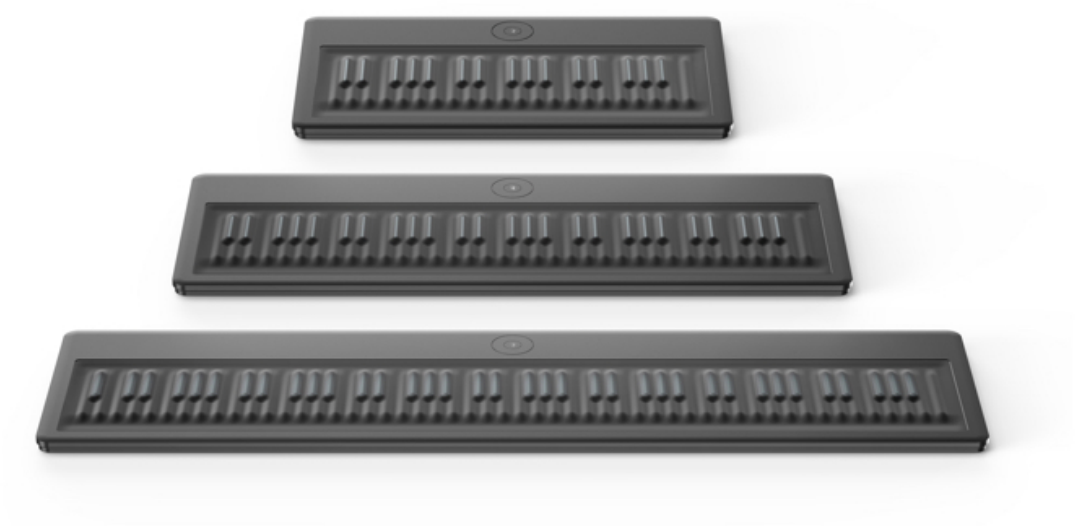
Seaboard GRAND Creator Manual



1 What is PolyThru?

When working with a DAW, you might use many mono-timbral software synth plug-ins such as Native Instruments' Massive and FM8. Normally, to use these great plug-ins in your favourite DAW with the Seaboard, you would have to create several tracks each with an instance of the specific mono-timbral plug-in. Each track would have to receive MIDI from the GRAND on a corresponding channel.

For example, to use the GRAND with Massive in Logic, you first have to create several instrument tracks responding on MIDI channels 1–10 consecutively, for example. Then launch an instance of Massive on each track and set each

instance to the same preset. Now you would be ready to play Massive from the GRAND, but wait—let's say you adjust the frequency cutoff in the first instance of Massive. Now you have to repeat that process nine more times in order for Massive to respond properly, otherwise only one note in ten will respond properly. As you can see this can get very laborious very quickly.

To improve this workflow and make this whole process much more manageable we have developed PolyThru, a beta, Mac-only application.

PolyThru makes using the Seaboard with third party mono-timbral plug-ins as easy as using a single plug-in. With PolyThru you only need to use a single track and make an edit once. The mono-timbral plug-in functions as if it were multi-timbral.
PolyThru works with AU and VST synth plug-ins. It can function as a stand-alone application or as a plug-in in your favourite DAW. For more information on when to use PolyThru and which plug-ins to use it with, please refer to the PolyThru Beta Manual.

2 Introduction - Seaboard GRAND

Hello creator, and welcome to the Creator Manual for the Seaboard GRAND. We think of the people who buy and use ROLI's products as creators more than customers. Our products are designed to expand the bandwidth of creative expression and thereby empower people as the creators they are. Everyone who buys and uses a Seaboard GRAND is investing in this vision of creativity and therefore is also a co-creator of ROLI.

You may already be playing your Seaboard GRAND and discovering its creative possibilities. This comprehensive Creator Manual explains all of the details

about your Seaboard GRAND to ensure that you get the most out of it.

The Seaboard GRAND is a multidimensional instrument and MIDI controller whose touch-sensitive interface and Embedded Equator software synthesiser open new possibilities for musical expression. While most conventional keyboards offer one dimension of touch to control sound (initial velocity, or what we call Strike), the Seaboard GRAND offers four dimensions of touch. These can be mapped to a variety of sound parameters. A SoundDial allows you to access presets and change the octave while performing.

There are three different models of the Seaboard GRAND: the Seaboard GRAND Limited First Edition (LFE), Seaboard GRAND Stage, and Seaboard GRAND Studio. The functionality and operation is the same for all three models except where noted in this manual.

On the next page we have included a short list of terms specific to Seaboard instruments. We will refer to these terms throughout the Creator Manual.

Please note that this is a digital manual updated regularly to reflect software updates and other improvements. Be sure to check for updates on My ROLI. This Manual is current up to **Equator** v1.9.7, **ROLI Dashboard** v3.2.7, and **GRAND** V 2.0

3 Support and Feedback

We want you to have the best experience possible with our products and would love to hear your feedback. Should you have any questions, experience any problems, or just want to say hello, please don’t hesitate to get in touch.

The easiest way to reach us is to send a support enquiry from support.roli.com. We will respond as soon as possible.

4 Glossary of Selected GRAND Terms

Centre button:

The button located in the centre of the SoundDial which allows you to advance preset banks and enter/exit Octave Shift mode.

Embedded Equator:

ROLI's in-built version of Equator which runs directly on the Seaboard GRAND and allows for stand-alone operation.

Equator:

ROLI's custom-built, multi-dimensional software synthesizer and sound engine. **Equator** enables refined control of the expressive capabilities of the keywave surface. Equator and the Seaboard instruments work together to provide a seamlessly integrated hardware-software experience.
The Four Dimensions of Touch (4D Touch):

The feature of real-time control and modulation of sound through the basic finger gestures of: **Strike**, **Press**, **Glide**, **Lift**.

- **Strike**: The velocity and force with which a finger makes contact with a keywave.
- **Press**: The pressure and continuous touch applied to the keywave after the initial strike. Known as "aftertouch" in traditional synth terminology.

- **Glide:** Horizontal left and right movements on a keywave and along the ribbons.
- **Lift:** The release velocity or speed of liftoff from a keywave.

Keywave:

A wavelike element of the keywave surface that corresponds to a single key on a standard keyboard. Each of the Four Dimensions of Touch can be accessed on a single keywave.

Keywave surface:

The entire playing surface including all keywaves and ribbons. The keywave surface corresponds to a keyboard.

MPE:

Multi-dimensional Polyphonic Expression (MPE) is a protocol for using standard MIDI messages to communicate with and enable the operation of multi-dimensional instruments such as the Seaboard RISE. MPE enables multi-dimensional devices like the Seaboard to control multiple parameters of every note independently such as pitch, timbre and other nuances when used within MPE-compatible software like Equator. MPE accomplishes this by spreading MIDI data that pertain to each note across a range of MIDI channels and reserving one channel (usually the lowest) for global MIDI messages such as program change, pedal, and fader positions. These global messages affect all notes equally.

PolyThru:

An application designed by ROLI to make working with mono-timbral plug-ins extremely easy, intuitive, and streamlined.

ROLI Dashboard:

An application for modifying and customising the internal settings of the GRAND or RISE.

Software Bundle:

The software programs that come bundled with the Seaboard GRAND. Currently these are **ROLI Dashboard**, and **Equator**, and **PolyThru** (Mac beta version only).

SoundDial:

The SoundDial is the central interface to the GRAND for selecting presets and transposing the octave.

5 Getting started

5.1 System Requirements

Macintosh

- Mac OS 10.9 (Mavericks) or later
- Minimum RAM: 4GB
- Recommended RAM: 8GB
- Processor: 2.5GHz Intel Core i5 or faster
- Bluetooth connectivity: OS 10.10+

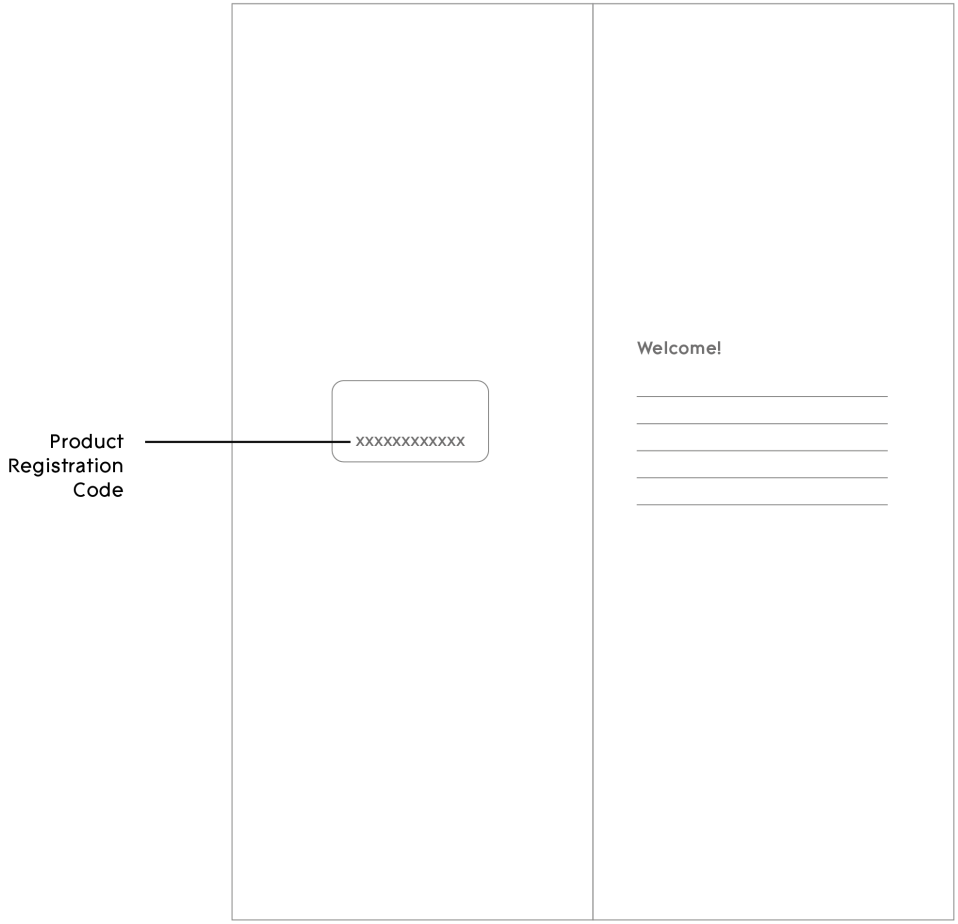
Windows

- Windows 7, 8, or 10
- Minimum RAM: 4GB
- Recommended RAM: 8GB
- Processor: Intel Core i5/equivalent or faster

5.2 The Seaboard Software Bundle

Included with your Seaboard GRAND is a USB Installer that contains the Seaboard GRAND Bundle. The bundle includes Equator, ROLI Dashboard, PolyThru, and manuals. This software bundle is also available on My ROLI. Register with My ROLI to download it.

5.3 Register on My ROLI



Visit my.roli.com and sign up with a username and password of your choice. When you have signed up and logged in, the website will ask you to register your product. Use your Product Registration Code. The code is printed on the inside of the Seaboard GRAND Quick Start Guide.

Login and Download ROLI Software

Now that you have created an account on My ROLI, you can log in and download the latest Seaboard GRAND Software Bundle. The bundle includes **ROLI Dashboard** and **Equator**.

5.4 Installation: Mac and Windows

When the download is complete, open the Downloads folder on your computer. Follow the on-screen instructions and choose the location or disk where you want to install the software.

Note: The install will require approximately 1.0 GB of disk space.

Mac

Control-click or right-click on the installer.

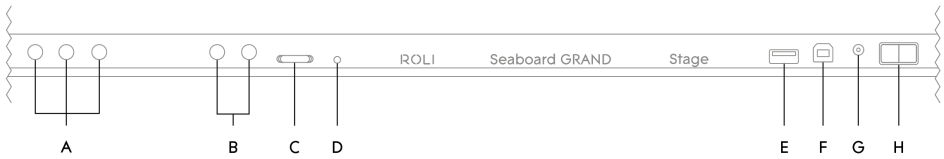
Windows

Right-click on the installer ZIP file and click on 'Extract all'. This will create a new folder next to the ZIP file, which contains the unzipped items. Double-click the installer inside the new folder to begin the installation.

You may see a message to say that Windows has protected your PC by stopping an "unrecognised application" from opening. Don't worry. The software is safe to install. You can bypass this message by clicking "more info" on the message, then the "run anyway" button.

6 The Seaboard GRAND

6.1 Connections and Specifications



A – ¼" (6.35mm) pedal jacks (3 on LFE and Stage models, 2 on Studio model). All support continuous control (sweep/expression) pedals as well as switch pedals.

B – Left and Right ¼" (6.35mm) balanced audio output jacks

C – Volume Wheel

D – ⅛ " Headphone jack (3.5mm)

E – USB type A Port

F – USB type B Port

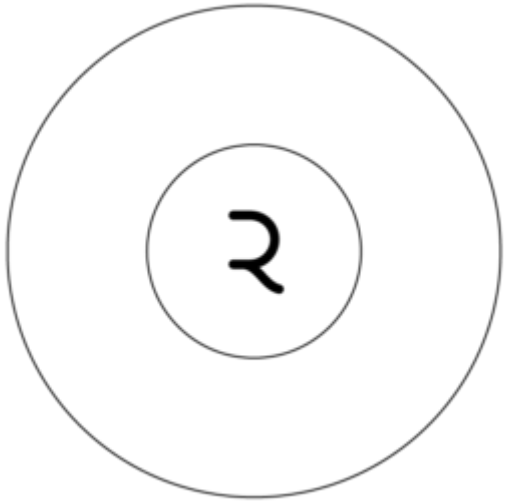
G –12V 15W DC port (2.1mm centre positive)

H – Power switch

6.2 The Keywave Surface

The GRAND models feature a continuous, elastic, silicone surface divided into 88, 61, or 37 **keywaves** for the LFE, Stage, and Studio models, respectively. Following the order of notes on a standard keyboard, the **keywaves** represent the same pitches and intervals found on a piano. The touch-sensitivity of the **keywave surface** allows tactile control of parameters such as pitch, volume, and timbre, *all on a polyphonic, per-note basis,* through simple, intuitive finger gestures. The **keywave surface** is sensitive even to gentle pressure, and strong force is not required to maximise its expressiveness. While made of durable silicone, the **keywave surface** should not be pinched, stretched, or pounded.

6.3 The SoundDial



The SoundDial and the Center button are the only physical controls on the front of the Seaboard GRAND.

Preset/Bank Selection

The SoundDial is laid out like a clock with a LED ring around the edge. This "clock face" can give you information about which Embedded Equator bank and preset is currently selected. As you turn it in either direction you can see a single solid bright white LED and two dimly lit white LEDs with space in between them. The solid bright LED represents the current bank. It can be set to 12, 3, 6, and 9 o'clock positions before returning to the 12 o'clock position. These four positions represent the four sound banks. You can reach these bank locations by turning the SoundDial in either direction or more quickly by pressing the centre button. Each time the centre button is pressed the Seaboard will advance to the next bank.

The dimly lit pair of LEDs represents the specific preset within the bank. It can be set to the 12 different hour locations around the clock face each containing a preset. For example, the figure above shows the SoundDial set to Bank 2, Preset 7. This arrangement allows you to quickly and easily navigate to any of the 48 preset locations. You can reach this location very quickly by pressing the Centre button once to advance one bank and then turning the SoundDial clockwise to 7.

Octave Selection

Pressing and holding the centre button for half a second changes to "Octave Shift Mode". When in Octave Shift Mode, the LED ring can display which octave is currently selected. The LED ring changes by illuminating the 5 LEDs at the top of the ring with the middle of the 5 LEDs centered on the 12 o'clock position which is the default position for Octave Shift. You can turn the SoundDial clockwise or anti-clockwise by two positions to transpose up or down by two octaves.
Press the Centre button once to exit out of Octave Shift Mode.

6.4 Make Music Now

To begin playing your Seaboard GRAND and making music now:

- Connect the included power supply to the GRAND and then into an AC socket.
- Connect a pair of headphones to the GRAND or connect the left and right audio outputs to your sound system (Be sure the sound system is muted or off to begin with).
- Turn the GRAND on and wait approximately 15 seconds for the GRAND to boot up. The LED ring will "swirl" during bootup and come to rest when the GRAND is fully booted and ready to play.
- Slowly raise the volume on your sound system or by turning the volume wheel anti clockwise to raise the volume of the headphones.

7 Playing the Seaboard GRAND

7.1 Four Dimensions of Touch (4D Touch)

The GRAND is a multi-dimensional instrument that lets you modulate sound through four dimensions of touch. The built-in sound engine Embedded

Equator is optimised to respond to these dimensions of touch. Through simple movements and gestures, you can shape sound easily and discover new modes of expression. The icons below depict the Four **Dimensions of Touch** on the Seaboard GRAND and its accompanying software. The **Four Dimensions of Touch** are:

Strike: The velocity and force with which a finger makes contact with a keywave. This dimension of touch corresponds to MIDI velocity on a standard keyboard.

Press: The pressure applied to the keywave after the initial **Strike**. The **keywaves** respond to each moment of continuous touch, transmitting minute variations of pressure to sound. This continuous pressure-sensitivity allows for swells, fades, and other detailed expressions.

Glide: Horizontal left and right movements on a keywave and left right movements along the ribbons. **Glide** movements bend and adjust pitch as naturally as on a string instrument, allowing effects such as vibrato and glissando, all on a polyphonic basis. **Glide** is typically assigned to pitch, but it can be assigned to other sound parameters.

Lift: The release velocity or speed of liftoff from a keywave. You can assign **Lift** to most sound parameters in **Equator** and other compatible synths. For example, a rapid **lift** can create a lingering resonance or a hard pluck.

We have video overviews of all four dimensions here:

- Strike
- Press
- Glide

- Lift

7.2 The four MIDI messages of the four Dimensions of Touch

Strike sends note-on messages in addition to velocity 0-127.

Press sends poly or channel pressure (aftertouch).

Glide sends pitch bend.

Lift sends note-off and release velocity 0-127.

7.3 Playing Techniques

You can apply playing techniques associated with keyboard, string, and electronic instruments to the Seaboard GRAND. Playing techniques include:

Strike and hold: Strike the keywave and hold for a duration without adding any additional movement.

Glide vibrato: Pressing into a keywave and holding the point of your finger there, wiggle your finger from side to side. The pitch-bend effect of vibrato will widen the wider the arc of movement away from the stationary finger.

Glide glissando: Move your fingers along the pitch ribbons at the top and/or bottom of the **keywave surface**. **Glide** bends can be up to one octave long in either direction.

Continuous press modulation: While sustaining a note, increase and decrease downward pressure on the keywave to modulate the note.

Legato bend: Press and continue to hold any note on the keywave surface with one finger and play another note a half-step above or below with another finger

7.4 Adjacent Semitones

Playing a minor 2nd (two adjacent semitones) on the Seaboard GRAND is interpreted as a single note with Glide pitch bend to place the pitch between the two keywaves instead of as two individual notes. This is called a legato bend.

The Seaboard GRAND is a new type of instrument and although the notes are arranged similarly to a keyboard, it does not react like a piano. For example, if you smoothly play a C followed by a C#, the Seaboard will intuitively Glide the pitch up to the C# in a way which would not be possible on a normal keyboard.

This feature means that if you hold the C and C# together, the Seaboard GRAND will Glide between the notes depending on how much pressure you apply to each keywave. The exception to this behaviour is when you turn the Glide Touch Fader in ROLI Dashboard to the minimum setting (Piano Mode). In Piano Mode, there will be no pitch bend at all. If you attempt to play an adjacent semitone anywhere on the Seaboard GRAND other than the pairings of B+C or E+F (corresponding to the adjacent-semitone white keys on a piano), the higher or second held note will cut the first off.

Glide is polyphonic, meaning you can bend several notes independently of each other, in either direction, at the same time. This provides an unprecedented level of musical expression, especially when used together with the other Dimensions of Touch.

7.5 Embedded Equator

Embedded Equator is ROLI's in-built sound engine that is designed specifically to harness the expressive power of the Seaboard. Using Embedded Equator is as simple as turning on the Seaboard GRAND and playing. There are 48 presets divided into four banks of 12 which are accessible from the SoundDial.

You can access and edit the individual parameters of these presets and save your changes or create completely new presets by connecting your GRAND to a Mac or PC via the included USB cable. To edit the Embedded Equator presets on the GRAND you must launch Desktop Equator which is part of the included Seaboard Bundle. Desktop Equator, also known simply as "Equator," is a standalone application and an AU / VST synth plug-in. It can function independently of the Seaboard. However, when coupled with the Seaboard GRAND as a standalone application or AU / VST plug-in, it becomes an incredibly powerful editing interface and sound library for the Embedded Equator presets.

For an in-depth guide to programming and saving your own presets as well as transferring those presets to and from the GRAND please refer to the ROLI Equator Creator Manual here.

7.6 Changing the GRAND's Settings (ROLI Dashboard)

ROLI Dashboard is the application that is used to control the settings of the Seaboard. When using third party hardware or software synths it may be necessary to adjust the MIDI, MPE settings, and Glide sensitivity to accommodate the capabilities of the host synth.

For example, the channel range for Spectrasonics' popular software synth Omnisphere is 1-8. When using the GRAND to control Omnisphere you would want to adjust the Seaboard GRAND's channel range to match. This and all other GRAND settings are accessed and edited from ROLI Dashboard.

Please refer to the ROLI Dashboard Creator Manual for detailed instructions on how to adjust all of the GRAND's settings.

7.7 USB MIDI Class Compliancy

The Seaboard GRAND is a USB MIDI Class Compliant device. Although the GRAND does not have traditional five-pin DIN connectors, it's possible to connect to hardware that requires five-pin DIN connectors. One option is to connect to a computer and transmit MIDI via a MIDI interface. Or you can connect a device like the Kenton USB MIDI Host which converts MIDI over USB to traditional five-pin DIN connectors. It's also possible to connect the GRAND to an iOS device via the Apple Camera Connection Kit, although a powered or unpowered USB hub must be placed between the two devices.

7.8 Connecting to Another USB Device Directly

The Seaboard GRAND can be connected directly to other USB Class Compliant devices which receive MIDI data and produce sound in response provided they have an available USB A port and are devices capable of being hosts themselves. (The Korg Kronos synth workstation is one example.) Use the USB cable supplied with your Seaboard to connect the Seaboard's USB type B port to another device's type A port.

You should not attempt to connect the Seaboard to other hardware using the Seaboard GRAND's type A port, as it does not transmit data and the Seaboard will not behave as a host device. The Seaboard GRAND behaves as a USB "client" – it connects using the type B port.

A USB client needs to connect to a USB "host" like a computer – which has a type A port. Host devices are in charge of all data transmission in a connection, and two client devices are not able to communicate without a host. Although the Seaboard has a type A port, it is not a host so you cannot use it to connect to other USB devices which only have a type B port. The Seaboard GRAND's type A port is for USB updates.

8 Care and Maintenance

Basic care and attention will protect your GRAND and help it stay in optimal condition for years to come. Avoid excessive force on the **keywave surface**, and try to keep the GRAND away from direct sunlight, sharp objects, liquids,

and especially oils – including greasy fingers after eating food.
To clean the **keywave surface** you may use a damp, bleach-free and oil-free cleansing wipes. Do not use any abrasive cleansing agents on the GRAND or its **keywaves**.

9 ROLI Support and Feedback

9.1 My ROLI

Manuals and other resources on My ROLI should help answer initial questions about your RISE. Visit our Support page at support.roli.com for a wider range of resources that should help answer questions about the RISE and its software. The page includes frequently asked questions, tutorial videos, and guides for connecting the RISE with third-party plug-ins and DAWs.

9.2 ROLI Support

Contact the ROLI support team directly on support.roli.com for any questions. You will receive an answer within 24 hours. Our support team is here to help you.