V3 SOUND



Sound Module XXL

Global Effects
MFX Insert Effects
Equalizer
drum Mode

Finished code
for beginners
as MIDI File Templates online

www.v3sound.com
menu support

Ref. March 2020

1.0 Beginners please read this

1.1 For beginners

This document contains ready to use MIDI code für beginners.

But basic knowledge of MIDI is required.

With this document, beginners will be able to use the digital effects of the V3SOUND sound module as quickly and easily as possible in MIDI files or other MIDI applications.

To achieve this claim, some paragraphs from the point of view of a programmer are not entirely correct.

1.2 Teaching

There are many websites that deal with MIDI, or basic things like decimal and hexadecimal systems.

This document does not teach anything but shows only finished code.

1.3 You have to know

You need to know how to enter MIDI messages in your MIDI software (like Cubase or Cakewalk), Sysex and other MIDI controllers.

1.4 Number Systems

We use

hexadecimal numbers
for System Exclusive Messages and

decimal numbers for all other messages.

Popular music programs like Cubase or Cakewalk offer this way.

2.0 Quick introduction to NRPN MIDI controller

2.1 standard Controller

There are 128 standard MIDI controllers. Many of these are defined to set the most important parameter for each sound. For example, the volume controller no. 7, the reverberation level no. 91, ...

If you want to set the volume of the sound playing on channel 1 to a value of 100, send on MIDI channel 1:

controller no. 7 - value 100.

2.2 Controller channel

Each **standard** MIDI controller always needs a MIDI channel information for which MIDI channel to act.

2.3 V3 NRPN Controller

IMPORTANT

V3 SOUND NRPN controllers are

<u>always</u> controlled with MIDI channel 1

compared to the standard controllers.

2.4 Three controller data

Non-Registered Parameter Number (NRPN) is part of the MIDI specification for control of electronic musical instruments.

NRPNs allow manufacturer-specific MIDI controllers that are not part of the basic MIDI standard.

Unlike other MIDI controllers (such as velocity, modulation, volume, etc.),

NRPNs require three controller data to be sent.

2.5 NRPN Construction

Each NRPN message always consists of three controller data.

Here, the order of success is also important.

Controller 99 value 0-127
Controller 98 value 0-127
Controller 6 value 0-127

The values you enter for the controllers are described below.

Please note explicitly point 2.3

3.0 Quick introduction to System Exclusive

3.1 SYSEX

System Exclusive - SYSEX for short - are control data for certain MIDI devices that differ from the usual MIDI control data, because they are only recognized and interpreted by a specific device.

3.2 Sysex does not react

A SYSEX always starts with F0 and always ends with F7. Some software programs do not show these, but set these values automatically.

If the SYSEX messages do not work, check if a MIDI Filter is not active in the sequencer software.

GM Reset

3.3 Most important Reset

Each MIDI file must send a GM Reset as the first message.

GM RESET = F0 7E 7F 09 01 F7

This message sets many parameters of the Sounds Module to a default state with one command.

3.4 Tip - 100ms

Since the sound module briefly resets up to 100 parameters during a GM reset, it is advisable to send the following MIDI commands with a delay of 100 ms.

3.5 GM RESET

GM does:

Overview Global Effects

The V3 SOUND XXL sound modules have two Global Effects for Reverb and Chorus, and two four-bands Global Equalizers.

Global Reverb and Global Chorus
are set with the standard MIDI controllers 91 (Reverb) and 93 (Chorus) per MIDI channel.

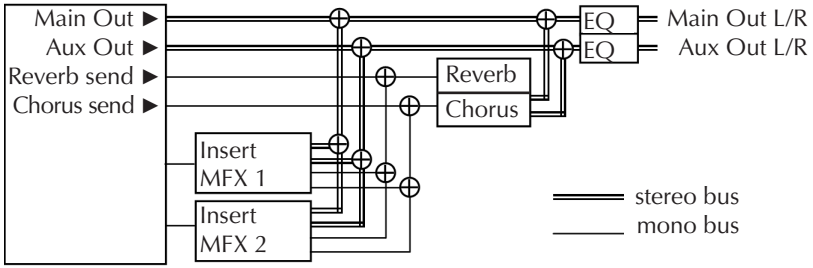
The type of the Effects are selected with SYSEX Messages.

For **Global Reverb** you can choose: Room1, Room2, Room3, Hall1, Hall2 (default), Plate.

For **Global Chorus** you can choose: Chorus1, Chorus2, Chorus3 (default), Chorus4.

default - def.
Basic setting after switching on.

Signal Processing Synoptic



Global Master Equalizer

The V3 SOUND XXL sound moduls offers two 4-bands Equalizer. These are set with NRPN messages.

MFX DSP Insert Effects

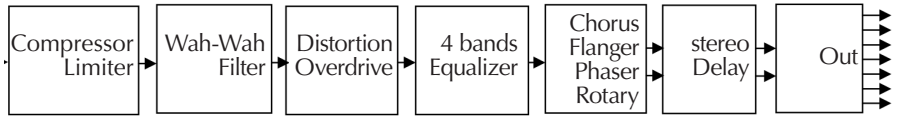
In addition to the two standard Global Effects Reverb and Chorus, the new V3 SOUND sound module line **XXL** offers two Multi Effects.

MFX stands for: Insert Multi-Effects blocks (Distortion, Equalizer, Compressor, Chorus/Flanger/Phaser/Tremolo/Rotary, Delay).

A single MIDI track or also several MIDI tracks can be switched to "Insert FX ON".

In this case these MIDI parts are going through the MFX Insert Effect block first (e.g. Guitar Multi-Effects) and after into mixing (Front L/R, Rear L/R, Reverb, Chorus and Delay send).

There are two MFX blocks in this firmware which can be used as 2 individual MFX blocks, or combined as one stereo MFX block.



SYSEX and NRPN

Set the MIDI channel on which the MFX is to be used with a SYSEX command. The parameters of the MFX are then controlled with NRPN messages.

4.0 Global Effects

Sysex messages for Global Effects.

REVERB EFFECT	
F0 41 00 42 12 40 01 30 00 00 F7	Room1
F0 41 00 42 12 40 01 30 01 00 F7	Room2
F0 41 00 42 12 40 01 30 02 00 F7	Room3
F0 41 00 42 12 40 01 30 03 00 F7	Hall1
F0 41 00 42 12 40 01 30 04 00 F7	**Hall2** **default power on and GM Reset**
F0 41 00 42 12 40 01 30 05 00 F7	Plate

REVERB MASTER LEVEL RETURN	
F0 41 00 42 12 40 01 33 xx 00 F7	xx = volumen / value 40 medium

CHORUS EFFECT	
F0 41 00 42 12 40 01 38 00 00 F7	Chorus1
F0 41 00 42 12 40 01 38 01 00 F7	Chorus2
F0 41 00 42 12 40 01 38 02 00 F7	**Chorus3** **default power on and GM Reset**
F0 41 00 42 12 40 01 38 03 00 F7	Chorus4

CHORUS MASTER LEVEL RETURN	
F0 41 00 42 12 40 01 3A xx 00 F7	xx = volumen / value 40 medium



Global Reverb Effect

After any GM Reset the Reverb HALL 2 is selected.

You must therefore send the SYSEX for a different Global Effect after the GM reset.



Tip for beginners

Power on settings for Global Reverb and Global Chorus are basically very pleasing.
A Global Room Effect could sometimes be an asset.
The MFX effects later in the document also have a Delay implemented.

5.0 Global Equalizer Main

NRPN messages consist of 3 controller messages.
The values of the first two controllers 99 and 98 are already given in the table. So just write off. The value of the third controller with the controller number 6 (in the table with an x as a proxy) determines as an example in the first entry of the table if you get more or less bass.

MAIN EQUALIZER		value 0 - 127	default
MIDI controller 99 value 55 MIDI controller 98 **value 08** MIDI controller 06 value x	Low Band Gain	0 = -12dB 64 = 0dB 127 = +12dB	**74 (+2dB)**
MIDI controller 99 value 55 MIDI controller 98 **value 09** MIDI controller 06 value x	Low Mid Band Gain	0 = -12dB 64 = 0dB 127 = +12dB	64 (-0dB)
MIDI controller 99 value 55 MIDI controller 98 **value 10** MIDI controller 06 value x	High Mid Band Gain	0 = -12dB 64 = 0dB 127 = +12dB	64 (-0dB)
MIDI controller 99 value 55 MIDI controller 98 **value 11** MIDI controller 06 value x	High Band Gain	0 = -12dB 64 = 0dB 127 = +12dB	**80 (+3dB)**
MIDI controller 99 value 55 MIDI controller 98 **value 12** MIDI controller 06 value x	Low Band Freq	0 = 0Hz 64 = 400Hz 127 = 800Hz	10 (100Hz)
MIDI controller 99 value 55 MIDI controller 98 **value 13** MIDI controller 06 value x	Low Mid Band Freq	0=0Hz 64=1.28KHz 127=2.5kHz	24 (500Hz)
MIDI controller 99 value 55 MIDI controller 98 **value 14** MIDI controller 06 value x	High Mid Band Freq	0=60Hz 64=5.1KHz 127=10.7kHz	104 (8KHz)
MIDI controller 99 value 55 MIDI controller 98 **value 15** MIDI controller 06 value x	High Band Freq	0=1kHz 64=3.4KHz 127=5.8kHz	127

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5.1 Global Equalizer Aux

NRPN MIDI Messages

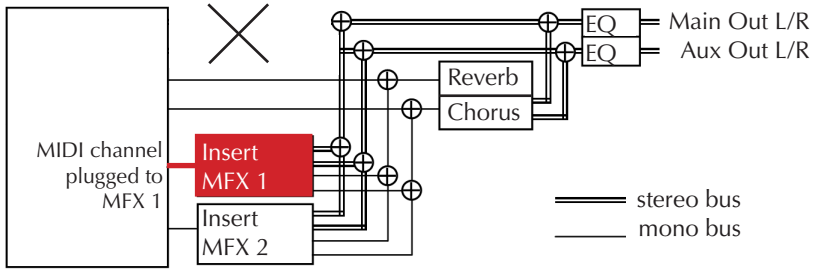
AUX EQUALIZER		value 0 - 127	default
MIDI controller 99 value 55 MIDI controller 98 **value 18** MIDI controller 06 value x	Low Band Gain	0 = -12dB 64 = 0dB 127 = +12dB	**74 (+2dB)**
MIDI controller 99 value 55 MIDI controller 98 **value 19** MIDI controller 06 value x	Low Mid Band Gain	0 = -12dB 64 = 0dB 127 = +12dB	64 (-0dB)
MIDI controller 99 value 55 MIDI controller 98 **value 20** MIDI controller 06 value x	High Mid Band Gain	0 = -12dB 64 = 0dB 127 = +12dB	64 (-0dB)
MIDI controller 99 value 55 MIDI controller 98 **value 21** MIDI controller 06 value x	High Band Gain	0 = -12dB 64 = 0dB 127 = +12dB	**80 (+3dB)**
MIDI controller 99 value 55 MIDI controller 98 **value 22** MIDI controller 06 value x	Low Band Freq	0 = 0Hz 64 = 400Hz 127 = 800Hz	10 (100Hz)
MIDI controller 99 value 55 MIDI controller 98 **value 23** MIDI controller 06 value x	Low Mid Band Freq	0=0Hz 64=1.28KHz 127=2.5kHz	24 (500Hz)
MIDI controller 99 value 55 MIDI controller 98 **value 24** MIDI controller 06 value x	High Mid Band Freq	0=60Hz 64=5.1KHz 127=10.7kHz	104 (8KHz)
MIDI controller 99 value 55 MIDI controller 98 **value 25** MIDI controller 06 value x	High Band Freq	0=1kHz 64=3.4KHz 127=5.8kHz	127

Tip for beginners

The values 80, 85, 90, 95, 100, 105, 110, 115, 120, 127 give you more bass.
The values 85, 90, 95, 100, 105, 110, 115, 120, 127 give you more trebles.

6.0 MFX - Connection

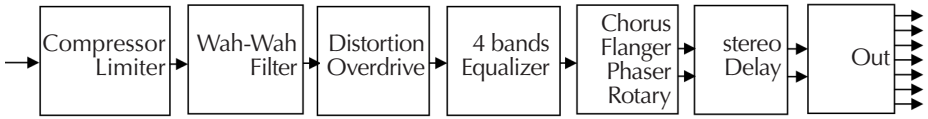
If you use an INSERT MFX EFFECT, the sound of the MIDI channel will be routed directly into the effect, and will be added to the other sounds at the output.



The sound always goes through the complete MFX Effects chain.

So if you only need one delay, make sure that the other effects are off.

There is an on / off command for each effect of the chain.



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6.1a Route channel to MFX

Sysex message route MIDI channel to MFX Effects - format HEX:

MIDI channels 1-16 to MFX 1

route MIDI channel 01 to MFX 1 send	F0 41 00 42 12 40 40 22 01 00 F7
route MIDI channel 02 to MFX 1 send	F0 41 00 42 12 40 41 22 01 00 F7
route MIDI channel 03 to MFX 1 send	F0 41 00 42 12 40 42 22 01 00 F7
route MIDI channel 04 to MFX 1 send	F0 41 00 42 12 40 43 22 01 00 F7
route MIDI channel 05 to MFX 1 send	F0 41 00 42 12 40 44 22 01 00 F7
route MIDI channel 06 to MFX 1 send	F0 41 00 42 12 40 45 22 01 00 F7
route MIDI channel 07 to MFX 1 send	F0 41 00 42 12 40 46 22 01 00 F7
route MIDI channel 08 to MFX 1 send	F0 41 00 42 12 40 47 22 01 00 F7
route MIDI channel 09 to MFX 1 send	F0 41 00 42 12 40 48 22 01 00 F7
route MIDI channel 10 to MFX 1 send	F0 41 00 42 12 40 49 22 01 00 F7
route MIDI channel 11 to MFX 1 send	F0 41 00 42 12 40 4A 22 01 00 F7
route MIDI channel 12 to MFX 1 send	F0 41 00 42 12 40 4B 22 01 00 F7
route MIDI channel 13 to MFX 1 send	F0 41 00 42 12 40 4C 22 01 00 F7
route MIDI channel 14 to MFX 1 send	F0 41 00 42 12 40 4D 22 01 00 F7
route MIDI channel 15 to MFX 1 send	F0 41 00 42 12 40 4E 22 01 00 F7
route MIDI channel 16 to MFX 1 send	F0 41 00 42 12 40 4F 22 01 00 F7

MIDI channels 1-16 to MFX 2

route MIDI channel 01 to MFX 2 send	F0 41 00 42 12 40 40 22 02 00 F7
route MIDI channel 02 to MFX 2 send	F0 41 00 42 12 40 41 22 02 00 F7
route MIDI channel 03 to MFX 2 send	F0 41 00 42 12 40 42 22 02 00 F7
route MIDI channel 04 to MFX 2 send	F0 41 00 42 12 40 43 22 02 00 F7
route MIDI channel 05 to MFX 2 send	F0 41 00 42 12 40 44 22 02 00 F7
route MIDI channel 06 to MFX 2 send	F0 41 00 42 12 40 45 22 02 00 F7
route MIDI channel 07 to MFX 2 send	F0 41 00 42 12 40 46 22 02 00 F7
route MIDI channel 08 to MFX 2 send	F0 41 00 42 12 40 47 22 02 00 F7
route MIDI channel 09 to MFX 2 send	F0 41 00 42 12 40 48 22 02 00 F7
route MIDI channel 10 to MFX 2 send	F0 41 00 42 12 40 49 22 02 00 F7
route MIDI channel 11 to MFX 2 send	F0 41 00 42 12 40 4A 22 02 00 F7
route MIDI channel 12 to MFX 2 send	F0 41 00 42 12 40 4B 22 02 00 F7
route MIDI channel 13 to MFX 2 send	F0 41 00 42 12 40 4C 22 02 00 F7
route MIDI channel 14 to MFX 2 send	F0 41 00 42 12 40 4D 22 02 00 F7
route MIDI channel 15 to MFX 2 send	F0 41 00 42 12 40 4E 22 02 00 F7
route MIDI channel 16 to MFX 2 send	F0 41 00 42 12 40 4F 22 02 00 F7

6.1b Route channel stereo

Sysex message route MIDI channel to MFX stereo effect - format HEX:

MIDI channels 1-16 to MFX 1 & 2 stereo

route MIDI channel 01 to MFX 1 send	F0 41 00 42 12 40 40 22 03 00 F7
route MIDI channel 02 to MFX 1 send	F0 41 00 42 12 40 41 22 03 00 F7
route MIDI channel 03 to MFX 1 send	F0 41 00 42 12 40 42 22 03 00 F7
route MIDI channel 04 to MFX 1 send	F0 41 00 42 12 40 43 22 03 00 F7
route MIDI channel 05 to MFX 1 send	F0 41 00 42 12 40 44 22 03 00 F7
route MIDI channel 06 to MFX 1 send	F0 41 00 42 12 40 45 22 03 00 F7
route MIDI channel 07 to MFX 1 send	F0 41 00 42 12 40 46 22 03 00 F7
route MIDI channel 08 to MFX 1 send	F0 41 00 42 12 40 47 22 03 00 F7
route MIDI channel 09 to MFX 1 send	F0 41 00 42 12 40 48 22 03 00 F7
route MIDI channel 10 to MFX 1 send	F0 41 00 42 12 40 49 22 03 00 F7
route MIDI channel 11 to MFX 1 send	F0 41 00 42 12 40 4A 22 03 00 F7
route MIDI channel 12 to MFX 1 send	F0 41 00 42 12 40 4B 22 03 00 F7
route MIDI channel 13 to MFX 1 send	F0 41 00 42 12 40 4C 22 03 00 F7
route MIDI channel 14 to MFX 1 send	F0 41 00 42 12 40 4D 22 03 00 F7
route MIDI channel 15 to MFX 1 send	F0 41 00 42 12 40 4E 22 03 00 F7
route MIDI channel 16 to MFX 1 send	F0 41 00 42 12 40 4F 22 03 00 F7



00 = no routet
01 = route to MFX 1
02 = route to MFX 2
03 = route to MFX 1 & 2 stereo

6.2 MFX - Reset



You have to decide at the beginning if you want to use two Mono MFX Effects or one stereo MFX Effect.

For **two mono MFX** send the following MIDI messages on MIDI channel 1:

Use MFX 1 and 2 as two mono effects	
MIDI controller 99 value 58 MIDI controller 98 value 127 MIDI controller 06 value 0	Reset MFX 1
MIDI controller 99 value 59 MIDI controller 98 value 127 MIDI controller 06 value 0	Reset MFX 2

For **one stereo MFX** send the following MIDI messages on MIDI channel 1:

Use MFX 1 and 2 as one stereo effects	
MIDI controller 99 value 60 MIDI controller 98 value 127 MIDI controller 06 value 0	Reset MFX 1&2 to stereo



The "MFX Reset" message only resets some parameters of the MFX effect - NOT ALL.

6.3 MFX - Mix Control

Mix Control	Parameter	*Tip*
33	Input gain 0 to 127	*0 = low* *127 = high*
34	Input low-cut filter 0 = OFF, till 127 = ~300Hz	
35	Input high-cut filter 0 = ~1.5KHz,...100=~6KHz, till 127 = OFF	
42	Output volume 0 to 127	
43	Output panorama setting 0=left, till 127=right	
44	Output audio to MAIN or AUX 0 = only Front, 64 = both till 127 = only Rear	
45	**Output** **How much level is sent to the Global Reverb after the MFX Effect section**	*Should the sound after the multi-effect be refined with a reverb?* ***Would be a good idea for many applications.***
46	How much level is sent to the Global Chorus after the MFX Effect section	-"-

Mix Control	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **45** MIDI controller 06 value 40 →	58 for MFX 1	With this value you set how much reverb you want. 40 is a standard value.
MIDI controller 99 value 59 MIDI controller 98 value **45** MIDI controller 06 value 40 →	59 for MFX 2	With this value you set how much reverb you want. 40 is a standard value.
MIDI controller 99 value 60 MIDI controller 98 value **45** MIDI controller 06 value 40 →	60 for MFX 1&2 for stereo	With this value you set how much reverb you want. 40 is a standard value.

6.4.1 MFX - Compressor/L.

If you have never worked with a compressor, we recommend that you call up a preset. When using MIDI sounds, the use of a compressor is also not mandatory.

In Compresser/Limiter section you set:

Control	Parameter	*Tip*
64	Compressor Preset (Preset list on the next page)	***call up a Preset***
65	Compressor ON/OFF: 0 = OFF, 127 = ON	***turn Compressor on***
66	Attack time: 0 = fast attack (0.1ms), … 60 = 1ms, …100=10ms, till 127 = slow attack (100ms), exp. curve	
67	Release time: 0=fast release (10ms), … 60=100ms, … 100=1s, till 127=slow release (~5s), exp. curve	
68	Threshold: 0=-42.3, 1=-42dB, 2=-41.66dB... 7Eh=-0.33dB, 7Fh=0dB	
69	Ratio: 127=1:128, 126=2:128 (1:64), 125=3:128, … 64=64:128 (1:2), … 0=1:1	
70	Boost (applied on signal after compression): 127= x8 … 64=x4 … 32=x2 … 0 = x1	
71	Knee: 0 = Hard Knee 127 = Soft Knee	

6.4.2 Turn Compressor ON

Turn the Compressor... ON	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **65** MIDI controller 06 value **127**	58 for MFX 1 →	127 = ON
MIDI controller 99 value 59 MIDI controller 98 value **65** MIDI controller 06 value **127**	59 for MFX 2 →	127 = ON
MIDI controller 99 value 60 MIDI controller 98 value **65** MIDI controller 06 value **127**	60 for MFX 1&2 for stereo →	127 = ON

6.4.3 Call up a Preset

Call up Presets	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **64** MIDI controller 06 value 0 - 8	58 for MFX 1 →	The value 0 - 8 determines which preset you want to use.
MIDI controller 99 value 59 MIDI controller 98 value **64** MIDI controller 06 value 0 - 8	59 for MFX 2 →	The value 0 - 8 determines which preset you want to use.
MIDI controller 99 value 60 MIDI controller 98 value **64** MIDI controller 06 value 0 - 8	60 for MFX 1&2 for stereo →	The value 0 - 8 determines which preset you want to use.

Presets list		Preset Default values					
No.		Attack	Release	Threshold	Ratio	Boost	Knee
0	NO COMPRESSION	64	0	127	0	0	127
1	COMPR 1: -18dB 2:1	64	0	73	64	24	127
2	COMPR 2: -15dB 3:1	64	0	82	84	32	127
3	COMPR 3: -18dB 5:1	64	0	73	100	48	127
4	COMPR 4: -21dB 7:1	64	0	64	110	48	127
5	COMPR 5: -24dB 12:1	64	0	55	117	64	127
6	LIMITER 1: -6dB	64	0	109	127	0	127
7	LIMITER 2: -12dB	64	0	91	127	0	127
8	LIMITER 3: -18dB	64	0	73	127	0	127

6.5.1 MFX - Wah-Wah

Wah-Wah is basically a special effect for guitars.
We recommend that you call up a preset.

Control	Parameter	*Tip*
80	Wah-Wah preset (Preset list on the next page)	***On / Off / call up a Preset***
81	Wah-Wah filter type: 0 = low pass filter 1 = band pass filter	
82	Wah-Wah filter frequency Pedal Position: 0 = closed 0Hz till 127 = open 8kHz	*Create NRPN controller with the value 82 for the wah-wah effect to match the MIDI notes.*
83	Wah-Wah filter resonance: 0 = no resonance till 127 = max resonance	
84	Auto-Wah sensitivity: 0=OFF till 127=100%	

Note:
If Auto-Wah is set ON (Auto-Wah sensitivity > 0), the Wah-Wah Filter Frequency (= Wah-Wah Pedal Position) will be modulated by the current value of the channel level detect. The parameters for setting up the level detector (attack and release) are taken from Compressor settings.

6.5.2 Turn Wah-Wah ON

The WahWah has no separate on-off parameters like other effects in the MFX.

To turn off the WahWah you need to call preset 0.

6.5.3 Call up a Preset

Call up Presets	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **80** MIDI controller 06 value 0 - 5	58 for MFX 1	The value 0 - 5 determines which preset you want to use.
MIDI controller 99 value 59 MIDI controller 98 value **80** MIDI controller 06 value 0 - 5	59 for MFX 2	The value 0 - 5 determines which preset you want to use.
MIDI controller 99 value 60 MIDI controller 98 value **80** MIDI controller 06 value 0 - 5	60 for MFX 1&2 for stereo	The value 0 - 5 determines which preset you want to use.

Presets list		Preset Default values			
No.		Filter Type	Frequency	Resonance	Auto-W.Sens
0	**WAH-WAH OFF/Bypass**	0	127	0	0
1	Auto-Wah 1	0	67	107	127
2	Auto-Wah 2	0	50	75	127
3	Auto-Wah 3	1	70	100	100
4	Wah-Wah 1	0	127	80	0
5	Wah-Wah 2	1	64	80	0

6.6.1 MFX - Distortion

Distortion is basically a special guitar effect.
We recommend that you call up a preset.
In Compresser/Limiter section you set:

Control	Parameter	*Tip*
96	Distortion preset (Preset list on the next page)	***call up a Preset***
97	Distortion ON/OFF: 0 = OFF 127 ON	***turn Distortion on***
98	Pre gain: 0 = OFF, 1 = -42dB till 127 = 0dB	
99	Type: 0 = Tube, 1 = asymmetric parabolic1, 2 = asymmetric parabolic2	
100	Low pass filter frequency: 0 = closed 0Hz till 127 = open 8kHz	
101	Low pass filter resonance: 0 = no resonance till 127 = max resonance	
102	Post gain: 0 = OFF 1 = -42dB till 127 = 0dB	
103	Drive: 0 till 7 (0 to +42dB)	

6.6.2 Turn Distortion ON

Turn the Distortion ON	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **97** MIDI controller 06 value **127**	58 for MFX 1 →	127 = ON
MIDI controller 99 value 59 MIDI controller 98 value **97** MIDI controller 06 value **127**	59 for MFX 2 →	127 = ON
MIDI controller 99 value 60 MIDI controller 98 value **97** MIDI controller 06 value **127**	60 for MFX 1&2 for stereo →	127 = ON

6.6.3 Call up a Preset

Call up Presets	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **96** MIDI controller 06 value 0-12	58 for MFX 1 →	The value 0 - 12 determines which preset you want to use.
MIDI controller 99 value 59 MIDI controller 98 value **96** MIDI controller 06 value 0-12	59 for MFX 2 →	The value 0 - 12 determines which preset you want to use.
MIDI controller 99 value 60 MIDI controller 98 value **96** MIDI controller 06 value 0-12	60 for MFX 1&2 for stereo →	The value 0 - 12 determines which preset you want to use.

Preset list on the next page.

6.6.4 Distortion Preset list

Presets list		Preset Default values					
No.		Drive	Type	LP Filter Frequency	LP Filter Reson.	Pre Gain	Post Gain
0	OFF / Bypass	0	0	127	0	127	127
1	TUBE DIST Low 1	3	0	100	0	64	60
2	TUBE DIST Low 2	4	0	80	0	64	50
3	TUBE DIST Med. 1	5	0	70	0	64	40
4	TUBE DIST Med. 2	5	0	70	0	64	40
5	TUBE DIST High 1	6	0	60	0	64	40
6	TUBE DIST High 2	6	0	50	0	64	40
7	SMOOTH OD	6	1	50	30	64	30
8	DISTORTION	7	2	40	30	64	30
9	CRUNCH	5	1	60	40	64	40
10	FUZZ	6	2	80	40	64	40
11	GRUNGE	5	1	110	40	64	40
12	METAL	7	2	40	40	64	40

Notes:
Preset value for Hi-Cut Filter Q is always 0.

6.7.1 MFX - Equalizer

4-bands Parametric Equalizer

Control	Parameter	*Tip*
112	Equalizer Preset (Preset list on the next page)	***call up a Presets for guitars***
113	Parametric Equalizer ON/OFF 0=OFF, 127 ON	***turn EQ on***
114	Low band gain: 0= -12dB, 64=0dB, 127=+12dB	
115	Low-Mid band gain: 0= -12dB, 64=0dB, 127=+12dB	
116	High-Mid band gain: 0= -12dB, 64=0dB, 127=+12dB	
117	High band gain: 0= -12dB, 64=0dB, 127=+12dB	
118	Low band frequency: 0=40Hz, till 127=1.5KHz	
119	Low-Mid band frequency: 0=40Hz, till 127=2,5KHz	
120	High-Mid band frequency: 0=40Hz, till 127=10KHz	
121	High-Shelf band frequency: 0=500Hz, til127=2KHz	
122	Low-Mid band Q: 0=1.0 ... 64=2.0... 127=20.0	
123	High-Mid band Q: 0=1.0 ... 64=2.0... 127=20.0	

6.7.2 Turn Equalizer ON

Turn the Equalizer ON	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **113** MIDI controller 06 value **127**	58 for MFX 1 →	127 = ON
MIDI controller 99 value 59 MIDI controller 98 value **113** MIDI controller 06 value **127**	59 for MFX 2 →	127 = ON
MIDI controller 99 value 60 MIDI controller 98 value **113** MIDI controller 06 value **127**	60 for MFX 1&2 for stereo →	127 = ON

6.7.3 Call up a Preset

Call up Presets	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **112** MIDI controller 06 value 0-13	58 for MFX 1 →	The value 0 - 13 determines which preset you want to use.
MIDI controller 99 value 59 MIDI controller 98 value **112** MIDI controller 06 value 0-13	59 for MFX 2 →	The value 0 - 13 determines which preset you want to use.
MIDI controller 99 value 60 MIDI controller 98 value **112** MIDI controller 06 value 0-13	60 for MFX 1&2 for stereo →	The value 0 - 13 determines which preset you want to use.

Preset list for guitars on the next page.

6.7.4 Equalizer Preset list

Presets list for Guitar		Preset Default values									
No.		Gain Low	Gain Low Mid	Gain High Mid	Gain High	Freq Low	Freq Low Mid	Freq High Mid	Freq High	Quality Low Mid	Quality High Mid
0	Flat	64	64	64	64	40	24	64	127	0	64
1	JC Clean	80	30	90	64	40	20	50	60	0	80
2	Acoustic	90	20	110	64	40	26	113	50	30	100
3	Black Panel	80	40	90	64	40	28	30	40	0	40
4	Brit Combo	60	80	80	64	100	64	7	127	0	30
5	Tweed	64	30	80	64	50	42	28	60	100	20
6	Stack Classic	64	20	85	64	80	40	30	40	20	40
7	Metal	64	50	100	64	80	50	35	127	0	70
8	R-Fier	64	20	70	64	80	30	30	80	30	50
9	Dyna Amp	64	20	75	64	40	32	25	127	64	50
10	Crunch	64	75	30	64	40	10	8	127	20	70
11	VO Drive	64	64	90	64	40	20	30	127	64	60
12	BG Lead	64	64	70	64	40	20	64	127	64	64
13	MS HiGain	64	80	50	64	40	10	6	127	80	70

6.8.1 MFX - Git. Amp model

Guitar Amp models are available only presets.

Control	Parameter	*Tip*
32	Amp Model Preset (Preset list on the next page)	***call up a Preset***

6.8.2 MFX - Git. Amp Model

The Guitar Amp has no separate on-off parameters like other effects in the MFX.

To turn off the Guitar Amp you need to call preset 0.

6.8.3 Call up a Preset

Call up Presets	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **32** MIDI controller 06 value 0-13	58 for MFX 1	The value 0 - 13 determines which preset you want to use.
MIDI controller 99 value 59 MIDI controller 98 value **32** MIDI controller 06 value 0-13	59 for MFX 2	The value 0 - 13 determines which preset you want to use.
MIDI controller 99 value 60 MIDI controller 98 value **32** MIDI controller 06 value 0-13	60 for MFX 1&2 for stereo	The value 0 - 13 determines which preset you want to use.

Presets list		Preset Default values						
No.		Input Gain	Lo-Cut Filter Frq	Hi-Cut Filter Frq	Compr Preset	Distortion Preset	Wah-Preset	PEQ Preset
0	OFF/Bypass	90	0	127	0	0	0	0
1	JC Clean	90	25	90	0	0	0	1
2	Acoustic	90	40	127	0	1	0	2
3	Black Panel	90	25	90	0	2	0	3
4	Brit Combo	90	40	70	0	9	0	4
5	Tweed	90	30	80	0	8	0	5
6	Stack Classic	90	40	80	0	7	0	6
7	Metal	90	30	70	0	12	0	7
8	R-Fier	90	30	70	0	13	0	8
9	Dyna Amp	90	30	70	1	12	0	9
10	Crunch	90	20	80	0	7	0	10
11	VO Drive	90	20	80	0	7	0	11
12	BG Lead	90	20	80	0	8	0	12
13	MS Higain	90	20	80	0	9	0	13

6.9.1 MFX - Flanger/Phaser...

Chorus / Flanger / Phaser / Tremolo / Rotary Controls can be used with many sounds.

Control	Parameter	*Tip*
48	Chorus/Flanger/Phaser/Tremolo/Rotary Preset (Preset list on the next page)	***call up a Preset***
49	Effect level, 0 to 127	
50	Chorus/Flanging delay time: 0 = 1ms, till 127 = 30ms	
51	Chorus/Flanging feedback, 0 to 127	
52	High pass filter on input: 0 = no filter to 127 = 1.2 kHz	
53	HDAMP: high frequency filter on delay feedback, 0 to 127=0 to 100 %	
54	Modulation rate: 0 = ~0,023 Hz, ...64=~0,89Hz, till 127 = ~5,8 Hz (~1Hz to ~20Hz for Tremolo)	
55	Modulation depth, 0 to 127	
56	Tremolo modulation shape: 0 = triangle, till 127 = square	
57	Rotary speed: 0=slow, 1=fast (only for Rotary preset # 23)	
58	Rotary fast modulation rate: 0 = ~0,023 Hz, ...64=~0,89Hz, till 127 = ~5,8 Hz	
59	Rotary acceleration time: 0-127	
60	Rotary deceleration time: 0-127	
62	Mod-FX type: 0=Chorus, 1=Flanger, 2=Tremolo, 3=Phaser, 4=Rotary	
63	Mod-FX ON/OFF: 0=OFF, 127 ON	***turn EQ on***

6.9.2 Turn Flanger... ON

Turn the Flanger... ON	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **63** MIDI controller 06 value **127**	58 for MFX 1 →	127 = ON
MIDI controller 99 value 59 MIDI controller 98 value **63** MIDI controller 06 value **127**	59 for MFX 2 →	127 = ON
MIDI controller 99 value 60 MIDI controller 98 value **63** MIDI controller 06 value **127**	60 for MFX 1&2 for stereo →	127 = ON

6.9.3 Call up a Preset

Call up Presets	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **48** MIDI controller 06 value 0-23	58 for MFX 1 →	The value 0 - 23 determines which preset you want to use.
MIDI controller 99 value 59 MIDI controller 98 value **48** MIDI controller 06 value 0-23	59 for MFX 2 →	The value 0 - 23 determines which preset you want to use.
MIDI controller 99 value 60 MIDI controller 98 value **48** MIDI controller 06 value 0-23	60 for MFX 1&2 for stereo →	The value 0 - 23 determines which preset you want to use.

Preset list on the next page.

6.9.4 Flanger... Preset list

Presets list		Preset Default values						
No.		Volume	Delay	Feedback	HPF	Hdamph	Chorus Rate	Chorus Depth
0	OFF / Bypass	0						
1	Chorus Light 1	56	20	0	0	0	40	30
2	Chorus Light 2	56	40	0	0	0	30	30
3	Chorus Medium 1	64	26	0	0	0	45	40
4	Chorus Medium 2	64	60	0	0	0	35	50
5	Chorus Deep 1	64	64	0	0	0	40	70
6	Chorus Deep 2	64	80	0	0	0	45	90
7	Chorus Fast 1	64	30	0	0	0	70	10
8	Chorus Fast 2	64	60	0	0	0	60	20
9	Resonant Chorus	64	30	80	0	0	40	20
10	Long Time Chorus	64	100	0	0	0	20	20
11	Flange Light	64	8	32	0	0	30	30
12	Flange Medium	72	13	72	0	0	40	80
13	Flange Slow Deep	72	2	50	0	0	20	90
14	Flange Deep	72	6	100	0	0	50	100
15	Phaser Light	64	0	80	0	0	50	50
16	Phaser Medium	64	0	90	0	0	60	80
17	Phaser Slow Deep	64	0	100	0	0	20	110
18	Phaser Fast	64	0	40	0	0	120	60
19	Tremolo Slow	64	0	0	0	0	20	60
20	Tremolo Medium 1	64	0	0	0	20	40	70
21	Tremolo Medium 2	64	0	0	0	40	60	90
22	Tremolo Fast	64	0	0	0	60	100	110
23	Rotary Slow	90	30	0	0	0	50	20

6.10.1 MFX - Delay

In Delay section you set:

Control	Parameter	*Tip*
88	Delay preset (Preset list on the next page)	***call up a Preset***
89	Delay ON/OFF: 0 = OFF, 127 = ON	***turn Delay on***
90	Delay mode, 0=mono, 1=stereo	
91	Delay pre LP, 0 to 127	
92	Delay level, 0 to 127	
93	Delay time 0 to 127 MFX 1 = 0 to 127 max. 500ms MFX 2 = 0 to 127 max. 55ms	
94	Delay feedback, 0 to 127	
95	HDAMP: High freq. filter on delay feedback 0 to 127 = 0 to 100 %	



Note:
MFX 1 and MFX 2 have different delay times.

6.10.2 Turn Delay ON

Turn the Delay ON	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **89** MIDI controller 06 value **127**	58 for MFX 1 →	127 = ON
MIDI controller 99 value 59 MIDI controller 98 value **89** MIDI controller 06 value **127**	59 for MFX 2 →	127 = ON
MIDI controller 99 value 60 MIDI controller 98 value **89** MIDI controller 06 value **127**	60 for MFX 1&2 for stereo →	127 = ON

6.10.3 Call up a Preset

Call up Presets	**send all controller messages on Channel 1**	
MIDI controller 99 value 58 MIDI controller 98 value **88** MIDI controller 06 value 0 - 4	58 for MFX 1 →	The value 0 - 4 determines which preset you want to use.
MIDI controller 99 value 59 MIDI controller 98 value **88** MIDI controller 06 value 0 - 4	59 for MFX 2 →	The value 0 - 4 determines which preset you want to use.
MIDI controller 99 value 60 MIDI controller 98 value **88** MIDI controller 06 value 0 - 4	60 for MFX 1&2 for stereo →	The value 0 - 4 determines which preset you want to use.

Presets list		Preset Default values					
No.		Typ	Level	Delay	Feedback	HDamp	LPF
0	off	0	0	0	0	0	0
1	mono 1	0	64	20	8	0	127
2	mono 2	0	64	35	20	0	127
3	stereo 1 pan	1	64	50	16	0	127
4	stereo 2 pan	1	64	70	32	0	127

7.0 Part to Drum kit mode

This SYSEX allows a MIDI-channel to play sound or drumset. There is no limitation of the number of parts playing drumset.

Default and GM Reset assignment:

MIDI Channel 10 plays drums (default) all other Channel play standard sound.

7.0 Part to Drum kit mode

Sysex message set MIDI channel to Drum kit mode format HEX:

MIDI channels 1-16 to Drum kit

MIDI channel 01 to Drum kit mode send F0 41 00 42 12 40 **11** 15 **01** 00 F7
MIDI channel 02 to Drum kit mode send F0 41 00 42 12 40 **12** 15 **01** 00 F7
MIDI channel 03 to Drum kit mode send F0 41 00 42 12 40 **13** 15 **01** 00 F7

MIDI channel 04 to Drum kit mode send F0 41 00 42 12 40 **14** 15 **01** 00 F7
MIDI channel 05 to Drum kit mode send F0 41 00 42 12 40 **15** 15 **01** 00 F7
MIDI channel 06 to Drum kit mode send F0 41 00 42 12 40 **16** 15 **01** 00 F7

MIDI channel 07 to Drum kit mode send F0 41 00 42 12 40 **17** 15 **01** 00 F7
MIDI channel 08 to Drum kit mode send F0 41 00 42 12 40 **18** 15 **01** 00 F7
MIDI channel 09 to Drum kit mode send F0 41 00 42 12 40 **19** 15 **01** 00 F7

MIDI channel 10 to Drum kit mode send F0 41 00 42 12 40 **10** 15 **01** 00 F7

MIDI channel 11 to Drum kit mode send F0 41 00 42 12 40 **1A** 15 **01** 00 F7
MIDI channel 12 to Drum kit mode send F0 41 00 42 12 40 **1B** 15 **01** 00 F7
MIDI channel 13 to Drum kit mode send F0 41 00 42 12 40 **1C** 15 **01** 00 F7

MIDI channel 14 to Drum kit mode send F0 41 00 42 12 40 **1D** 15 **01** 00 F7
MIDI channel 15 to Drum kit mode send F0 41 00 42 12 40 **1E** 15 **01** 00 F7
MIDI channel 16 to Drum kit mode send F0 41 00 42 12 40 **1F** 15 **01** 00 F7





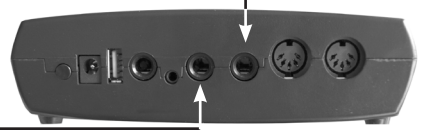
00 = Standard mode
01 = Drum kit mode

8.0 MAIN / AUX Out

XXL Triangle models offer two stereo outputs. To use the AUX OUT for any MIDI channel, you must manually change the 4 internal switches and send a MIDI message on the specified MIDI channel.

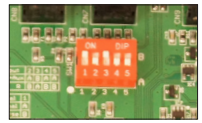
The connection changes from 2 mono jacks to 2 stereo jacks.
One stereo jack gives you the MAIN stereo,

the other one the AUX stereo.



send all controller messages on Channel 1		
MIDI controller 99 value 56 MIDI controller 98 value **00** MIDI controller 06 value **127**	← MIDI channel 1 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **01** MIDI controller 06 value **127**	← MIDI channel 2 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **02** MIDI controller 06 value **127**	← MIDI channel 3 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **03** MIDI controller 06 value **127**	← MIDI channel 4 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **04** MIDI controller 06 value **127**	← MIDI channel 5 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **05** MIDI controller 06 value **127**	← MIDI channel 6 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **06** MIDI controller 06 value **127**	← MIDI channel 7 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **07** MIDI controller 06 value **127**	← MIDI channel 8 →	127 = AUX

8.0 MAIN / AUX Out



MAIN L/R standard = up down up down down (grafic)

MAIN and AUX = up up down up up

send all controller messages on Channel 1		
MIDI controller 99 value 56 MIDI controller 98 value **08** MIDI controller 06 value **127**	← MIDI channel 9 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **09** MIDI controller 06 value **127**	← MIDI chan. 10 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **0A** MIDI controller 06 value **127**	← MIDI chan. 11 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **0B** MIDI controller 06 value **127**	← MIDI chan. 12 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **0C** MIDI controller 06 value **127**	← MIDI chan. 13 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **0D** MIDI controller 06 value **127**	← MIDI chan. 14 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **0E** MIDI controller 06 value **127**	← MIDI chan. 15 →	127 = AUX
MIDI controller 99 value 56 MIDI controller 98 value **0F** MIDI controller 06 value **127**	← MIDI chan. 16 →	127 = AUX

9.0 Edit drum sound

All XXL units offer drum kits.

Change the most important parameters of any single drum sound with following controllers.

send all controller messages on Channel 1		
MIDI controller 99 value **24** MIDI controller 98 value **xx** MIDI controller 06 value **64**	← MIDI note number →	Pitch coarse of drum sound 64 = no modif
MIDI controller 99 value **26** MIDI controller 98 value **xx** MIDI controller 06 value **yy**	← MIDI note number →	Volume of drum sound 00 - 127
MIDI controller 99 value **27** MIDI controller 98 value **xx** MIDI controller 06 value **0**	← MIDI note number →	Audio Out 000 = Main 127 = Aux
MIDI controller 99 value **28** MIDI controller 98 value **xx** MIDI controller 06 value **64**	← MIDI note number →	Panorama 64 = center
MIDI controller 99 value **29** MIDI controller 98 value **xx** MIDI controller 06 value **yy**	← MIDI note number →	Reverb send level 0 - 127
MIDI controller 99 value **30** MIDI controller 98 value **xx** MIDI controller 06 value **0**	← MIDI note number →	Chorus send level 0 - 127

10.0 Part MIDI channel

Sysex message - set the part to MIDI channel - format HEX:

MIDI channels 1-16 F0H 41H 00H 42H 12H 40H 1pH 02H nn xx F7H

Part 1 to MIDI channel 01	F0 41 00 42 12 40 1**1** 02 **00** 00 F7
Part 2 to MIDI channel 02	F0 41 00 42 12 40 1**2** 02 **01** 00 F7
Part 3 to MIDI channel 03	F0 41 00 42 12 40 1**3** 02 **02** 00 F7
Part 4 to MIDI channel 04	F0 41 00 42 12 40 1**4** 02 **03** 00 F7
Part 5 to MIDI channel 05	F0 41 00 42 12 40 1**5** 02 **04** 00 F7
Part 6 to MIDI channel 06	F0 41 00 42 12 40 1**6** 02 **05** 00 F7
Part 7 to MIDI channel 07	F0 41 00 42 12 40 1**7** 02 **06** 00 F7
Part 8 to MIDI channel 08	F0 41 00 42 12 40 1**8** 02 **07** 00 F7
Part 9 to MIDI channel 09	F0 41 00 42 12 40 1**9** 02 **08** 00 F7
Part 0 to MIDI channel 10 (special)	F0 41 00 42 12 40 1**0** 02 **09** 00 F7
Part 10 to MIDI channel 11	F0 41 00 42 12 40 1**A** 02 **0A** 00 F7
Part 11 to MIDI channel 12	F0 41 00 42 12 40 1**B** 02 **0B** 00 F7
Part 12 to MIDI channel 13	F0 41 00 42 12 40 1**C** 02 **0C** 00 F7
Part 13 to MIDI channel 14	F0 41 00 42 12 40 1**D** 02 **0D** 00 F7
Part 14 to MIDI channel 15	F0 41 00 42 12 40 1**E** 02 **0E** 00 F7
Part 15 to MIDI channel 16	F0 41 00 42 12 40 1**F** 02 **0F** 00 F7



xx = value 10 = part off

11 Semitone shift RPN 002

RPNs are specified by Controllers 101
and 100 in MIDI Specification.

send this controller messages on the channel you need - not always on CH 1		
MIDI controller 101 value **0** MIDI controller 100 value **2** MIDI controller 06 value **64**	change semitone with controller 06	64 = no modif

10.8 Master tune 440Hz

F0H 41H 00H 42H 12H 40H 00H 00H dd dd dd dd 00 F7H

values 'dd dd dd dd' are:

- for default Master Tune= 0 cent, value is 0x0400, must use "00 04 00 00"
- for c cent, between -100 to 100, compute 1024+c*10.

For example, if you want 8 cent as Master Tune:
- 1024+8*10= 1104
- 1104 in hexadecimal is 0x0450
- in the sysex message "00 04 05 00".

+ 8 cent = F0 41 00 42 12 40 00 00 **00 04 05 00** 00 F7

Table Herz / cent

440 Hz	± 0 cent
441 Hz	+ 4 cent
442 Hz	+ 8cent
443 Hz	+12cent
444 Hz	+16 cent

440 Hz = F0 41 00 42 12 40 00 00 **00 04 00 00** 00 F7

441 Hz = F0 41 00 42 12 40 00 00 **00 04 02 08** 00 F7

442 Hz = F0 41 00 42 12 40 00 00 **00 04 05 00** 00 F7

443 Hz = F0 41 00 42 12 40 00 00 **00 04 07 08** 00 F7

444 Hz = F0 41 00 42 12 40 00 00 **00 04 A0 00** 00 F7

20.0 MFX - MIDI files

We recommend:

1. Send always a GM Reset
as first event inside MIDI files.

GM reset takes a few milliseconds

GM Reset = MFX 1 & 2 not assigned to any MIDI channels.

2. Decide
Two mono or one stereo MFX.
Different reset NRPN messages.

3. Reverb send controller 91
Do you need a Reverb send from the original Sound?
If not send cc91 value 00.

4. Chorus send controller 93
Do you need a Chorus send from the original Sound?
If not send cc91 value 00.

5. Turn cc7 to 127
and adjust with the input level controller the gain you need into MFX.

6. Stereo MFX
Set controller 10 panorama to 64 center, and make the panorama setting with the output NRPN.

www.v3sound.com