

Manual for Reactive Composer Tool RJC 1000

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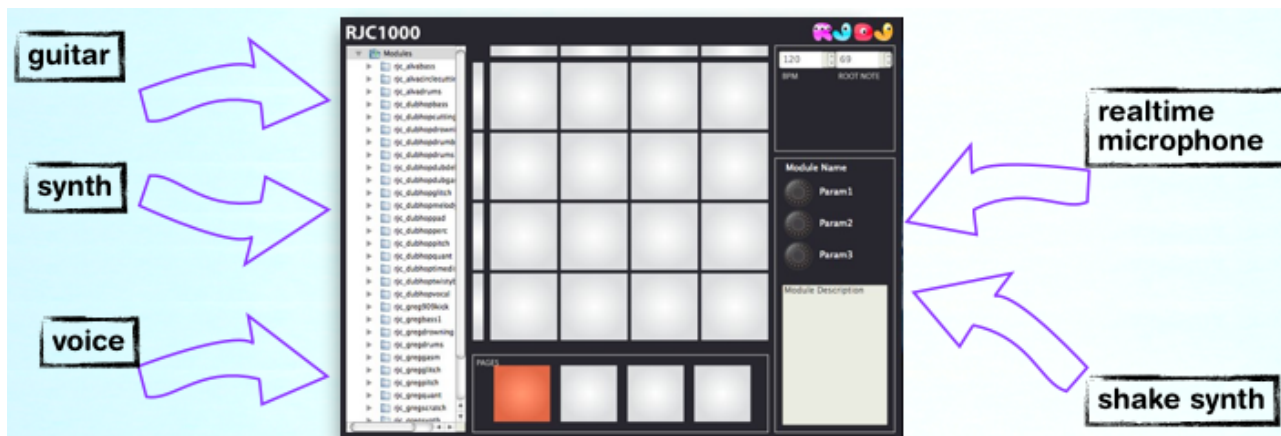
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RJC 1000

What

The RJC 1000 is a desktop computer tool for creating reactive music and packaging it for distribution on iPhone and iPod Touch through the RjDj platform.

RJC 1000 provides an interface to put together musical material, add reactive effects and define different states in a composition that can be triggered by the listener.



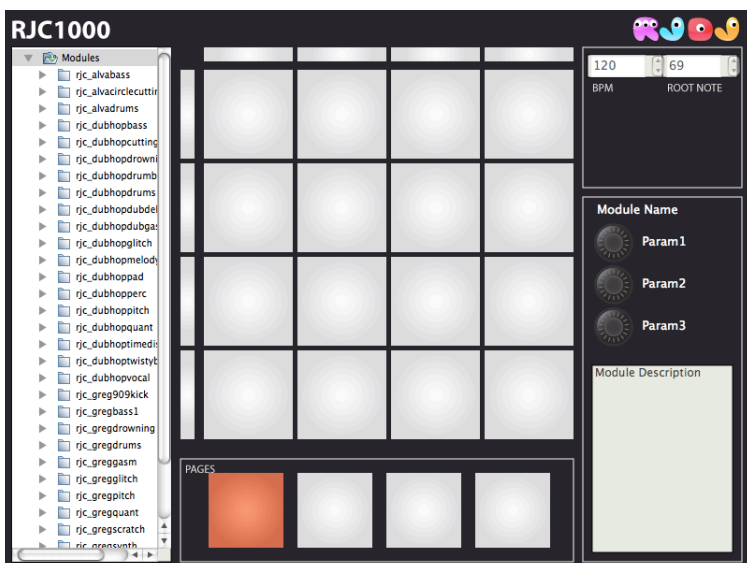
It is built to be a cross-platform application that works on Windows, Mac and Linux, but during beta testing there is only a Mac version.

What is RjDj and reactive music?

RjDj is a player for reactive music scenes - tracks where the musical end result is created in real time by a combination of pre-recorded material, real time audio synthesis and sensor effects like processed live audio sampling or accelerometer control of parts of the music. RjDj is a free application available for iPhone and iPod Touch.

Overview

The RJC 1000 provides an interface to compose and experiment with reactive music, and get the result into RjDj for testing or distribution.



Pads

The RJC 1000 is inspired by the Akai MPC series of music production tools, and gives reactive composers access to a number of pads that can be assigned to musical components like loops and beats, but also to specifically reactive musical elements like reactive synthesizers or augmented audio effects. A pad or a row of pads can be turned on/off to experiment with different soundscapes and how the reactive components fit with other musical elements.

Modules

The RJC 1000 comes with a number of modules that can be assigned to the pads out of the box, including a number of the best reactive reality effects and reactive synthesizers from inhouse RjDj scene productions. More modules will be added in the future.

Pages

A certain configuration of active pads can be assigned to one of the 4 available pages, for quick switching between different states in the music. When a scene is exported from RJC 1000, the pages go with it and the listener can swipe between the different states. Using the pages, you can create a composition and let users activate their favorite parts of it by swiping to that page.

Scenes

The RJC 1000 can save your composition as a scene that can be played in the RjDj player on the iPhone/iPod Touch. The listener can manually trigger states in the music by swiping between the pages.

Scenes are installed in RjDj on the iThing by making them available online and then clicking a special install link from Safari on the iPhone/iPod Touch that opens RjDj and downloads the scene. See the section “*Installing scenes in RjDj on the iPhone or iPod Touch*” for more information on how to do this.

Expert Mode: Pure Data

RJC 1000 is a front end for the Pure Data audio programming environment and signal processing engine, and by opening files from RJC 1000 in Pure Data you have access to a range of very powerful configurations, tweaks and detailed control over the output. See the “*Expert Mode: Pure Data*” section below for more details on how this works.

Manual

Installing RJC 1000

Mac:

When you have downloaded the RJC zip file, unzip it and move the RJC 1000 application to your Applications folder.

Launch the application by double clicking the icon.

Headphones and microphone

To get the best use of RJC 1000, you need a microphone on your computer (built into most laptops) and we recommend using headphones. This way you'll hear what's going on better with reality effects, and the experience when composing using the RJC will be similar to the listening experience on the iPhone/iPod touch.

Pads and modules

- To assign a module to a pad, drag it from the list of modules to a pad.
- Click the pad to turn the module on.
- Most modules have some parameters you can tweak. These will show up on the parameter knobs when the pad with the module is selected.
- To see and change the settings for a module on a pad without turning on the module, right click on the pad.
- To replace a module, just drag a new one onto the pad.
- To remove a module from a pad, click on the pad to select it, then choose "Clear active pad" from the Edit menu.

Using pages

Pages make it easy to switch to a certain combination of active modules while making a scene in the RJC, and also provides the user of the resulting scene a way to switch between those different states of your composition. The idea is that you put all of the modules your scene uses onto the pads, and then create different states that you can easily switch between by having certain modules on or off in the 4 available pages.

Page example:



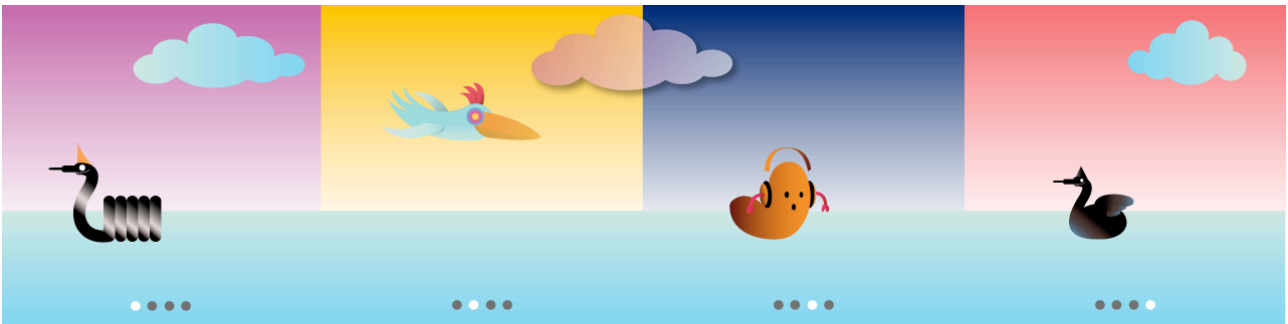
Page 1: All modules active

Page 2: Two modules active

The modules assigned to the pads will stay the same. Click one of the page pads, and turn on the modules you want on for that page. Switch to another page pad to create another arrangement.

Today switching between pages is manual both in the RJC 1000 and RjDj, but future modules could introduce control structures that would allow movement between pages based on for example sensor input like walk detection, or sound levels.

Pages in RjDj on the iPhone/iPod Touch



The pages you set up in RJC will be present in the resulting scene when it's played in RjDj on the iPhone/iPod Touch. The user can swipe between the different pages.

For page switching to work, you need the latest version of RjDj.

Known issues:

The swipe detection is a bit crude at the moment, this will be improved in future releases of RjDj. Telling the user which page they are on is currently done manually by including little dots in the graphic itself. This will also be improved in a future release.

Getting your samples and loops into RJC 1000

- 1) Prepare your material in your favorite audio production software. **All samples need to be at 22050 Hz samplerate.**

2) Drag and drop your sample onto a pad in RJC 1000. This will automatically add the sample player module to that pad with your sample loaded into it.

The sample playback module currently takes samples and attempts to intelligently play them at the BPM shown on the RJC-1000 by detecting hitpoints and performing some timestretching. In the future different sample playback modes will be available.

Note on performance: For scenes to run well in RjDj, there are some memory constraints. If your total sample material is bigger than about 20 M, you'll likely be in trouble.

Using reality effects

RJC 1000 comes with a number modules that provide realtime effects on audio input. Drag a module onto a pad and turn it on to try it. Many modules have parameters like delay time or filter cutoff frequency that you can change on the knobs to the right. You can try combining several effects to create new ones.

Note on performance: For scenes to run with good performance on the phone, there are some limits on how many resource intensive effects you can use in a single scene. Take it easy and make sure you test on a phone or iPod touch!

Using reality synthesizers

Reality synthesizers use sensor data for controlling some part of the sound they make. Drag one to a pad and turn it on, you can tweak parameters on the knobs.

Saving and opening RJC projects

You can save your work as an RJC 1000 project. Choose "Save" from the File menu. The scene will be saved as a directory with a .rjc extension. You can open the project again by choosing "Open" from the File menu and pointing the file browser to the right .rjc directory.

Installing scenes in RjDj on the iPhone or iPod Touch

To play your scenes in RjDj on the iPhone or iPod Touch, you have two options: Installing the scenes from your computer over a local wireless network, or upload them to RjDj.me and install them from our servers.

In both cases, the process is to access a webpage with Mobile Safari on your device, and press a rjdj:// link to the scene. This will launch the RjDj player, that will download and install the scene.

1) First you need to export your scene. Choose File --> Export for Web. This will export your scene for running on a device, and also package it as an .rjz file so it can be installed by the RjDj player from a webpage. Save the file in some convenient place on your computer.

2) Installation. Choose one of the two options:

Local network installation with RjzServer

RjzServer creates a small webpage on your computer that you can reach from your iPhone or iPod Touch if it's on the same wireless network as your computer.

Download the RjzServer software from <http://more.rjdj.me/RjzServer/>

Launch RjzServer. It will open a page with instructions in your browser. Choose File --> Set scene directory in RjzServer and point it to where you saved your exported rjz file.

Installation via RjDj.me

You can also upload the scene to the RjDj.me server and install it from there.

Go to <http://rjdj.me/sharescene> and upload your rjz file. You will get a URL for the scene that you can launch in Safari on the iThing to install the scene.

Note: The upload form at <http://rjdj.me/sharescene> was initially made primarily for people wanting to contribute scenes to RjDj for publication. Don't be alarmed by some of the language geared towards this in the form, it is perfectly fine to use this upload form for just testing your scene.

Adding your own scene name and artwork

Currently the RJC 1000 doesn't provide an interface for editing the name, description and artwork for your scene, but you can manually edit the files that contains this information.

Choose File--> Export for Device and save the scene. This will save a folder with the .rj extension. Open this folder in Finder to see the contents of the scene.

image.jpg is the static cover art that represents a scene in lists and on the RjDj website. You can replace this image with another image in the same format: a 320x320 jpeg image.

screens.jpg is the pages artwork. You can replace this image with another image in the same format: a stitched together jpeg of four 320px screens with some indication to the user about which page they are on.

Info.plist can be edited in any text editor, or the OS X Plist Editor application, and these are the bits you will want to change:

```
<dict>
  <key>info</key>
  <dict>
    <key>author</key>
    <string>PUT YOUR NAME HERE!</string>
    <key>description</key>
    <string>PUT A DESCRIPTION OF YOUR SCENE HERE</string>
    <key>name</key>
    <string>PUT THE NAME OF THE SCENE HERE</string>
    <key>category</key>
    <string>RJC</string>
  </dict>
</dict>
```

If you want to stay safe, don't touch any other files!

Use Rjz-server to install the scene, (it will automatically make it an rjz file for you) or zip the file, change the fileextension to .rjz and upload it on <http://rjdj.me/sharescene>.

You can read more about RjDj file formats here:
<http://trac.rjdj.me>

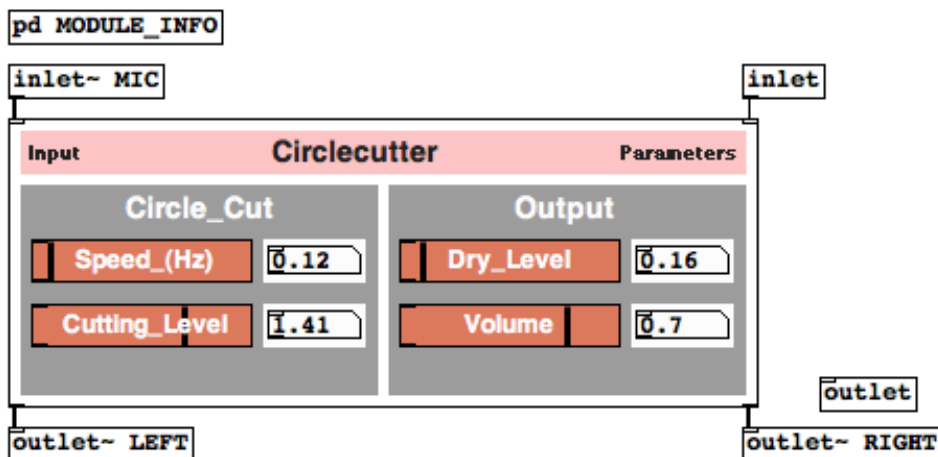
Expert Mode: Pure Data

Many modules have extra parameters that you can edit and tweak by opening the underlying Pure Data patch. Here's how:

(Known issue: This is very complicated at the moment. In a future release, you will be able to do this with one click)

- Drag and drop a module on to a pad in the RJC-1000. PD (running in the background) will dynamically load this module into the relevant slot.
- Click on the RJC_main.pd window behind the RJC-1000.
- Click the [pd RJC1000.master] box.
- In the next window click the [RJC-1000.master] abstraction.
- Click on [pd \$0-slots]. This brings up a list of all 16 slots in the RJC-1000.
- Select the pad you dropped the module on to (the pads are numbered 0 to 16, moving from top to bottom first, then left to right).
- Inside the slot subpatch will be another object called [decor...] it will have the module name at the end. Click this box.
- Click on the [\$2] object within this abstraction.
- You are presented with the pd GUI for the module (Right-click it to open the full innards.)

Example: Expert Mode interface for the Circle Cutter module:



Create your own modules

You can create your own modules for RJC 1000. Modules are Pure Data patches that conform to the RJC 1000 module standard. You can find more information on how to create modules and download example patches and documentation at <https://trac.rjdj.me/wiki/RJC1000-modules>