

# ReBirth of the Cool

## Become a ReBirth power user with these practical tips

By Kurt Kurasaki

### AUDIO SAMPLES

#### ReBirth Files - [rebirth.zip](#)

Example RBS (ReBirth Song) files, packaged in a Zip archive (expand with unzipping utility such as [WinZip](#)).

12522.jpg (as mentioned in the July 2000 issue)

00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

12565.jpg (as mentioned in the July 2000 issue)

00 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

Like the original instruments it emulates, Propellerhead ReBirth RB-338 is truly a unique music production tool. It invokes analog synthesizer nostalgia with virtual knobs and, as a powerful bonus, incorporates the ability to record realtime parameter changes. At first glance, it appears limited in features, but the realtime parameter control opens up some serious creative power. ReBirth doesn't provide the instant gratification that you can get in some other programs by adding a DSP plug-in effect. Instead, it challenges users to develop their own effects through creative programming and clever knob tweaking.

The following tips describe sequencing procedures and techniques for ReBirth version 2.01. No other software or hardware is required -- just a computer (either Mac or PC), a mouse, and ReBirth. The demo version of ReBirth is available for download from [www.propellerheads.se](http://www.propellerheads.se). If you don't yet own ReBirth, you can use the demo to try out all of the tricks shown in this article. Example RBS (ReBirth Song) files, available above, illustrate some of these tips and how they are executed.



### Copy & Paste Between Multiple ReBirth Windows

The clipboard in ReBirth can be used to copy patterns and song loops from one RBS file to another. Open two ReBirth windows and select Copy from the edit menu. Bring the second ReBirth window to the foreground and select Paste from the edit menu.

The Copy Loop function in Song mode is convenient for arranging songs. Save a duplicate copy of an RBS file and open both files. Since there's no Undo command, making a copy allows you to keep the original song without the risk of making irreparable changes. In the first window, set the loop locators in Song Mode and select Copy Loop in the edit menu. Bring the second ReBirth window to the front, move the transport locator to the desired song position, and select Paste Loop at Song Position or Paste Replace Loop at Song Position. Since the patterns in the duplicate RBS file are the same as the original, the pasted loop will play exactly as it does in the original song.

### Obsessive Editing

This is a simple tip for recording precision knob settings in ReBirth Song Mode. Decrease the tempo to 20 bpm. At this tempo, the duration of a single step is 750ms. It takes practice and some good timing to get precision knob changes over the course of a measure while the music is moving so slowly. Keep a hand on the spacebar to quickly get out of record mode when you have the exact change made.

Stop the transport in the middle of the measure. Enable Song Record and make some knob changes, then click on Play. The transport will continue from the same step it was stopped on, and when the transport loops back, you'll hear that the knob settings have been recorded. Click on Stop, then review the knob changes.

ReBirth records knob changes on and between each step, with 32nd-note resolution. With careful programming you can create 32nd-note gate effects with the Distortion, Delay, and PCF in/out switches.

Also remember to use the Shift Click feature. Holding down the shift key and clicking on a knob gives you fine resolution control over knob movements.

### **32nd-Note Patterns**

On Roland TR-909 and TR-808 drum machines, 32-step patterns are created by using two 16-step patterns. Use a two-bar Song Loop to emulate this feature in ReBirth. Set the loop locators for a two-bar loop. Bar should be set to the same measure as Loop Start. Press the Record button, select Pattern A1, advance the bar one measure using the up arrow, and select Pattern A2. Click on Stop.

Play the song loop and program the pattern as if you were in Pattern Mode. Knob settings must be recorded into the loop because they reset when the loop cycles back. Staying in Record mode while playing the song loop will allow you to make knob changes, and use Copy Touched Controls to Loop in the Edit Menu to set the modified knob settings.

Double the tempo (for a song at 133 bpm set the tempo to 266 bpm) and double the Delay steps (from 3 steps to 6 steps) to compensate for the added resolution. Each step now has the duration of a 32nd-note at the original tempo. With this technique, you'll be able to program those cool 32nd-note snare rolls and fast fills. The maximum tempo of ReBirth is 500 bpm, so the maximum tempo of a 32-step pattern is 250 bpm.





### **3/4 Meter Pattern Programming**

The song mode sequencer does not fully support patterns that are less than 16 steps. A 12-step pattern can play and will cycle after the 12th step, but when the pattern changes, it plays the first four steps again before advancing to the next pattern. Two ways to work around this are change 12-step patterns every three measures, or use three patterns (48 steps) to program four measures in 3/4 meter.





Switching 12-step patterns every three measures means pattern changes occur at bars 1, 4, 7, 10, 13, 16, 19, and so on. During these three bars the pattern will repeat four times. This can get too repetitious, so the second method may work better in most cases.

Similar to when you're programming 32-step patterns, use three patterns to write four bars of 12 steps each. The following table illustrates this:




3/4 Meter Pattern Programming Chart

Pattern 1																
Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Measure																

Pattern 2																
Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Measure																

Pattern 3																
Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Measure																

The next chart shows how to organize 4/4 patterns with eighth-note triplets. When using only 12 steps for a full measure the actual tempo is 75% of the displayed tempo (160 bpm is actually 120 bpm).

8th Note Triplet Pattern Programming Chart

Pattern 1																
Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Measure																

Pattern 2																
Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Measure																

Pattern 3																
Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Measure																

## Plucked 303 & Wah-Wah Effect

The ReBirth 303 can be an expressive and funky solo instrument. For a nice "plucked" sound, enable the COMP button on a 303, set the Compression Ratio knob to maximum, and set the Compression Threshold knob to about nine o'clock. The compressor adds a nice pop attack. Adjust Compression Threshold and Ratio to change the hardness of the plucked attack.

To enhance this effect, add distortion and PCF. Set the PCF to Band Pass Mode. Select an arbitrary PCF Pattern with PCF Amount set at 30%, PCF Decay set at 75%, and PCF Q set at 80%. As the pattern plays, manually adjust the PCF Freq. Opening and Closing the filter frequency adds a nice wah-wah effect. In Song Mode, record PCF Freq changes, then add dynamics by overdubbing Mix Level changes.

## Pitch Control on Tunable Samples

Many ReBirth Mods use musical samples in the TR-808 and TR-909 tom positions. Careful programming can lead to some amazing results. The tunable 808 tom samples have a range of 400 cents to +400 cents and the 909 tom and cymbal samples have a range from below 500 cents to

over +500 cents. (100 cents equals one half-step.)

The 808 knobs have 36 frames. The following chart indicates the pitch offsets you'll need to know to program melodic patterns:

## 808 Tuning Offsets

### Knob Frame Pitch Offset

00	-400 cents
05	-300 cents
09	-200 cents
14	-100 cents
18	original sample pitch
22	+100 cents
27	+200 cents
31	+300 cents
35	+400cents

The 909 knobs have 41 frames. However, the first and last positions don't fall on chromatic pitch offsets.

## 909 Tuning Offsets

### Knob Frame Pitch Offset

01	-500 cents
05	-400 cents
09	-300 cents
13	-200 cents
17	-100 cents
20	original sample pitch
24	+100 cents
28	+200 cents
32	+300cents
36	+400cents
39	+500cents

## Simple Drum Fills & Variations Using Delay

Rather than programming several different drum patterns, you can use the Delay to add some interesting variations. Set Delay Steps to three sixteenth-notes, Delay Feedback to 50%, and Delay Pan to Center. Play a drum pattern with the Mix Delay knob initially at zero and occasionally turn the knobs up.

Another cool delay trick is to switch Delay Steps to two sixteenth-note triplets. This works well with

a pattern that abruptly stops on step 11. You can add eighth-note triplets selectively by setting the Mix Delay knob to maximum for a single step, then back to zero for the next step, using the obsessive editing technique discussed above.

## **The Delay as a Loop Sampler**

The Delay will infinitely loop if you set the Delay Feedback to maximum. For the duration of the time specified by Delay Steps, any combination of 303, 808, and 909 patterns can be sampled into the delay. Set the Delay Steps to 16 to sample a full measure. (There's a bug in ReBirth version 2.0.1 that doesn't allow full 32 steps of Delay sampling.)

Record pan sweeps on the Delay Pan knob to create a stereo panning loop effect. Play the original pattern and the sample loop simultaneously for a chorusing/flange effect, and adjust the source Mix Pan knob and Delay Pan knob to increase the stereo width.

Set Delay Feedback to zero to stop the loop, or disable the Delay In/Out lamp to stop the loop immediately.

## **Reverb Effect**

A mono reverb effect can be achieved with the ReBirth Delay. Set Delay Steps to sixteenth triplet (the shortest delay possible on ReBirth), Delay Pan to Center, and Delay Feedback to 90%. The feedback amount determines the length of the "reverb" decay. The source Mix Delay knob should be set to where a subtle echo can be heard without hard repeating attacks. Some rich 303 textures can be achieved with lots of this reverb effect, but modest effect levels are recommended for drum patterns.

Recording pan sweeps in Song Mode from the source Mix Delay Knob adds some interesting movement and textural qualities to 303 lines. Because the Delay time is directly related to track tempo, the reverb effect works better with faster songs, or songs programmed in 32 steps.

## **Polyphonic 303**

With infinite or very high feedback settings, the delay can sample several 303 notes to create chords. Create a short eight-step arpeggio slide on a 303 and set the Mix Delay Knob to maximum. Set the Delay Steps to two sixteenth-notes and Delay Feedback to two o'clock. The delay will sustain 303 notes and render a chord, and the second 303 line is free for a bass line arrangement.

Slightly pan the 303 and delay in opposite directions for a spatial effect, and try different delay step settings to generate a pingpong stereo effect. The right combination of 303 notes and delay steps will create bouncing stereo chords.

## **RBM File Management**

The more RBM files you have in your Mods folder, the longer it takes ReBirth to start up. The actual time is dependent on processor speed and hard drive speed. For example, on my PowerBook G3/300 with no RBM files installed in the Mods folder, ReBirth opens in a few seconds. After I move 72 RBM files to the Mods folder, ReBirth takes approximately 140 seconds to start up. Why bother waiting over two minutes to listen to a ten-second ReBirth loop?

You can add Mods after ReBirth is launched, so it's unnecessary to have every mod installed at startup. Create a new folder inside your Mods folder and name it Mods (Disabled). Move a bulk of your RBM files into the Mods (Disabled) folder. These Mods are not installed at startup, and this significantly reduces the wait.

Create a shortcut to the Mods folder on your desktop for quick access to your RBM files. Move a (disabled) RBM file into the Mods Folder, then select Update Mod List from the Mods menu, and the Mod will appear at the bottom of the menu.

Most of these ReBirth techniques were discovered through experimentation. Many late nights were occupied with tweaking those virtual knobs, and the upcoming release of Propellerhead Software's Reason will certainly affect chronic ReBirth insomniacs. Aside from perfect synchronization between Reason and ReBirth, ReWire inputs will route the 303s and drums through Reason's DSP effects.

Musical skill helps in creating tracks, but technical ingenuity is also a necessity for sequenced virtuosity in ReBirth. Realtime parameter control makes ReBirth less like a software application and more like a real instrument -- and as with any music instrument, it takes practice to attain the maximum potential of ReBirth.

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