

# MS-20EX Tutorial 2

## Programming a Bass Sound

Material: KORGE Kronos & MS-20EX Block Diagram.  
Level: Beginner - Intermediate.  
Time: approx. 12-15 min.  
Goals: Program MS-20 with a bass sound, add Kronos effects, and use an External Modulation Source to change the sound.

The Bass  
Experiment

This tutorial describes step by step how to program a bass sound with the KORGE Kronos MS-20EX Synth Engine.

This tutorial consists of five parts:

1. Setting up the Basic Sound.
2. Shape the Sound.
3. The Beauty Pass - Kronosification.
4. Sliding your Finger - External Modulation Source: the ribbon.
5. Summary Schema of all settings.

# 1. Setting up the Basic Sound

1. Select a free USER Program and set in the **Common** tab the **EXi 1 Instrument Type** to MS-20EX.
2. Select the **EXi 1** tab and then the **Osc & Filter** tab, if not selected.
3. First “reset” the MS-20EX by setting:

## **VCO MIXER**

VCO 1 LEVEL = 10  
VCO 2 LEVEL = 0

## **VOLTAGE CONTROLLED LOWPASS FILTER**

CUTOFF FREQUENCY = 0  
PEAK = 0

## **CUTOFF FREQUENCY MODULATION**

EG 2/EXT = 0

Leave the other values at their default settings.

Reset

We begin with only one VCO - **Voltage Controlled Oscillator**.

4. Now select the **MG, EG, & Mod** tab. We have to reset a few more values.

# 1. Setting up the Basic Sound

5. Continue to “reset” the MS-20EX by setting:

## ENVELOPE GENERATOR 2

DECAY TIME = 0  
SUSTAIN LEVEL = 0  
RELEASE TIME = 0

Leave the other values at their default settings.

Reset

Basic Sound

We end up with ... no sound. That's okay for now. We clearly did reset the MS-20EX.

To create the new sound we start with the **basic sound source** - the **VCO** - Voltage Controlled Oscillator.

6. Select the **Osc & Filter** tab. As you can see, the **WAVEFORM** for **VOLTAGE CONTROLLER OSCILLATOR 1** is set to **saw**. A saw waveform is good for bass type sounds.

Please set for **VCO 1** the value **SCALE=16'** to make it sound lower.

Remember, SCALE on the MS-20EX is called OCTAVE on the PolysixEX.

## 2. Shaping the Sound

Next we have to **shape the sound**, by determining which frequencies we want to cut off. For this we look at the **VCF** - Voltage Controlled Filter.



7. To shape a bass sound start by selecting the **CUTOFF FREQUENCY** of the **VOLTAGE CONTROLLED LOWPASS FILTER** (VCLF from now on). Move the **value slider** till value **2**.

Note that you can also enter the number **2** using the number buttons and then press **ENTER**.

8. Of the **VCLF** select **PEAK** on the Kronos' screen and set **PEAK = 2**.

Peak controls the resonance of the filter, which emphasizes the frequencies around the cutoff frequency.

Play some notes. You probably hear nothing.

When programming the PolysixEX you could already hear something.

The MS-20EX is different apparently. Lets see if we can change this.



## 2. Shaping the Sound

We have to shape the sound even further. See if we can give it the synth bass 'edginess'. This can be realized with the help of the **EG** - the **Envelope Generator**. But, before an envelope can be generated, you have to create one. This is done by the ADSR knobs or **ATTACK**, **DECAY**, **SUSTAIN** and **RELEASE**. The **A**, **D** and **R** are **time** related and the **S** is **level** related.

Creating an Envelope

We want our bass to start direct at the max level and then decrease. This is done by setting the value of Attack to 0, the time from the moment you press a key on the keyboard (note-on) until the maximum level is reached, i.e. instantly to max.

9. Select the **MG**, **EG**, & **Mod** tab. To create the ADSR envelope, enter the following values by selecting the knobs on screen and typing the numbers in the **ENVELOPE GENERATOR 2** strip:

ATTACK TIME = 0  
DECAY TIME = 5  
SUSTAIN LEVEL = 0  
RELEASE TIME = 0

See the PolysixEX Tutorial 2 Programming a Bass Sound (intermezzo section) for more information about the ADSR and VCF.

# 2. Shaping the Sound

ADSR & VCLF

This time, we do want the EG to shape the Voltage Controlled Filters.

10. To realize this, go to the Osc & Filter tab. Of the CUTOFF FREQUENCY MODULATION strip below the VCLF select the EG 2/EXT knob.

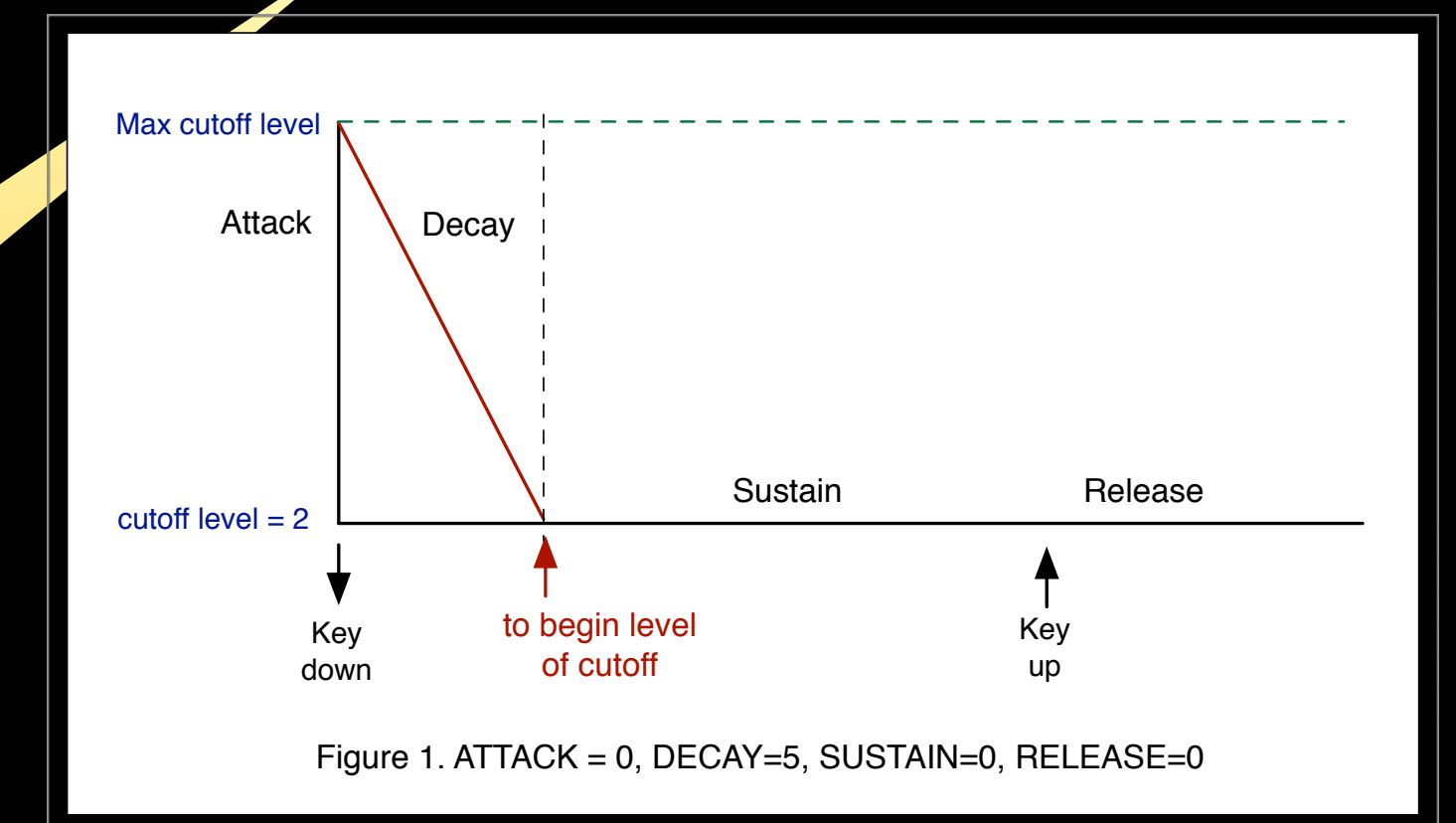
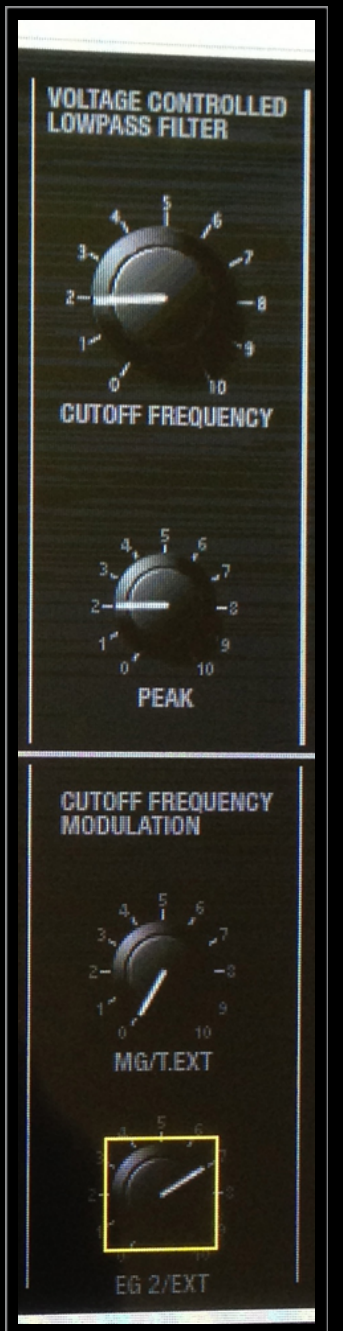
While playing some notes, move the value slider for values between 5 and 10. What you hear is the depth (or intensity) to which the ADSR envelope of EG 2 will module the cutoff frequency of the VCLF.

11. Leave EG 2/EXT = 7 for this tutorial. EG 2 now shapes the cutoff frequency with a 70% impact as shown in figure 1.

Compare to EG INTENSITY of the PolysixEX.

Because, EG 2/EXT determines the depth/intensity to which it influences the cutoff frequency, I personally use the idea that the setting is between 0% - 100% intensity.

Play some notes. A synth type bass sound starts to appear. However, not quite there yet.



# 3. The Beauty Pass - Kronosification

Let's add some nice effects to this basic bass sound and make it Kronos worthy.

12. Select the **Common** tab.

13. Then the **IFX** tab, and then the **Insert FX** subtab.

14. Set **IFX1 = On**, and select for the **effect: 002: Stereo Compressor**, to make the sound more 'rough'.

15. Select the **IFX 1-12** subtab and then **IFX1** (if not selected).

16. Enter the following settings:

## COMPRESSOR

Threshold [dB] = -18

Attack [msec] = 80.0

Gain Adjust [dB] = +4 (you can try 8 if you want a stronger punch)

Leave the other values at their default setting.



More information on the Stereo Compressor can be found on page 890 of the *Kronos Parameter Guide*.

# 3. The Beauty Pass - Kronosification

17. Select the **Routing** subtab.

18. In the **Bus Select (IFX/Indiv.Out Assign)** section set **EXi 1&2** to: **IFX1**.

19. Play some notes... better, isn't it?

Let's add another effect to make it more a *bass* sound.

20. Select the **Insert FX** subtab.

21. Set **IFX2 = On**, and select for the effect: **034: Bass Amp Model + Cabinet**.

22. Also select the little **square** under **Chain** of **IFX1**. The sound now travels through IFX1 to IFX2 and out.

23. Select subtab **IFX 1-12** and side tab (left) **IFX2** (if not selected).

Bass Amp Model  
+ Cabinet



# 3. The Beauty Pass - Kronosification

24. Enter the following settings for the Bass Amp Model + Cabinet:

**BASS AMP MODEL**  
Type: Valve2

**CABINET SIMULATION**  
Type: UK - 4x15

**OUTPUT**  
Wet/Dry: 75:25

Leave the other values at their default setting.

Please try the other models as well, great fun!

Tip: Type 75 and press ENTER.

More information on the Bass Amp Model + Cabinet can be found on page 923 of the *Kronos Parameter Guide*.

It's like you've connected your synth to a big bass amplifier.  
What is left is to add some reverb.

# 3. The Beauty Pass - Kronosification

25. Back to the **Insert FX** subtab.

The O-verb features a high-quality, diffusion-based reverb core.

O-verb

26. Set **IFX3 = On**, and select for the effect: 100: O-verb.

27. Also select the little **square** under **Chain** of **IFX2**. The sound now travels through IFX2 to IFX3 and out.

28. Select subtab **IFX 1-12** and side tab (left) **IFX3** (if not selected).

29. Enter the following settings for the O-verb:

## REVERB

Size: 50

Reverb Time: 40

Leave the other values at their default setting.

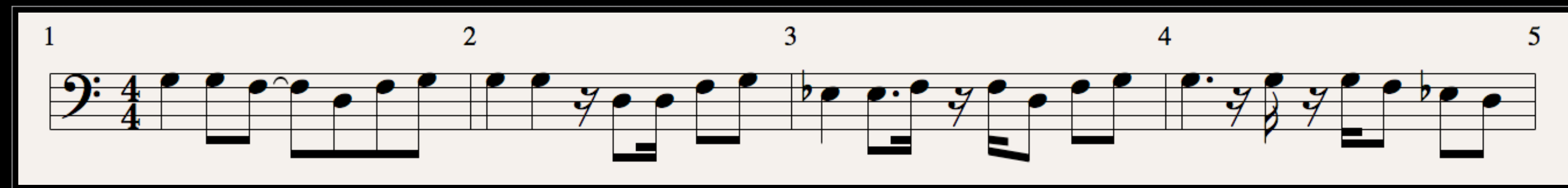
Size of the room. Try other values.

More information on the O-verb can be found on page 983 of the *Kronos Parameter Guide*.

# 3. The Beauty Pass - Kronosification

Now, play the following to test the bass sound you've just created:

Play time...



Followed by:



There you are, you've programmed your MS-20EX bass sound 😊

# 4. Sliding your Finger - External Modulation Source

Say, you want to shape the sound using the **ribbon** of the Kronos.

30. Select the **EXi 1** tab, select the **MG, EG, & Mod** tab and of **EXTERNAL MODULATION SCR 1** select: **> Ribbon (16)**.

31. Set **LPF CUTOFF = 2**, and **AMP = 4**. These changes will be applied to a certain extend when you touch the **ribbon**.

Play some notes and touch the **ribbon** with your finger (arbitrary one) at the right side and then move it slowly to the left side...and back to the right side.  
Or, play a note while sliding your finger quickly left-right-left...

Cool, what!?



The Ribbon



Shaping sound  
with your finger.



# 5. Summary Schema

Settings for the different modules of the MS-20EX in this tutorial.

In case you want to quickly program the sound again.

## Assignment

The sound is polyphonic at the moment. Many bass sounds are monophonic.  
How would you make this sound monophonic?

Hint: see the Basic/Vector tab under the ...

## Bass Sound

