

How to add new vocabulary to Talko, the easy way

Previously, I had described [here](#): how to do compress sound using a venerable Windows 3.1 tool: Qbox Pro. The process what quite long to set up and does not always produce good results.

Today I discovered BlueWizard from this [post](#).

BlueWizard runs on Mac and allows to tweak the process in real time to optimize the output! The author has been kind enough to make some small tweaking just for the Arduino and Talko!

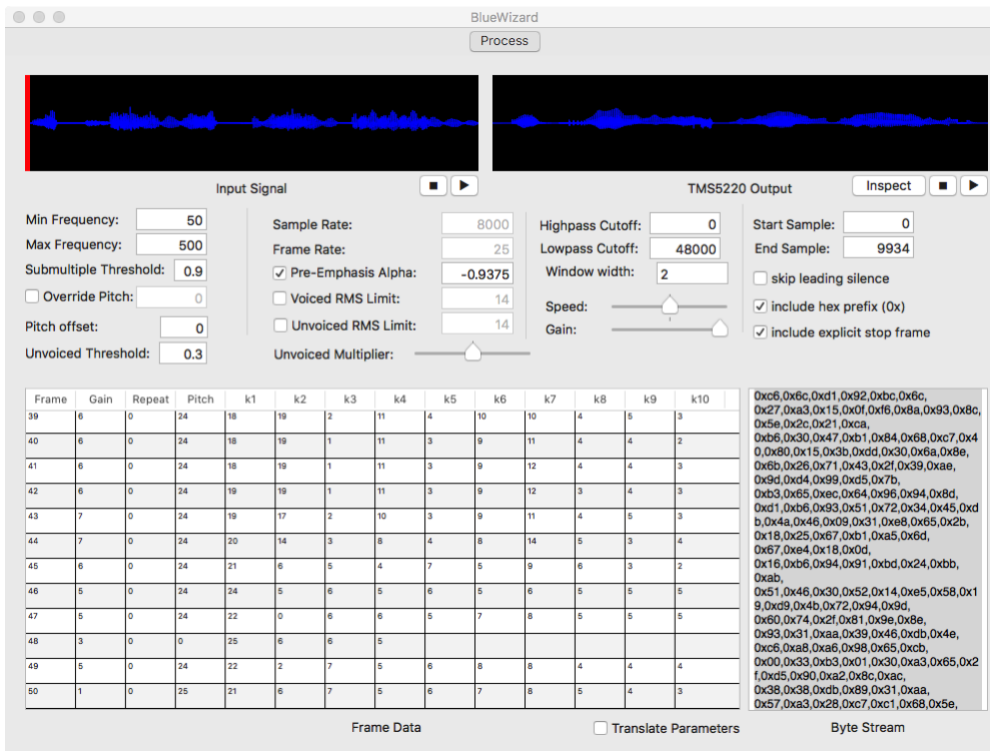
Simply open your file (which has to be recorded at 8 kHz with 16-bit depth), click on the 2 tick boxes:

– “include hex prefix (0x)” to allow direct pasting into the Arduino IDE

(if you are using it for Emy’s SD card do not tick this box)

- and “include explicit stop frame” to avoid the library producing gibberish noise a the end of the sound

then copy the resulting the data from the “Byte Stream” windows.



Open the Arduino IDE and paste the data stream into your code before uploading it to Talko.

Let's make a sound and process it:

```
say -v"alex" "We are charging our battery. And now we are full of energy. We are the robots." -r 100 -o roboter.wav
```

converting to 8 kHz with 16-bit depth using SoX

```
sox roboter.wav -r 8k -b16 roboter.wav
```

and the compressed version made with Talko :

the Arduino code:

```
// Talkie Adafruit library
// Copyright 2011 Peter Knight
// This code is released under GPLv2 license.
```

```
#include "talkie.h"
```

```
Talkie voice;
```

```
const          uint8_t          spROBOTS[]
={0xa6,0xd6,0x4a,0x67,0xd8,0xed,0xa8,0x9a,0x35,0x37,0xd5,0x8a,
0x1c,0x72,0xbf,0x84,0xcd,0x2a,0x4a,0xca,0x42,0x50,0x77,0xed,0x
6a,0x25,0xcb,0x1a,0xb3,0xa3,0xa3,0xa4,0x34,0x4b,0xb2,0xe9,0x0c
,0x9b,0xd2,0xc4,0xd9,0xa7,0xca,0x6c,0x49,0x8a,0x26,0x9d,0xaa,0
x28,0x2d,0xc9,0x96,0xad,0xbc,0xaa,0xb6,0x24,0x47,0xb5,0xd0,0x1
c,0xd3,0x92,0x9c,0xcd,0x43,0x7c,0x68,0x4b,0x72,0xd6,0x2c,0xf6,
0xa2,0x25,0xcd,0x9d,0xb3,0x4d,0xc6,0xa4,0xb4,0x4c,0x8a,0x32,0x
19,0x9d,0x92,0xb2,0xc8,0xd2,0x79,0x92,0x89,0xeb,0x14,0x36,0xd3
,0x26,0x04,0xd8,0x79,0x2c,0x01,0xbb,0x5e,0xb6,0x68,0x8e,0xed,0
x2e,0x8b,0xdd,0xea,0x51,0xd3,0xd3,0x35,0x4e,0xcb,0x73,0x74,0xf
3,0xd4,0x38,0xa3,0x4c,0xd9,0xdd,0xc3,0xed,0x96,0x2a,0x76,0xb5,
0x36,0x5d,0x9c,0xaa,0x38,0x4c,0xc7,0x75,0x52,0xaa,0xc3,0x14,0x
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8,0x0c,0x2b,0x69,0x9a,0xa4,0x49,0xbd,0xb2,0x56,0x69,0x46,0x55,
0x66,0xd5,0xb6,0xa5,0x19,0x95,0xd8,0x2c,0xda,0xb4,0xa6,0x5a,0x
52,0x8f,0xac,0x53,0x9a,0x62,0xd1,0xab,0x2a,0x72,0x68,0xb3,0xc1
,0xd8,0xcc,0xd0,0xae,0x8b,0x8a,0xe2,0xd2,0x4c,0xb9,0x4e,0x1b,0
xed,0x56,0xb7,0x62,0x3a,0x63,0xa4,0xdd,0xd3,0x4a,0xe8,0x8a,0xc
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xb7,0x18,0x93,0xcb,0xa1,0x8e,0x43,0x7d,0x54,0xae,0x84,0x3a,0x0
e,0x8e,0x15,0x99,0x93,0xea,0x58,0x38,0x43,0xbd,0x32,0xab,0x6d,
0xe2,0x0c,0xd7,0x21,0xa4,0x8a,0x5a,0xc2,0xc3,0x62,0x95,0xac,0x
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1,0x35,0x1c,0x89,0x8e,0x1a,0x86,0x92,0xa1,0x3c,0xb2,0x6c,0x18,
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a9,0x28,0xd2,0x9a,0x8c,0x1d,0xa6,0x66,0x88,0x63,0x2a,0x4e,0x98
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```

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```
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,0x1a,0x95,0xdb,0xc4,0x7c,0x32,0x19,0x69,0x2a,0x13,0xf5,0x38,0
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3,0xc6,0xd0,0x4b,0xc3,0xb3,0x4c,0x1a,0x63,0x1d,0x09,0x8f,0x32,
0x65,0x4a,0xa9,0x23,0x38,0xcb,0xa6,0x39,0xa5,0xf6,0x10,0xaf,0x
92,0xe6,0xd4,0x32,0x4c,0xdb,0x4a,0x59,0x52,0xce,0x48,0xe9,0xb0
,0x69,0xc9,0xd9,0xcb,0x74,0xa4,0xb9,0x25,0x45,0x2d,0xf3,0x14,0
xa3,0xd6,0x62,0xc3,0x5d,0xdd,0x34,0x59,0xba,0x74,0xcf,0x08,0x4
b,0x08,0x58,0xa9,0xc3,0x30,0xc3,0x65,0x84,0x7b,0x1c,0x0,0x0,0x
0,0xf0,0xff,0xff};
```

```
void setup() {
}
void loop() {

    voice.say(spROBOTS);
}
```

New Talko firmware : VCO mode can play semi-tones

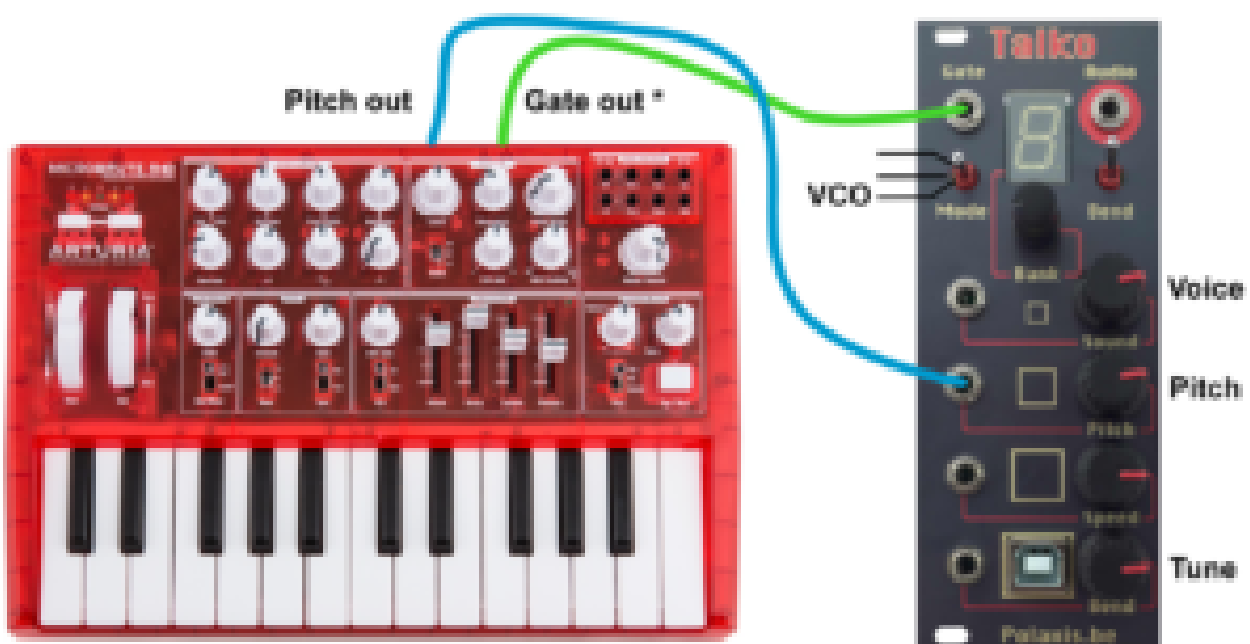
The [rev 2 of Talko's firmware](#) can now play notes over 2 octaves.

It may seem obvious to have a 1V/octave CV to note in a VCO mode but this was quite challenging to achieve. (I may explain the process in another post as it could be also applied for another of my speech synths)

Connections

Quite easy: just feed a pitch signal into the Pitch entry. Tune the synth up and down with the Bend pot and trigger the note with the Gate.

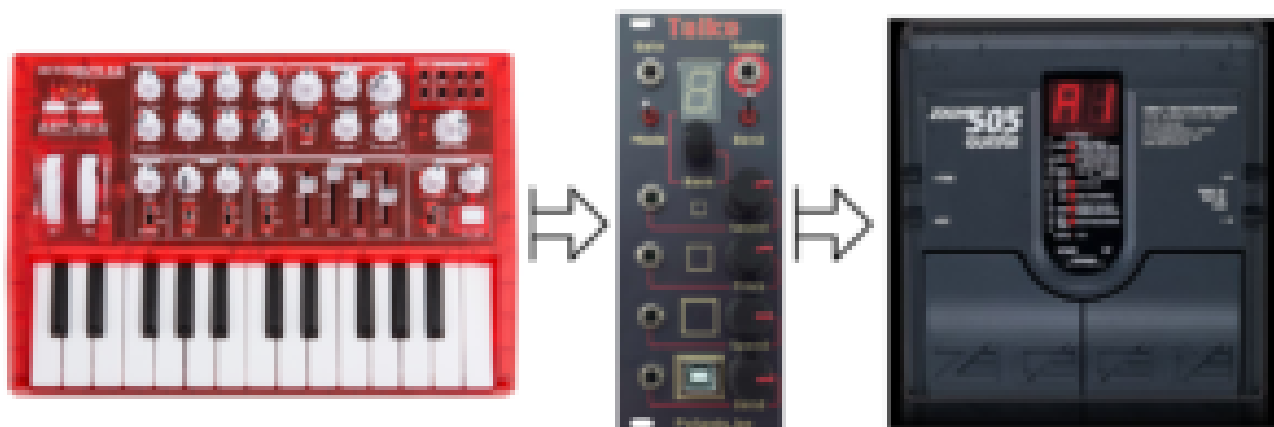
Set it to Bank 16 and play with the Sound pot to choose among the 26 vowels sounds.



(*) Please note that the Microbrute's gate out can't trigger Talko directly (it's a Microbrute know impedance issue): use a gate buffer in between.

Sounds

The VCO sound very much like an organ and it's quite fun to pass the audio through a guitar pedal like the Zoom 505:

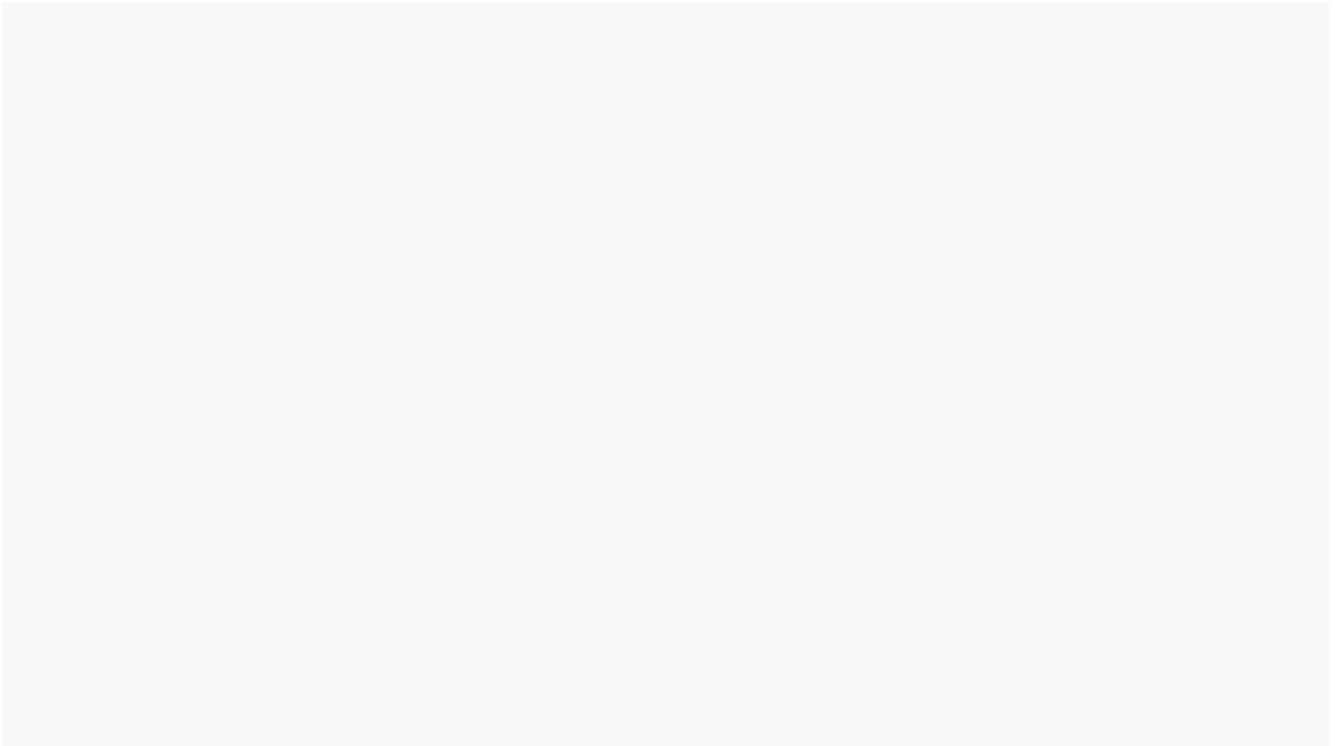


#Talko new firmware : the VCO mode can now play semi-tones ! #arturia keyboard driving #talko pitch cv in . I apologize for my poor keyboard skill

(^_^)

Une publication partagée par Jean-Luc Deladrière (@polaxis) le 24 Févr. 2017 à 14h04 PST

The Microbrute can also send notes via its sequencer: this allows instant fun for the poor keyboard player like me!



#talko in VCO mode with the #arturia #microbrute as sequencer

Une publication partagée par Jean-Luc Deladrière (@polaxis) le 24 Févr. 2017 à 13h26 PST

Firmware

The code is available here: [Talko 1.2 rev2](#)

Right click to save it as a .hex file and use [Easy uploader](#) to install it into Talko.

User Manual

The manual has been updated to reflect this revision : <http://www.polaxis.be/wp-content/uploads/2016/05/Talko-Manua>

Talko Eurorack countdown timer

Here is a little countdown timer I developed for [Hataken](#) to help in timing mini gigs.

It work like this :

1. Choose the amount of time from 0 to 19 minutes with the BANK knob.
2. Start the timer with a gate signal or by pressing the rotary switch.
3. The display will countdown and blink once per second until the end of the timer.
4. A the end of the timer, the BEND signal will go high (4.5V max, if the BEND knob is fully turned clockwise) and the alarm will ring if the bend switch is ON

While running you can :

- Run silently (mode switch UP),
- Tick every second (mode switch NEUTRAL),
- Tick and have the minutes left spoken (mode switch DOWN).
- Use the BEND switch to set or mute the alarm sound
- Stop the timer by pressing the rotary switch (or using a Gate signal to do so)

Note : The SOUND and BEND pots are not used

Here is how it sounds like :

The code is available here : [talko_timer_Hataken.hex](#)

Right click to save it as a .hex file and use [Easy uploader](#) to install it into Talko.

The next iteration will have an interface with Processing to display the countdown on a big display.