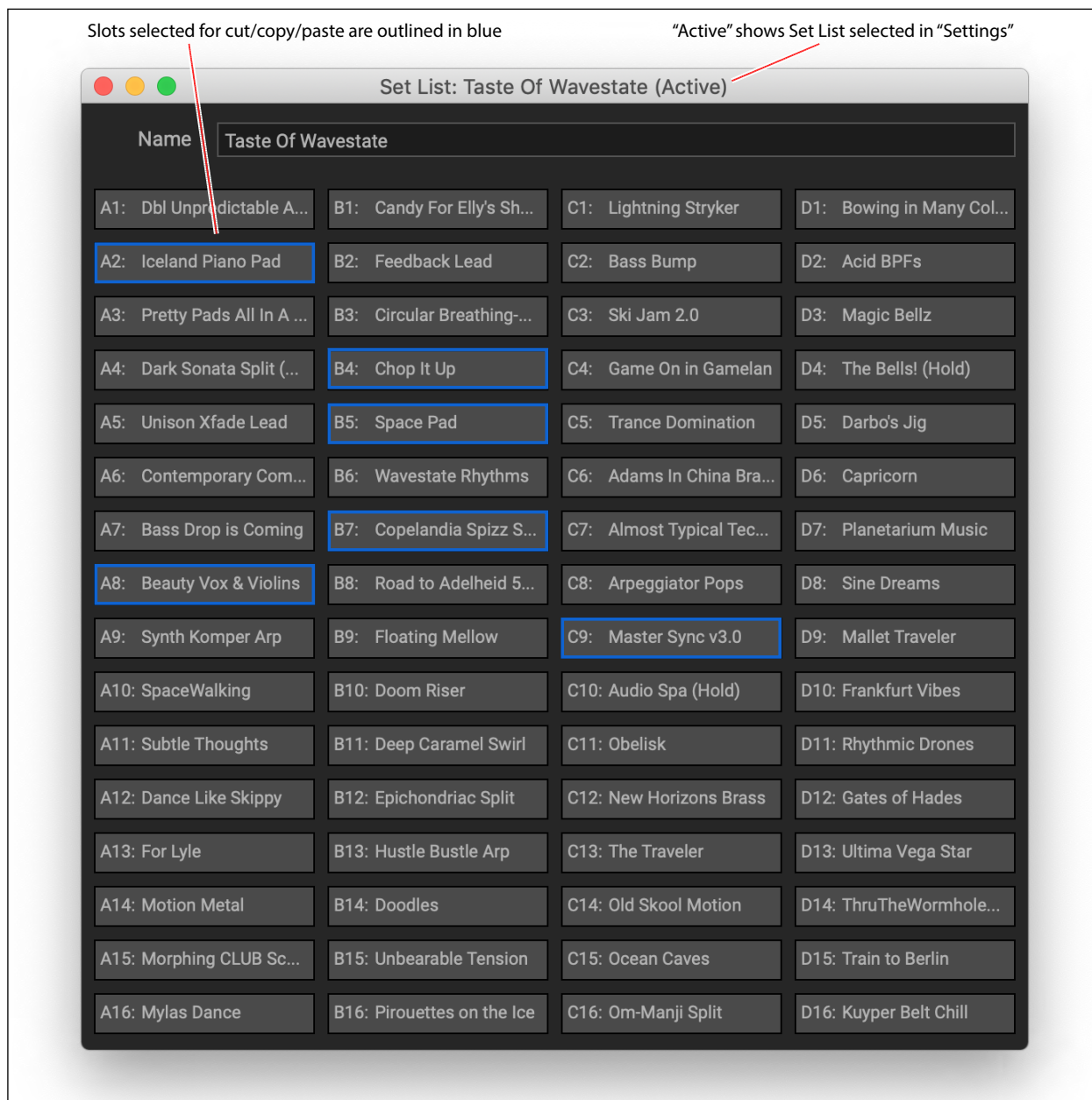
The name of the Set List is shown both in the window's title bar, and in an editable field at the top of the window.

As with the rest of the Editor/Librarian, any edits to Set Lists take effect immediately.

Selected Slots are shown with a blue outline. You can select multiple non-continuous Slots by holding down the command key on MacOS, or the Ctrl key in Windows. Alternatively, select a range of Slots by using Shift.

For detailed instructions about using this window, see "Editing Set Lists" on page 12.

Menus

Application menu (MacOS only)

Preferences

Displays the Preferences dialog box, which contains two parameters: Performance Selection and Set List selection.

Performance Selection

Double-click in list selects on synth: Double-clicking a Performance in the Main Window selects the Performance on the wavestate. Single-click allows you to view and edit a Performance's metadata without affecting the current sound on the wavestate.

Select in list also selects on synth: Selecting a Performance in the Main Window also selects the Performance on the wavestate.

Use menu to select on synth: No actions in the Main Window will automatically select sounds on the wavestate. Only the Edit menu's Select On Synth command will do so.

Set List Selection

Double-click in list opens editor: Double-clicking a Set List in the Main Window opens a Set List window for that Set List. No change is made to the current Set List selection on the wavestate.

Double-click in list selects on synth and opens editor: Double-clicking a Set List in the Main Window both opens a Set List window for that Set List, and selects that Set List on the wavestate.

Use menu to edit or select on synth: No actions in the Main Window will automatically either open a Set List window, or select Set Lists on the wavestate. Only the Edit menu's Open Editor and Select On Synth commands will do so.

About

This displays the software version of the wavestate Editor/Librarian.

File menu

Important: Many of these commands, including Import, Export, Export Bundle, Backup, and Restore, are available only when the Librarian window is displayed. If the Editor is displayed instead, these commands will be grayed out.

Save Performance…

This brings up a dialog to overwrite the current Performance.

Save As New Performance…

This brings up a dialog to save the current Performance as a new item, leaving the previous version intact.

Import…

Imports one or more files from disk. The data will be directly imported into the wavestate. For more information, see "Importing data" on page 10.

Export…

Exports the items selected in the Main Window (not a Set List window, if any are open) to individual files on disk. For more information, see "Exporting data" on page 10.

Export Bundle…

This command is available if multiple items are selected. It exports all the selected items to a single file on disk. This is convenient for distributing a set of sounds, for example.

Backup…

Backs up the entire contents of the wavestate, including write-protected factory data, to a file on disk. For more information, see "Backing up all data" on page 11.

Restore…

Deletes the entire contents of the wavestate, including write-protected factory data, and then restores all data from a file on disk. For more information, see "Restoring data" on page 11.

Reset Global Utility Settings…

This restores the settings under the UTILITY button, such as the MIDI CC assignments, to their factory defaults.

Get Plug-in Coupon…

wavestate owners are eligible for a significant discount on the wavestate native plug-in. This command generates a coupon code tied to the wavestate hardware's unique ID. An internet connection is required to generate the coupon.

Edit menu

Note: many operations apply only when editing Set Lists, and will be disabled otherwise. These include Cut, Cut and Shift Slots, Copy, Paste, and Insert Before.

Undo

Returns to the state prior to the previous operation. This applies to any edits of metadata (such as names and categories), Set List edits, creation of new Set Lists, object duplication and deletion, and data Import. Note that restoring from a backup is *not* undoable. The system supports multiple undos, so that you can step backwards and forwards through a series of actions.

Redo

Returns to the state prior to executing the "Undo" command. The system supports multiple redos, so that you can step backwards and forwards through a series of actions.

Delete

This removes the selected data. When used with Set List Slots, the Slots are changed to use the Init Performance.

Note that factory data may not be deleted or changed. Also, there must always be at least one Set List; if there is only a single Set List in the system, it cannot be deleted.

Cut

This applies to Set List editing only. It cuts the selected Set List Slot(s), placing them on the clipboard, and changes them to use the Init Performance.

Cut and Shift Slots

This applies to Set List editing only. It cuts the selected Set List Slot(s), and shifts all other Slots to fill in the gap. The newly empty Slots at the end of the Set List will be filled by the Init Performance.

Copy

This applies to Set List editing only. It copies the selected Set List Slot(s), and places their data on the clipboard for use in Paste or Insert Before.

Paste

This applies to Set List editing only. It replaces the selected Set List Slot, and potentially subsequent Slots, with the data on the clipboard.

If multiple Slots are selected, only the lowest-numbered selection affects the Paste operation; other selections are ignored.

✎ *Important:* if the clipboard contains multiple Slots, Paste will start with the first selected Slot and then replace as many Slots as necessary, regardless of how many other Slots are selected. For example, if there are four Slots on the clipboard, and you select Slots A3 and A7 and then Paste, Slots A3, A4, A5, and A6 will be replaced with the data from the clipboard.

Insert Before

This applies to Set List editing only. It inserts the data on the clipboard into the Set List before the selected Set List Slot, and shifts subsequent Slots to make room. Slots at the end of the Set List will be "pushed off the end" and removed.

As with Paste, if multiple Slots are selected, only the lowest-numbered selection affects the Insert Before operation; other selections are ignored.

Duplicate

In the Main Window, this duplicates the selected item.

Select All

This selects all items shown in the front-most window, including either the main or Set List windows.

Deselect All

This clears any current selections in the front-most window.

New Set List

This creates a new Set List, with all Slots set to the Init Performance. It is available from the Main Window, when showing either All Data or Set Lists.

Open Set List Editor

When a Set List is selected in the Main Window, this opens a Set List window for that Set List. If multiple Set Lists are selected, it opens widows for each of them.

Select On Synth

When a Performance or Set List is selected in the Main Window, this selects the item on the wavestate. When an active Set List window is open, this selects the current Set List Slot. When an inactive Set List window is open, this selects the Performance assigned to the Set List Slot.

Preferences (Windows only)

This shows the Preferences dialog. For more information, see "Preferences" on page 18.

View menu

Show Librarian

This switches the main window to show the Librarian. It's the same as pressing the Librarian button in the upper right of the window.

Show Editor

This switches the main window to show the Editor. It's the same as pressing the Editor button in the upper right of the window.

Zoom 50%…150%

This scales the entire Editor/Librarian window to be smaller or larger.

Devices menu

This menu shows the all of the wavestates connected to the computer, and selects one of them to be used by the Editor/Librarian. If there are multiple wavestates, you can change between them at any time. Note: when you change devices, the undo history will be cleared, and so undo/redo will no longer be available for past actions.

Data cannot be copied directly from one wavestate to another; instead, use Export to save the data from the first wavestate, and then Import to load the data into the second wavestate.

🔏 *Important:* Before connecting multiple wavestates, make sure to set each instrument's System ID to a different number. For more information, see "Using the Editor/Librarian with two or more wavestates" on page 5.

Windows menu

This menu shows all of the Editor/Librarian's open windows. Select a window's name to bring it to the front.

Main Window

The Main Window is always shown at the top of the menu. Note that closing the Main Window will quit the Editor/Librarian application.

Set List Windows

Open Set List windows, if any, are listed below the Main Window.

Close All Set List Windows

This command closes all open Set List windows.

Close Current Set List Window

This command closes the front-most Set List window.

Help menu

Search field (MacOS only)

This brings up the standard search menu for system help, including the application's menu commands.

About wavestate Editor/Librarian (Windows only)

This displays the software version of the wavestate Editor/Librarian.

Troubleshooting

Software won't start up

Make sure that your computer meets the operating requirements

See "Operating requirements" on page 1.

Check whether other applications might be running

If other applications are running, it is possible that they might somehow interfere with the wavestate Editor/Librarian. As a troubleshooting step, quit the other applications.

Can't connect to the wavestate

Make sure that the wavestate is connected via USB

The Editor/Librarian requires USB, and cannot communicate with the wavestate over 5-pin DIN MIDI.

Try connecting the wavestate directly to your computer, without a USB hub

Faulty hubs may interfere with the connection. Hubs must support USB 2.0 or better.

Try a different USB cable

A faulty cable might interfere with the connection.

Confirm that the wavestate is running software version 2.0 or later

To check the software version number, press UTILITY and then SHIFT + < (PAGE -).

Make sure that the wavestate has been detected by the connected computer

Windows 7/8/10: open the Device Manager (see the instructions under "Windows" on page 3) and check the "Other Devices" tab. If the wavestate does not appear, repeat the NCM or RNDIS configuration procedure.

Mac OS: open the System Preferences application, in the Applications folder. Go to the Network panel, and check the list of networks and network devices on the left of the window.

Make sure that the required network ports are not blocked by a software firewall

When communicating with the wavestate over USB, the Editor/Librarian uses TCP ports 50000 and 50001, and Bonjour uses UDP port 5353. These won't be affected by an external firewall in a separate server or router, but can be blocked by a software firewall running on the same computer.

Disable VPN software

Some users have reported that VPN software may interfere with communication to the wavestate.

Windows: confirm that Bonjour is running

Open Services, find Bonjour Service in the list, and confirm that its Status is Running and Startup Type is set to Automatic.

Confirm that you have the latest version of the Editor/Librarian

You can download the latest version from the Korg website (http://www.korg.com/).

Try restarting your computer

In some cases, the wavestate may not be immediately recognized after installation. If this occurs, simply restart your computer.

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