

# MULTIPLEX VOCODER 2

## USER GUIDE



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## 1 | INTRODUCTION

Multiplex Vocoder is a 64 Bits standalone software conceived for music production, live sets and audio postproduction purposes, including voice and sound design.

Multiplex Vocoder allows using VST/AU instruments and audio files as vocoder carrier signals to be modulated by a microphone or by another audio file.

## 2 | SETUP INSTRUCTIONS

### MAC:

Open Multiplex Vocoder 2.dmg. Drag & drop Multiplex Vocoder 2 to your applications folder. Double-click Multiplex Vocoder 2 app.

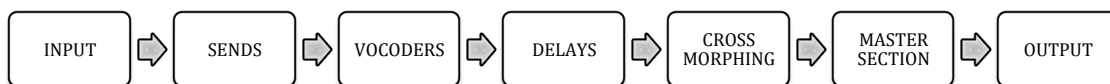
### WINDOWS:

Drag & drop Multiplex Vocoder 2 to your programs folder. Double-click Batch Multiplex Vocoder 2.exe

## 3 | FIRST STEPS

- The first step will be to make sure that you have the right settings in your computer and soundcard.
- Check your **SETTINGS**. Click **KEYBOARD** to select your midi keyboard.
- Set your **Audio Input** gain level.
- Select the vocoder section you want to edit from the **Tab Menu**. Click **OPEN** to load a **VST or AU Instrument** on **Vocoders 1 to 4**. Or load any audio sample on **Vocoder 5**.
- Set the **Vocoders** output levels in the mixer (1-5).
- Set your **Output** gain level.
- Start having fun!

## 4 | SIGNAL PATH



## 5 | SECTIONS

### 5.1 | INPUTS

Multiplex Vocoder allows using up to 3 different inputs to feed the different vocoder sections, 2 microphones and any audio file from your computer. All of them can be used at same time if needed.

#### 5.1.1 | MIC INPUTS

A 100Hz High Pass Filter is available at input stage.

##### 5.1.1.1 | SPECTRAL

This section allows mixing the spectral content from microphone inputs 1 and 2 by splitting input signals into 3 bands, the inner band containing the selected audio frequency range and the lower/upper bands containing the frequency range below and above the selected frequency range.

- Controls:
  - Lower.** Activate/Deactivate outer audio range. (blue)
  - Inner.** Activate/Deactivate inner audio range.
  - Upper.** Activate/Deactivate upper audio range.
  - Frequency Range Selector.** Set the inner, lower and upper frequency range.

#### 5.1.2 | AUDIO PLAYER

Play any audio files from your computer (wav, aiff, mp3).

- Controls:
  - Play/Stop.** Start/stop playback [**shortcut: spacebar**]
  - Loop.** Activates Loop playback mode. [**shortcut: L**]
  - In/Out.** Select output mode
  - File.** Select your audio file
  - Folder.** Choose a folder to be shown in the menu. It makes quicker to load files from your computer.
  - Drag & Drop Folder.** Click FOLDER and drag/drop any folder within the dialog window.
  - Drag & Drop File.** Drop any file within the file name section.
  - Playback speed.** Change playback speed from 10% (0.1) to 400% (4).  
Click on the speed label to reset playback speed to normal speed (1).
  - Pitch.** Set the pitch from -24 to 24 semitones. Click over Pitch text to reset Pitch.
  - R** - Reset audio player.
- Output Modes:
  - IN.** Audio output is processed through Multiplex Vocoder.
  - OUT.** Audio output is sent directly to the stereo output, not being processed by Multiplex Vocoder. You can use this mode for preview purposes and if you need to play background audio while working. In this mode audio player output will not be recorded.

### 5.2 | SENDS

In this section you can assign the inputs (In 1, In 2, audio player) to be send to each vocoder. By default all sends are active.

Depending of your needs it allows setting up your own configuration when using more than 1 audio source at same time, sharing or using different sends for each input. It means that you can use 2 or 3 different audio inputs at same time each one with it's own, similar or identical vocoder sound.

### 5.3 | INPUT MODES

- **Direct:**  
This is the normal vocoder input mode and it's selected by default. In this mode audio inputs feeds the vocoders
- **Depending:**  
In this mode, the vocoders outputs are activated or deactivated depending the input level. You can set the minimum threshold for each vocoder separately; it means that each vocoder will be activated only when the input level reaches the selected threshold level and deactivated when the input level is below this threshold.

This mode allows creating more complex and dynamic effects, activating or deactivating the vocoders depending the input level. **THIS MODE ONLY WORKS ON INPUT 1.**

Click on **EDIT** to manually set the threshold levels for each vocoder.

### 5.4 | INSTRUMENT VOCODER (vocoders 1-4)

These sections allows using any **VST or Audio Unit** instrument as the carrier signal for the **vocoders**. There are **4 instrument vocoder sections available**. It works as a standard vocoder. so you will not listen any sound unless you play a keyboard note.

- Controls:  
**Open:** Select your vst/au instrument.  
**View.** See on screen the selected plug-in.  
**Save.** Save the plug-in internal preset. (.fxp file)  
**Load.** Load a plug-in internal preset (.fxp file)  
**Unlock.** Unlock the selected vocoder section to an individual window on screen.
- Convolution Modes (Mode 1 is set by default)  
**Mode 1** - Input associated to modulation signal/ plugin associated to carrier signal  
**Mode 2** - Plugin associated to modulation signal/ Input associated to carrier signal
- Plugin effects controls:  
**Open:** Select your vst/au instrument.  
**View.** See on screen the selected plug-in.  
**Save.** Save the plug-in internal preset. (.fxp file)  
**Load.** Load a plug-in internal preset (.fxp file)

Each vocoder section includes a 3-Band Parametric EQ, HPF and LPF.

## 5.5 | SAMPLE VOCODER (Vocoder 5)

This vocoder allows using any audio file from your computer as the carrier signal for the vocoder. Wav, aiff nad mp3 files. The carrier sample file will be played each time the vocoder detects an input signal into and will be stopped when there is no input.

- Controls:
  - File.** Select your audio file
  - Folder.** Choose a folder to be shown in the menu. It makes quicker to load files from your computer.
  - Pre.** Click and hold Pre button to preview the selected audio sample.
  - Drag & Drop File.** Drop any file within the file name section.
  - Playback speed.** Change playback speed from 10% (0.1) to 400% (4).  
Click on the speed label to reset playback speed to normal speed (1).
  - Pitch.** Set the pitch from -24 to 24 semitones. Click over Pitch text to reset Pitch.
  - Unlock.** Unlock the selected vocoder section to an individual window on screen.
- Convolution Modes (Mode 1 is set by default)
  - Mode 1** – Input associated to modulation signal/ audio sample associated to carrier signal
  - Mode 2** - Audio sample associated to modulation signal/ Input associated to carrier signal
- Plugin effects controls:
  - Open:** Select your vst/au instrument.
  - View.** See on screen the selected plug-in.
  - Save.** Save the plug-in internal preset. (.fxp file)
  - Load.** Load a plug-in internal preset (.fxp file)

This vocoder section includes a 3-Band Parametric EQ, HPF and LPF.

## 5.6 | MASTER

This master section includes 3-Band parametric Eq, LPF, HPF, 2 plugin modules and a LFO module.

- LFO Controls:
  - LFO Rate:** Set LFO Rate.
  - ON/OFF.** Activate/deactivate LFO Rate modulation.
  - Upward/Downward.** Set the LFO Rate modulation mode.
    - Upward:** From min to max
    - Downward:** From max to min
  - Modulation Range:** Set the minimum and maximum LFO Rate parameters. To work properly minimum parameter have to be lower than the maximum parameter.
  - Modulation Speed:** Set the LFO Rate modulation speed

## 5.7 | MORPHING

Cross morphing between **wet** (processed) and **dry** signals (original source).

## 5.8 | MIDI MATRIX

A midi device can be used to control any of the Multiplex Vococder mixer faders, including morphing.

Click SCAN to select your midi device from the menu. Then click **PLAY** to change to **LEARN** mode and move any fader on your midi device that you want to synch with the selected Multiplex Vocoder fader. You can also select the midi channel assigned to each fader manually. This midi device can be the same one used to play the keyboard or another device.

## 5.9 | KEYBOARD

On this section you can select the midi keyboard you want to use for playing the vocoders.

- **Controls:**
  - Scan.** Click to scan your midi devices and select it from the menu.
  - Prelisten.** Preview the vocoders carrier signal before the convolution processing.
  - Keyboard/Autokey modes:** On keyboard mode you need to use a midi keyboard to feed the vocoder. Autokey mode allows you to set which note will be sent automatically to the vocoders, this note will be played as long as input is detected, this way you don't need a midi keyboard to feed the vocoders.

## 5.10 | RECORDING

Multiplex Vocoder allows stereo output recording in WAV or AIFF (16/24/32Bits). Up to 192kHz (depending your soundcard). It also allows recording dry/wet output simultaneously.

- **Recording modes**
  - Mode 1:** Normal recording. Outputs a stereo file containing the processed audio.
  - Mode 2:** Dry/Wet recording. Outputs a stereo file containing different audio signals on Left and Right sides, **Left side** contains the processed stereo output converted to mono, while **Right side** contains the original source (dry signal).

*Mode 2 allows recording the original audio source at same time than the processed output, so you can later split this stereo audio file into 2 mono files. L (**wet signal**) and R (**dry signal**). This way you are able to make some edits or variations from a processed audio file, sending again the original audio source used to create this file into Voxpat to apply some adjustments before the final recording.*

- **Controls:**
  - Stereo/Mono.** Select to export Stereo or Mono files.
  - Save As.** Select the destination folder.
  - Rec.** Press to start recording.
  - Stop.** Press to stop recording.
  - Volume.** Set the recording volume

You need to select recording destination folder for each recording take (Save As) and then press rec.

### 5.10.1 | REC ME

This section allows recording your voice to be processed through Multiplex Vocoder in just a few seconds. Up to 2 different recording takes, so you use Take 1 ,Take 2 or both of them to create a more complex voice sample.

- a. Set recording time. (3, 5, 10 or 20 seconds)
- b. Select recording destination; Take 1 or Take 2.
- c. Press **REC (keyboard shortcut "H")** (Recording will stop automatically after the selected recording time).
- d. Press **PLAY (keyboard shortcut "N")** to listen to the recording takes. Press **1 & 2** buttons to select the audio source (1-Take 1/-Take 2). Playback only in Loop mode.
- e. Press **SAVE** to store the recording take selected (Take 1/Take 2) in your computer (WAV/AIFF). It will save the sample file stored in the selected recording destination.
- f. Set **playback speed** [From 10% (0.1) to 400% (4) | normal speed=1]
- g. Click over Speed label to reset playback speed to normal playback.

## 5.11 | PRESET MANAGER

Save and load your own Multiplex Vocoder session presets. It will save the whole session data.

We strongly recommend creating a new folder in your computer for each preset with the name of the session and save it with the same name. It will automatically create a **.json** (app preset) file and some **.fxp** (plug-in preset) files depending how many **vocoders** and plug-ins has been used. To restore any session you just need to open the **.json** file associated to this session and the whole data will be restored.

- **Controls:**
  - Load.** Load a preset from your computer.
  - Save.** Save a preset in your computer
  - Folder.** Select your preset folder to be shown in the menu. It makes quicker to change between presets.

## 6 | INPUT & OUTPUT ROUTING

Via **BlackHole** (Mac) or **Jack Audio** (Windows/Mac) you can use Voxpat within any DAW or audio editor.

**BlackHole:**

<https://github.com/ExistentialAudio/BlackHole>

**Jack Audio:**

<https://jackaudio.org/downloads/>

## 7 | REWIRE (only as client)

Rewire allows sending Multiplex Vocoder audio output to any daw that supports Rewire. Multiplex Vocoder offers 2 kind of Rewire configurations:

- A. **Standard version** allows sending the stereo output
- B. **Rewire 10ch** allows sending each vocoder output separately to any daw. Keep in mind when using Rewire 10ch some features are disabled, as Cross Morphing and the Master section. You'll find **Rewire 10ch** activation button at Recording section.

**To use Rewire follow this steps:**

1. Open your Rewire host (Ableton Live, Cubase, Logic, Protools, ..). Some programs automatically sets as Rewire Host, but some others it needs to be activated manually.
2. Launch Voxpat. Open Settings. Choose ad\_rewire from the driver pop-up menu.
3. On your Rewire Host select Multiplex Vocoder 1ch/2ch as input source if using the standard version.  
If using Rewire 10ch then select Multiplex Vocoder 1ch, 2ch, ... a different rewire input channel on every Rewire Host channel.

**Rewire 10ch configuration:**

- **Rewire ch 1 / 2 - Vocoder 1 L/R**
- **Rewire ch 3 / 4 - Vocoder 2 L/R**
- **Rewire ch 5 / 6 - Vocoder 3 L/R**
- **Rewire ch 7 / 8 - Vocoder 4 L/R**
- **Rewire ch 9 / 10 - Vocoder 5 L/R**

When working on rewire mode, microphone inputs will be disabled.

## 8 | SHORTCUTS



For faster and better user experience.

**T** - Spectral  
**S** - Sends  
**D** - Delays  
**I** - Input depending  
**R** - Recording  
**K** - Keyboard  
**M** - Midi Matrix  
**1** - Vocoder 1  
**2** - Vocoder 2  
**3** - Vocoder 3  
**4** - Vocoder 4  
**5** - Vocoder 5  
**6** - Master section

## 9 | SYSTEM REQUIREMENTS

### **Mac System Requirements**

Mac Intel machine running OS X 10.11.6 or later. 64 Bits. Minimum RAM 4GB.

Apple M1 processors must use Rosetta 2 (installed by default in your OSX) to run this app.

### **Windows System Requirements**

Windows 7 or later, multicore processor. 64 Bits. Minimum RAM 4GB.

## 10| TROUBLESHOOTING

If you have problems with the sound (clicks/distortion/latency) try changing IO Vector Size and Signal Vector Size to lower values.

### **THANKS FOR YOUR SUPPORT!**

Technical support at  
[support@digitalbrain-instruments.com](mailto:support@digitalbrain-instruments.com)

DIGITAL BRAIN INSTRUMENTS | <http://www.digitalbrain-instruments.com>