# DEBIRD

BIRD NOISE REMOVAL

# USER MANUAL

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DEBIRD – User Manual – V1.0.0

# 1  PREFACE

**Don't get bugged by birds, remove them in no time!**

We spend hours, potentially weeks or even months removing unwanted bird songs out of field recordings. Did you? Then we might have something here that spares you tons of time and coffee.

*DEBIRD* is a very easy to use stand-alone tool, with a lot of power under the hood. There are two steps involved: firstly load an audio file which gets instantly analyzed, secondly hit export to save the file without the birds. That's it – at least for a start. Working with a neural network which we trained with a ton of material, *DEBIRD* not only detects birds but also knows what to keep instead, automatically!

It has never been so easy, outdoor recordings are one step closer to the benefits of recording in a studio.

## 1.1  Minimum System Requirements

Windows 7 (64-bit), 8 GB Ram, Intel® Core™ i5

macOS 10.11, 8 GB Ram, Intel® Core™ i5

## 1.2  Installation

After downloading and opening the installer of *DEBIRD* please follow the on-screen instructions to install the *DEBIRD* application. Files will be copied into the common application folder on your computer together with the manual. Upon the first launch of the application you will be asked to register the *DEBIRD* with your iLok account.

## 1.3  iLok Registration

During the first start of *DEBIRD* after installation, the iLok registration window pops up. The *DEBIRD* is licensed using the Pace iLok system. You need to have an iLok account in order to use *DEBIRD*, however setting up an iLok account is free on www.ilok.com. You will find all necessary information on how to setup an iLok account on www.ilok.com. You can either authorize your computer (called machine authorization) or optionally a $2_{nd}$ or higher generation iLok hardware dongle. A second-generation or third-generation iLok (iLok2 or iLok3) is a product of Pace that can be purchased directly from www.ilok.com or from any music retailer. Please download the iLok Manager at www.ilok.com.

After your purchase, you automatically receive an order confirmation from us containing the download link for the installer plus 30 digits long iLok activation code (e.g. 1234-1234-1234-1234-1234-1234-1234-12).

- To activate this license, open the iLok License Manager application.
- Either select the menu *Licenses -> Redeem Activation Code* or click on the small Redeem Activation Code Icon on the upper right of the application.
- You should then copy paste the entire code you received from us into the entry form. Select your iLok as the activation location to immediately activate the license on this iLok and confirm the location.
- Now you are ready to go. Here is a step by step tutorial for that: http://www.youtube.com/watch?v=1cOGCkRz5hk

## 2   QUICK START
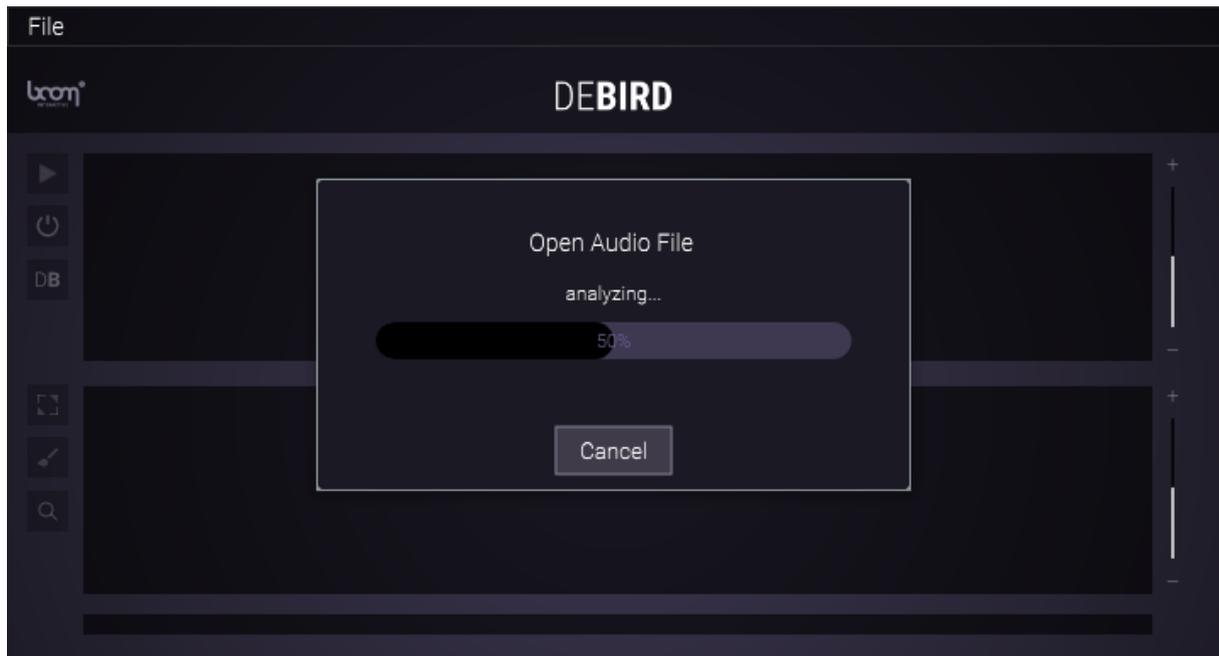


Open *DEBIRD*, drag and drop an audio file with recorded birds in it. A loading indicator will show the progress of importing the audio file. When the file is loaded, it will be analyzed with a status showing the progress in percent in the lower spectral view window.
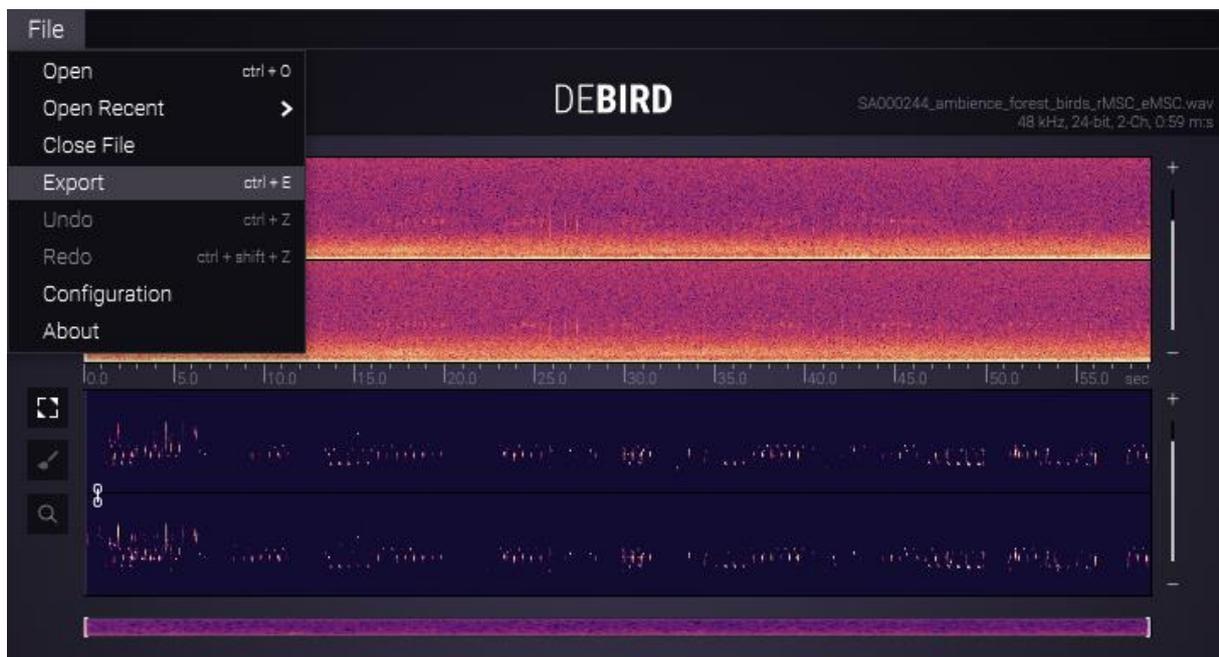


Once done you will see the original file in the upper spectral view window only without birds, on the lower window you will see which material has been identified as bird songs and have been removed. You don't need to touch anything, simply **Export** the file via the drop-down menu of the same name or key command **"cmd" + "E" (Mac) or "ctrl" + "E" (Windows)** to the destination of your choice. It is as simple as that for a quick start.

# 3  GUI OVERVIEW

The GUI is very simple: You will see a header, two spectral view windows, a time bar and one region overview plus a few but very helpful controls:

## 3.1  HEADER, LOGO, FILE SPECIFICATIONS



Clicking on the Boom Library logo on the left will open a little *About* window, showing the people involved in the development of *DEBIRD* and the version of the application currently running.

On the right of the **HEADER** you can see some **SPECIFICATIONS** (samplerate, bit-depth, channel, length) of the file currently loaded.

## 3.2  UPPER SPECTRAL VIEW WINDOW
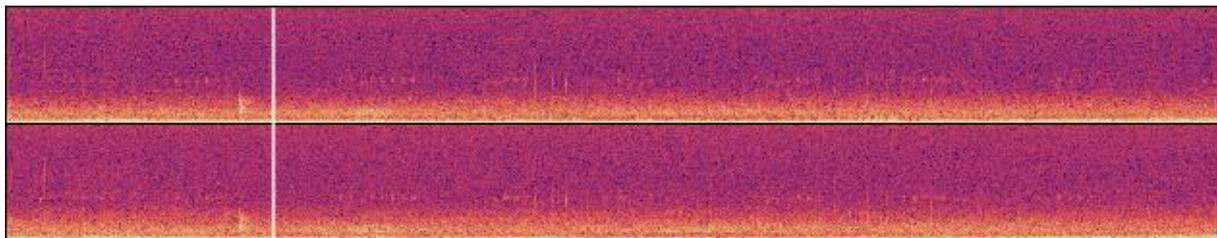


Right below the header, you will see the currently loaded audio file either before (BYPASS ON) or after (BYPASS OFF) processing the original audio file. You can click anywhere into the **SPECTRAL VIEW WINDOW** to set a cursor position.

### 3.2.1  Playback

On the left you can see a **PLAYBACK** icon. Either click this or hit "Space" to playback from the current cursor position if not set from the very beginning of the file.

### 3.2.2  Bypass

Once an audio file has been loaded and analyzed using the "**BYPASS**" button on the left below **PLAYBACK**, will let you switch between listening to the original audio (BYPASS ON) versus the debirded / processed version (BYPASS OFF) so you can easily control if everything is fine. You also have a visual feedback: the upper spectral view shows the original or "debirded" version of the file accordingly.

### 3.2.3  DeBird and Bird-only Mode

Using the **DB** / **BIRD** icon just below the **BYPASS** icon you can switch between two listening modes. **DB** means DeBird you are listening to the processed audio material or the original audio file if **BYPASS** is active. Switching to **BIRD** means you can listen to the

material *DEBIRD* recognizes as birds and removes. This allows for even more control in order to check if anything gets removed that you actually want to keep.

**BIRD** When **BIRD** is active here, exporting a file only exports the detected birds (in case you need clean birds at some point).

### 3.2.4  Spectral View
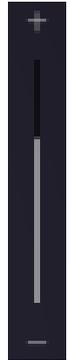
On the right next to the **UPPER SPECTRAL VIEW WINDOW** there is a slider, framed by a plus (top) and a minus (bottom) button. You can change the **SPECTRAL VIEW** intensity, visually highlighting more on quieter or louder material.

## 3.3  LOWER SPECTRAL VIEW WINDOW
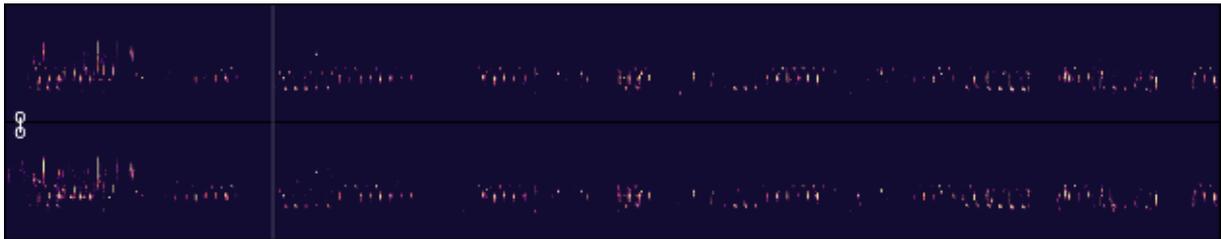


The second, **LOWER SPECTRAL VIEW WINDOW** shows what *DEBIRD* recognized as bird sounds. You can see here what will be altered by *DEBIRD* when you export the sound. On the left, next to this spectral view window, you will find three icons:

### 3.3.1  Region Selector

If the **REGION SELECTOR** tool is selected, you can now exclude specific regions from being processed. Thus, in case you want to keep a bird sound or *DEBIRD* identified an audio signal that in fact is a useful audio material you can simply mark the specific region in the spectral view window to exclude it from processing by clicking into the **LOWER SPECTRAL VIEW WINDOW**, dragging over the region you want to select by keeping the mouse-button pressed and let go once the correct region is highlighted. You will get an instant visual feedback and this region will be deleted from the **LOWER SPECTRAL VIEW WINDOW** and added back to the **UPPER SPECTRAL VIEW WINDOW** showing the resulting audio file.

If you are not happy with the selected region, hit escape before you let go the mouse-button and start over.

### 3.3.2  Brush

The **BRUSH** tool works the same way the **REGION SELECTOR** does, but without a region. Once you click on a spot it will get instantly removed. You can also draw into the **LOWER SPECTRAL VIEW WINDOW** to exclude more material.

### 3.3.3  Magnifier

Select the **MAGNIFIER** tool and left click into the **LOWER SPECTRAL VIEW WINDOW** to zoom in or right click to zoom out centering around the current cursor position.

### 3.3.4  Channel Link

Provided you have loaded a stereo signal into the application, you can see a **CHANNEL LINK** button on the left side of the **LOWER SPECTRAL VIEW WINDOW**. This is active by default, which ensures that all changes made with the **REGION SELECTOR** or **BRUSH** are applied to the left and right audio channels.

A click on the button switches it to inactive, allowing the two channels to be edited independently.

### 3.3.5  Spectral View

On the right, next to the **LOWER SPECTRAL VIEW WINDOW**, you will find the same slider as for the **UPPER SPECTRAL VIEW WINDOW**, framed by a plus (top) and minus (bottom) button. You can change the **SPECTRAL VIEW** intensity, visually highlighting more on quieter or louder material.

## 3.4  REGION OVERVIEW, TIME BAR
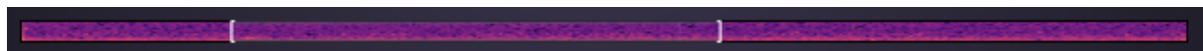


On the very bottom of the application window there is a small overview of the complete file. There is a little light grey bracket on the far left and right side.



Adjusting these brackets will alter the **TIME BAR** in the middle, to show you which region of the complete file you are currently looking at in the two large spectral view windows.

# 4  SHORTKEYS

Open:   ctrl+O (Windows)      -      cmd+O (Mac)

Close:  ctrl+W (Windows)      -      cmd+W (Mac)

Export: ctrl+E (Windows)      -      cmd+E (Mac)

Undo:   ctrl+Z (Windows)      -      cmd+Z (Mac)

Redo:   ctrl+shift+Z (Windows) -    cmd+shift+Z (Mac)

Save:   ctrl+S (Windows)      -      cmd+S (Mac)

Quit:    ctrl+Q (Windows)      -      cmd+Q (Mac)

Toggle PLAY/STOP:              space

Toggle Mode  (DB/BIRD):        M

Toggle BYPASS (On/Off):        N

Select REGION SELECTOR Tool:  R

Select BRUSH Tool:             B

Select MAGNIFIER Tool:         Z


Timeline:

Zoom in:                       up / +

Zoom out:                      down / -

Move left:                     left

Move right:                    right

Normalize Size:                alt+click in any spectral view window

# 5 TIPS AND TRICKS

## 5.1 Exporting vs. saving

We do not allow for saving files, aka overwriting any original content. That is obviously for a reason: you can always go back to the original or compare *DEBIRD*'s exported files to the original and possibly cut in parts that didn't behave like expected. That means: *DEBIRD* is a non-destructive tool by adding a new file instead of overwriting existing files.

## 5.2 Check the results before exporting

There are some sounds that in fact sound very much like birds. That can be ricochets of guns or explosions, "s" consonants in speech might sound like some birds. Human whistling might be exactly like bird songs or squeaking of metallic hinges. Make sure to use the BYPASS within *DEBIRD* to double check if the exported file suits your needs or not and possibly exclude those specific parts using the tool described above.

## 5.3 Bird Noises

There are some noises that might result from birds, however which do not get recognized as bird songs. These might be wing flaps, picking sounds or even a whole swarm of birds so far away that it results in a high frequency modulated noise. These sounds are so random and might even cover so much from the original content that alternate denoising might be necessary.

## 5.4 Not recognized bird songs

Luckily the world is still full of animals. Our neural network only learned from us and our access to the world is somehow limited. So in case you come across a bird that doesn't get recognized at all by *DEBIRD* but you think it should be, we would love to hear back from you and possibly even get the original recordings so we can prepare and edit them to be included in our next training session for the *DEBIRD* algorithm. Only by doing this we can make sure *DEBIRD*'s brain evolves and gets more intelligent over time. So please don't just find workarounds, help us make *DEBIRD* a better experience for you and everyone else in need of such a tool. Thank you very much for helping the community!

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