ModeWheel

A Tool for Learning to Identify and Practice the Modes of Musical Scales

v. 1.2.1 (May 2023)

Quickstart Manual

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1. Introduction

ModeWheel is a cross-platform (Win/Mac) application designed to assist students in learning to identify and practice the four most familiar families of modes in Western music that employ a seven-note musical scale: the Major, Melodic Minor, Harmonic Minor, and Harmonic Major. Download links and contact information can be found on the author's website:

https://modewheelapp.newpsyc.com

The program was inspired by the superb *YouTube* lessons published by Danish jazz musician and music instructor Oliver Prehn. The interactive mode wheels displayed on the main program screens are based upon a template he designed that could be printed onto sturdy paper stock and assembled by hand. It was with Oliver's kind permission that his design was adapted for the computer. His original template, assembly instructions, and—most importantly—links to the *YouTube* videos in which he demonstrates the use of his tool all can be found on his website:

https://www.newjazz.dk/

For persons without the time or patience to construct his tool by hand, this computer version enables one to "spin" the graphic wheel with simple button clicks in order to identify the notes that define any chosen mode in any key. The notes are displayed on the image of a keyboard, with the option to hear the scale being played by triggering a series of audio files—employing a generic sampled piano—embedded in the application. (These and other features are described further below.)

ModeWheel is not in itself a tutorial on music theory. (For this, I encourage you to study Oliver Prehn's *YouTube* videos, which explain the theory and demonstrate how a better understanding of the modes can enrich one's improvisational skills.) Its purpose is simply to provide a more convenient way to visualize (and hear) the differences among these scales. It is especially helpful during one's practice sessions to run **ModeWheel** while seated at your piano or synthesizer, with a laptop or computer monitor and keyboard propped on or above it.

2. Download and Installation Instructions

2a. Installing on macOS

This version of **ModeWheel** requires macOS 10.12 or later, including Macs that employ the M series of processors. It is distributed as a signed and notarized application on a disk image (.dmg) downloaded from the author's website here:

https://modewheelapp.newpsyc.com/ModeWheel.dmg

1. Download and double-click this .dmg file to mount the disk image.
2. In the disk image window, drag the **ModeWheel** icon onto the *Applications* folder icon. This will copy the program automatically to your *Applications* folder.
3. Close and unmount the disk image. The **ModeWheel** application can be run by double-clicking its icon in your *Applications* folder.
4. If you wish to uninstall **ModeWheel**, simply drag the program icon from the *Applications* folder to the *Trash*. This was the only item installed on the computer.

2b. Installing on Windows

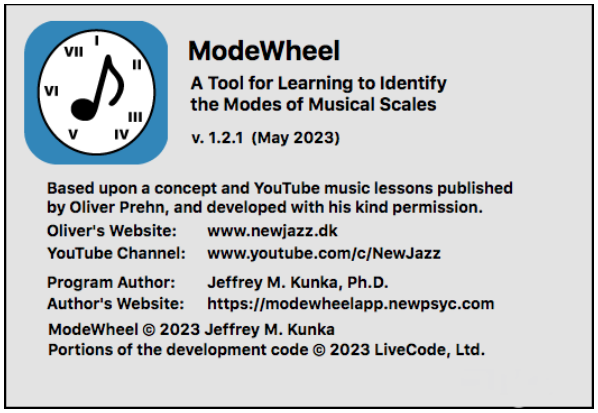
This version of **ModeWheel** requires Windows 10 or later. It is distributed using a conventional Windows installer (.msi) file that includes the application and supporting files The application has been code-signed by a Microsoft Certificate Authority to ensure that it meets the requirements of the Windows Defender system and can be downloaded from the author's website here:

https://modewheelapp.newpsyc.com/ModeWheel.msi

1. Download and save the installer file to your computer.
2. Run the installer and follow the instructions. This will install the folder that includes **ModeWheel** and supporting files in your *Applications* folder. It also adds a shortcut icon on your *Desktop*.
3. The **ModeWheel** application can be run either via the *Desktop* shortcut or the .exe icon in the *Applications* folder.
4. If you wish to uninstall **ModeWheel**, run the installer again and choose the option to uninstall the program and its supporting files.

3. Initial Splash Screen

ModeWheel opens with a window that identifies the current version of the program, including links to Oliver Prehn's website and YouTube channel and to the author's own website.

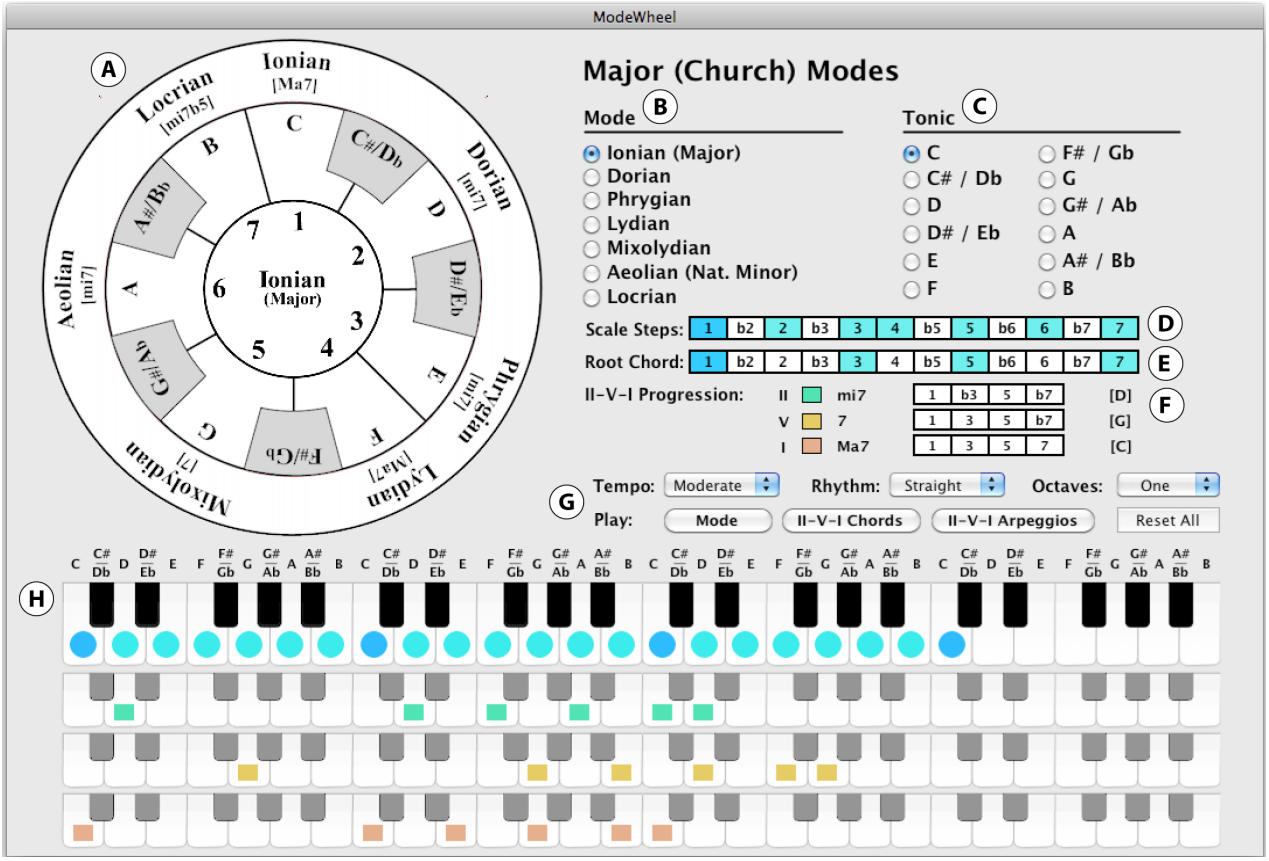


Although available as a free download, the **ModeWheel** application itself is copyrighted by the author and subject to end-user restrictions detailed at the end of this Quickstart document.

This splash screen appears for only a few seconds, but can be redisplayed at any time from the program's *About* menu item.

4. Main Program Screen

By default, **ModeWheel** displays the screen for the first of the four seven-note families of scales—Major, Melodic Minor, Harmonic Minor, and Harmonic Major. (Any of these can be displayed by choosing the corresponding item from the ***Family*** menu, as explained further below.) Here is a screenshot of the main screen, with circled letters added to identify its main features:



A. Mode Wheel

Located in the upper left quadrant of the window—this graphic consists of three rings that can be rotated independently via button clicks or menu commands. By default it displays the first mode of the scale family (in this case, the Ionian scale) in the key of C:

1. The *outer ring* of the wheel displays the name of the current mode in topmost (12 o'clock) position, with the remaining modes arranged clockwise around the outer wheel.
2. The *middle ring* of the wheel emulates the white and black keys of the piano keyboard (in this case with the tonic C in the topmost position).
3. The *center ring* displays the name of the mode and identifies the seven steps of the scale (in this case corresponding to the white keys of the piano: C-D-E-F-G-A-B).

By choosing one of the seven modes and one of the twelve tonic notes, it is possible to display on the mode wheel (and on the keyboard graphic displayed below the mode wheel) any of the scales that belong to this family.

B. Mode buttons

This set of buttons—as well as the corresponding commands in the ***Mode*** menu—controls which mode is displayed at the top of the outer ring of the interactive graphic. Clicking any *Mode* button (or choosing its menu command) will (a) rotate the outer ring of the mode wheel accordingly, and (b) display the name of the chosen mode and position of the scale steps in the center ring.

C. Tonic buttons

This set of buttons—as well as the corresponding commands in the ***Tonic*** menu—controls the key associated with the chosen scale. Clicking any *Tonic* button (or choosing its menu command) will rotate the middle ring of the mode wheel accordingly, so the chosen tonic appears at the top of the middle wheel.

Just below these two button groups are two small graphic displays:

D. Scale Steps

Although the scale steps that define a given mode are displayed in the center ring of the mode wheel, for convenience these are identified also on the *Scale Steps* display. Additionally, in order to identify the altered notes that distinguish each scale from the original mode that defines the family, I have colored the scale steps accordingly:

1. The first step (tonic) is always a deep sky blue, irrespective of the chosen mode.
2. All scale steps that remain unchanged are highlighted in cyan (a lighter blue).
3. All altered steps—that is, notes flatted or sharped when compared to the original mode—are highlighted in the color magenta.

This can be illustrated by comparing the Ionian and Dorian modes of the Major scale:

Ionian:	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
Dorian:	1	b2	2	b3	3	4	b5	5	b6	6	b7	7

When compared to the Ionian (Major) scale, both the third and seventh steps of the Dorian scale are flatted, so these altered tones are displayed in the color magenta. (This same color scheme is used when the notes of the chosen mode are displayed on the keyboard below.)

E. Root Chord

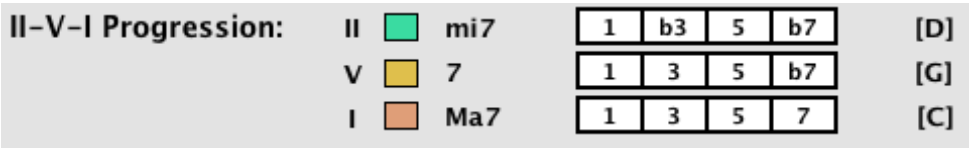
Following Oliver's original design, the outer ring of the mode wheel also identifies a seventh chord that can be built from the root using only the notes that belong to that mode. For convenience this chord is identified also on the *Root Chord* display, employing the same color scheme as in the *Scale Steps* display. So, for example, here are the seventh chords associated with the Ionian and Dorian modes:

Ionian (Ma7):	1	b2	2	b3	3	4	b5	5	b6	6	b7	7
Dorian (mi7):	1	b2	2	b3	3	4	b5	5	b6	6	b7	7

As illustrated in the next panel of the **ModeWheel** window display, these seventh chords can be used to build very basic chord progressions.

F. II-V-I Progression

While musicians employ an endless variety of chord progressions to build their tunes and color their improvisations, the seventh chords identified on the outer ring of the mode wheel suggest how a very basic progression can be built upon the second, fifth, and first steps of a given mode, using only those notes belonging to that mode.



Each chord is assigned a color, which corresponds to the color of the notes shown on one of the three small keyboards displayed at the bottom of the **ModeWheel** screen. The standard chord name is provided, followed by a graphic that identifies the scale steps that define the structure of that chord. For any given mode (chosen using the *Mode* buttons or *Mode* menu) these items will remain the same. However, changing the tonic (using either the *Tonic* buttons or ***Tonic*** menu)—which "spins" the middle ring of the mode wheel—will update the display so as to identify (on the far right) the note that is the root of the corresponding chord.

The example shown above—mirrored on the keyboards at the bottom of the **ModeWheel** screen—illustrates the II-V-I progression for the Ionian mode of the Major scale when the chosen tonic is "C".

This feature may be of limited value to experienced musicians, but personally I have found this—in conjunction with the graphical keyboard displays—helpful in becoming more familiar with the basic structure of the modes and how these interrelate.

G. Audio Playback Options

Embedded in the **ModeWheel** app are generic grand piano samples for the notes of the four octaves of the keyboards displayed across the bottom third of the screen, along with a number of chords. (The quality of these audioclips is less than ideal, but this compromise was necessary in order to limit the overall size of the downloadable app.)

Still, for users who might find this helpful, it is possible to sound the notes of any chosen mode in any key, as well as to play the notes of the II-V-I progression in root position.

This panel of the **ModeWheel** screen provides a number of playback options, as shown here:

1. The *Tempo* menu includes three options—*Slow*, *Moderate*, and *Fast*—that control the tempo at which the chosen mode is played. (The default option is *Moderate* and only affects playback of the chosen mode.)
2. The *Rhythm* menu has two options—*Straight* vs. *Swing*—which affect playback of both the chosen mode and the chord progression. (The default option is *Straight*.)
3. The *Octaves* menu has three options—*One*, *Two*, and *Three*—that control the number of octaves played only when clicking the *Play Mode* button. (The default option is *One*.)

The three *Play* buttons actually trigger playback of the audioclips:

1. The *Play Mode* button (and its corresponding item in the ***Play*** menu) triggers audio playback of the chosen mode (employing the current *Tempo*, *Rhythm*, and *Octaves* settings). The notes are played in ascending, then descending, sequence.

2. The *Play II-V-I Chords* button (and its corresponding item in the ***Play*** menu) triggers audioclips that play, in turn, the notes of each chord, sounded together.

3. The *Play II-V-I Arpeggios* button (and its corresponding item in the ***Play*** menu) triggers the chord progression to play as a series of single notes (employing the current *Tempo* and *Rhythm* settings). The root of each chord is doubled one octave below in order to help establish the tonality of the chord. (In programming this option, I employed a sequence of notes that suggests one possible way of moving smoothly from the root position of one chord to the next. This was just an experiment on my part, so may or may not be helpful.)

The last button in this panel, labeled *Reset All*, simply resets the current **ModeWheel** screen to redisplay the first mode of the currently chosen family, while resetting the tonic to "C" and all other options to their default settings.

H. Keyboard Graphics

Four keyboards are pictured at the bottom of the **ModeWheel** screen, each of which spans four octaves. The notes depicted on these keyboards update automatically whenever one chooses a different mode and/or tonic using the *Mode* and *Tonic* buttons or menu items.

(My apologies to musicians who play instruments other than keyboard. I have identified above the pictured keyboards the note that corresponds to each key in case this is of some help.)

The first and largest of these keyboards displays the notes of the chosen mode. Each note is represented by a colored circle on the keyboard, duplicated across three octaves. The colors correspond to the scheme employed in the graphics described above: a dark sky blue for the tonic, a lighter blue (cyan) for notes that are not altered relative to the first mode of that scale family, and magenta for any altered notes.

When the *Play Mode* button (or menu item) is clicked—triggering the audioclip of each note of the scale in turn—the corresponding note on the keyboard is highlighted briefly, providing visual feedback as to which note is being played.

The remaining three keyboard graphics—representing the II-V-I progression—operate differently. Here the notes are represented by squares rather than circles, in each case color-coded to identify the corresponding chord.

When the *Play II-V-I Chords* button (or menu item) is clicked—triggering the audioclip of each chord in turn—all four notes of each chord will be highlighted simultaneously on the keyboard display.

When the *Play II-V-I Arpeggios* button (or menu item) is clicked—triggering the audioclips associated with each chord as an arpeggio—each note on the keyboard will be highlighted as it is sounded.

5. Program Menus and Shortcuts

The **ModeWheel** program menubar differs somewhat in appearance between the Windows and Mac versions, although functionally these are essentially the same. Whereas the menubar in Windows runs across the top of the main program window, the Mac menubar appears along the top of the computer screen. The location of a few menu items—e.g., *Quit*, *About,* and (unused) *Preferences*—differ between Mac and Windows, as do the keyboard shortcuts. (Menu items related to opening, closing, and editing document files are not employed in the design of the application.)

The four menus that require special mention are those identified as *Family*, *Mode*, *Tonic*, and *Play*.

5a. Family menu

It is from this menu that you choose which of the four families of scales that will be displayed in the main **ModeWheel** window. As of version 1.2.1, a dropdown menu identified as *Switch Family* (not pictured in the screenshot on page 3) has been added for convenience to the upper right corner of each main window.

As indicated below, the Family menu is identical in the Windows and Mac versions:

Windows Family menu	**Mac Family menu**
Major (Church)	Major (Church)
Melodic Minor	Melodic Minor
Harmonic Minor	Harmonic Minor
Harmonic Major	Harmonic Major

5b. Mode menu

These menu items correspond to the seven modes of the scale family currently displayed in the main **ModeWheel** window. When sitting at a piano or synthesizer, I find it somewhat inconvenient to employ the mouse or trackpad in order to change from one mode to another using the *Mode* buttons displayed on-screen. The associated shortcuts are much simpler to execute from a computer keyboard within reach.

Windows Mode menu		**Mac Mode menu**	
Mode 1	Ctrl+1	Mode 1	⌘1
Mode 2	Ctrl+2	Mode 2	⌘2
Mode 3	Ctrl+3	Mode 3	⌘3
Mode 4	Ctrl+4	Mode 4	⌘4
Mode 5	Ctrl+5	Mode 5	⌘5
Mode 6	Ctrl+6	Mode 6	⌘6
Mode 7	Ctrl+7	Mode 7	⌘7

5c. Tonic menu

Computer shortcuts are available also to choose the tonic key: For the white keys on a piano, press the Command key (Mac) or Control key (Win) with the letter to which that note corresponds. For the black (sharped) keys, include the Shift key (in either OS) to these key combinations.

Windows Tonic menu		**Mac Tonic menu**	
C	Ctrl+C	C	⌘C
C#	Ctrl+Shift+C	C#	⇧⌘C
D	Ctrl+D	D	⌘D
D#	Ctrl+Shift+D	D#	⇧⌘D
E	Ctrl+E	E	⌘E
F	Ctrl+F	F	⌘F
F#	Ctrl+Shift+F	F#	⇧⌘F
G	Ctrl+G	G	⌘G
G#	Ctrl+Shift+G	G#	⇧⌘G
A	Ctrl+A	A	⌘A
A#	Ctrl+Shift+A	A#	⇧⌘A
B	Ctrl+B	B	⌘B

5d. Play menu

It is possible to trigger the playback of any of the three audio options using modifier keys without needing to click on the corresponding *Play* button: To play the *Mode*, press Command-M (Mac) or Control-M (Windows). For the *II-V-I Chords*, use Command-R (Mac) or Control-R (Windows). And for the *II-V-I Arpeggios*, use Command-P (Mac) or Control-P (Windows).

Windows Play menu		**Mac Play menu**	
Mode	Ctrl+M	Mode	⌘M
Chord	Ctrl+R	Chord	⌘R
Arpeggio	Ctrl+P	Arpeggio	⌘P

5e. Note on the Help Menu

As of version 1.2.1, **ModeWheel** no longer includes an embedded version of the present Manual. (This is both to limit the size of the download and to simplify providing updates.) The most recent version of this Manual is always available as a separate download from the program website.

6. Licensing Terms and Application Support

In keeping with Oliver Prehn's commitment to sharing his music lessons with everyone, **ModeWheel** is being distributed as freeware. However, it *is* copyrighted software, and as such is subject to the restrictions detailed in End-User License Agreement (EULA) on the following page.

It is unlikely that **ModeWheel** will receive any updates beyond May 2024, owing to the dramatic increase in the cost of security signing-certificates for Windows apps. However, downloading the latest available version should not trigger any security warning for at least a few years, and—once downloaded—it should continue to work until some future change in either Windows or macOS causes it to break.

Still, your feedback and comments are always welcome, either via the website *Contact* page or directly at the following email address:

modewheelapp@newpsyc.com

I do hope you find **ModeWheel** (and its website) helpful in learning to identify and employ these alternate scales. Please feel free to share with others the link to the website—and, if you happen to have a music site of your own, to include the link:

https://modewheelapp.newpsyc.com

Best wishes,

jeff k

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ModeWheel and NewModeWheel

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