

GHAMMY



HARM /
PITCH SHIFTER



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[RACK EXTENSION]

MANUAL

2020

FX device by Turn2on Software



The **GHAMMY** effect is inspired by the famous guitar / bass pedal Whammy™ where we have enhanced the original with more features in the same vein. GHAMMY includes three fundamental modes: pitch shifting (**GHAMMY**), harmonizer (**HARMY**) and **DETUNE**.

Basic functionality is the main feature of the device, but additional features are available which totally change the main idea of the original effect.

GHAMMY works with two separate modes (**BY MODE** and **DRY/WET**). If the device is set to the "BY MODE" setting, the processed signal is presented as only WET. If the device is set to the "DRY/WET" setting, the DRY/WET proportions can be set manually.

The **Mono/Poly** switcher selects between the classic algorithm MONO for single notes with somewhat glitchy sound and POLY for bending of full chords with phase-align shifting.

The **DRY/WET** functionality adds a dry and wet control for mixing incoming and processed signals for any of three modes (Ghammy / Harmy / Detune) instead of the original pedal with only a WET signal at pitch shifting, and mix of Dry/Wet at harmonizer. If you

set the DRY/WET control to 50%, it simulates a 12 string guitar fx.

The heart of the effect are the **GRANULAR Pitch Settings**. The Granular engine includes 5 **Mutation modes** that totally change the character of the Harmonizer and Pitch-Shifter bendings. The **Resolution** parameter can set a delay size in ms or quarter notes, to optimise the pitch shifting effect.

The Granular section includes a delay effect for grains with feedback, limiter/saturation control and high-pass filter. The Granular pitch shifter can reproduce grains with Vector parameters (Forward, Reverse, Mixed and Random modes) and support quantization of grains.

This is a new vision to the very classic and popular pitch-shifter pedal that we love, with powerful additions.

GHAMMY is not only a Guitar pitch-shifter effect. It can also be a Synthesizer Sub/Hi generator, an Octave generator with crossfades, a creative granular pitch-shifter, harmonizer and a powerful detune (chorus/flanger) effect with various sound mutations from the original signal.



If you have any external hardware devices (like a synthesizer, fx pedal, processor), that includes an Expression pedal input that can receive Expression channel Midi CC data, you can use it with Reason. We highly recommend using any external Expression pedal with the GHAMMY effect to control the harmonizer / pitch level. Just click in the context menu on the Expression pedal of GHAMMY, "Edit Remote Override Mapping" and check "Learn from surface input". After the remote device is recognised, you can use your Expression pedal with GHAMMY, like a real external FX. If you do not have an external Expression pedal, you can use any midi controller to control the GHAMMY Expression pedal.

Neo-Classic Harmonizer and Pitch-Shifter FX



MODES:

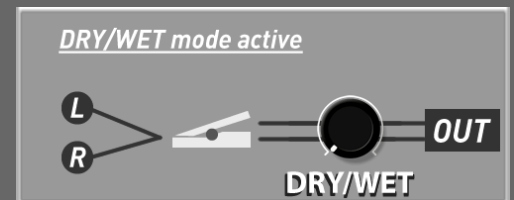
FRONT PANEL

GHAMMY

PITCH-SHIFTER SECTION



BY MODE



DRY / WET

10 sub-modes with UP/DOWN pitch shifting for incoming signals.

If the Expression pedal is moved from the back-down (default) position, the signal will bend from the incoming dry signal, to the pitch specified by the selected setting (at max position of pedal).

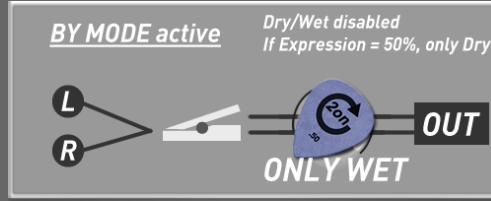
MODE	Bends incoming signal
2 OCT Up	Two octaves ↑
1 OCT Up	One octave ↑
5TH Up	5TH interval (7 semitones ↑)
4TH Up	4TH interval (5 semitones ↑)
2ND Down	2ND interval (2 semitones ↓)

MODE	Bends incoming signal
4TH Down	4TH interval (5 semitones ↓)
5TH Down	5TH interval (7 semitones ↓)
1 OCT Down	One octave ↓
2 OCT Down	Two octaves ↓
SLO'MO	Sub + 2 octaves ↓

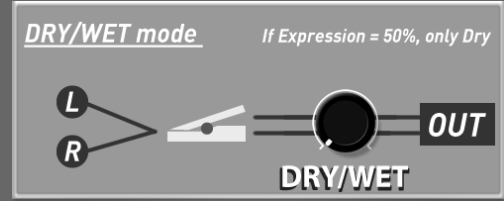
HARMY

HARMY

- ▼ OCT ▲ OCT
- ▲ 4TH ▲ 5TH
- ▼ 5TH ▼ 4TH
- ▲ 3RD ▲ 4TH
- ▼ 4TH ▼ 3RD
- ▲^b3RD ▲ 3RD
- ▲ 5TH ▲ 7TH
- ▲ 2ND ▲ 3RD
- ▲ 5TH ▲ 6TH



BY MODE



DRY / WET

9 sub-modes adds harmony to the incoming signal. Two harmony notes (lower and upper position of Expression pedal) are mixed with the Dry signal (mid position of Expression pedal). If the Expression pedal is moved back and forth, the harmony notes change between two intervals specified by the selected mode. The Incoming signal remains unchanged (Dry signal at the middle position of pedal).

MODE	Bends the harmony between
OCT Dn / OCT Up	1 octave ↓ below / 1 oct ↑ above
5TH Dn / 4TH Dn	7 semi ↓ below / 5 semi ↓ above
4TH Dn / 3RD Dn	5 semi ↓ below / 4 semi ↓ above
5TH Up / 7TH Up	7 semi ↑ below / 11 semi ↑ above
5TH Up / 6TH Up	7 semi ↑ below / 9 semi ↑ above

MODE	Bends the harmony between
4TH Up / 5TH Up	5 semi ↑ below / 7 semi ↑ above
3RD Up / 4TH Up	4 semi ↑ below / 5 semi ↑ above
b3RD Up / 3RD Up	3 semi ↑ below / 4 semi ↑ above
2ND Up / 3RD Up	2 semi ↑ below / 4 semi ↑ above

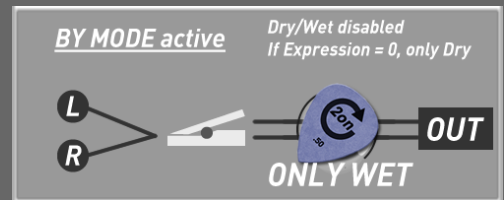
DETUNE

DETUNE **DEEP** MID THIN SLIGHT

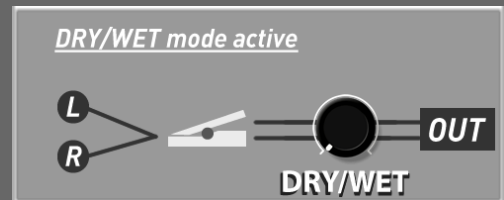
4 sub-modes shift the pitch of the copied signal, then mix it back with the incoming signal, which sounds like a Chorus/Flanger effect. If the Expression pedal is moved back or forth, the level of this detuned signal is changed. When the Expression pedal is reset to the back-down (default) position, only the incoming signal is heard with some chorus colours. As the Expression pedal is moved to the full on position, more of the detuned signal is mixed in.

MODE	Copied signal:
DEEP	Substantially detuned. Like a deep Chorus effect
MID	Medium detuned. Like a small amount Chorus effect
THIN	Small detuned. Like a mix of Chorus / Flanger effect
SLIGHT	Slightly detuned. Micro pitch-shifting

CHORUS/FLANGER SECTION



BY MODE



DRY / WET

NONE

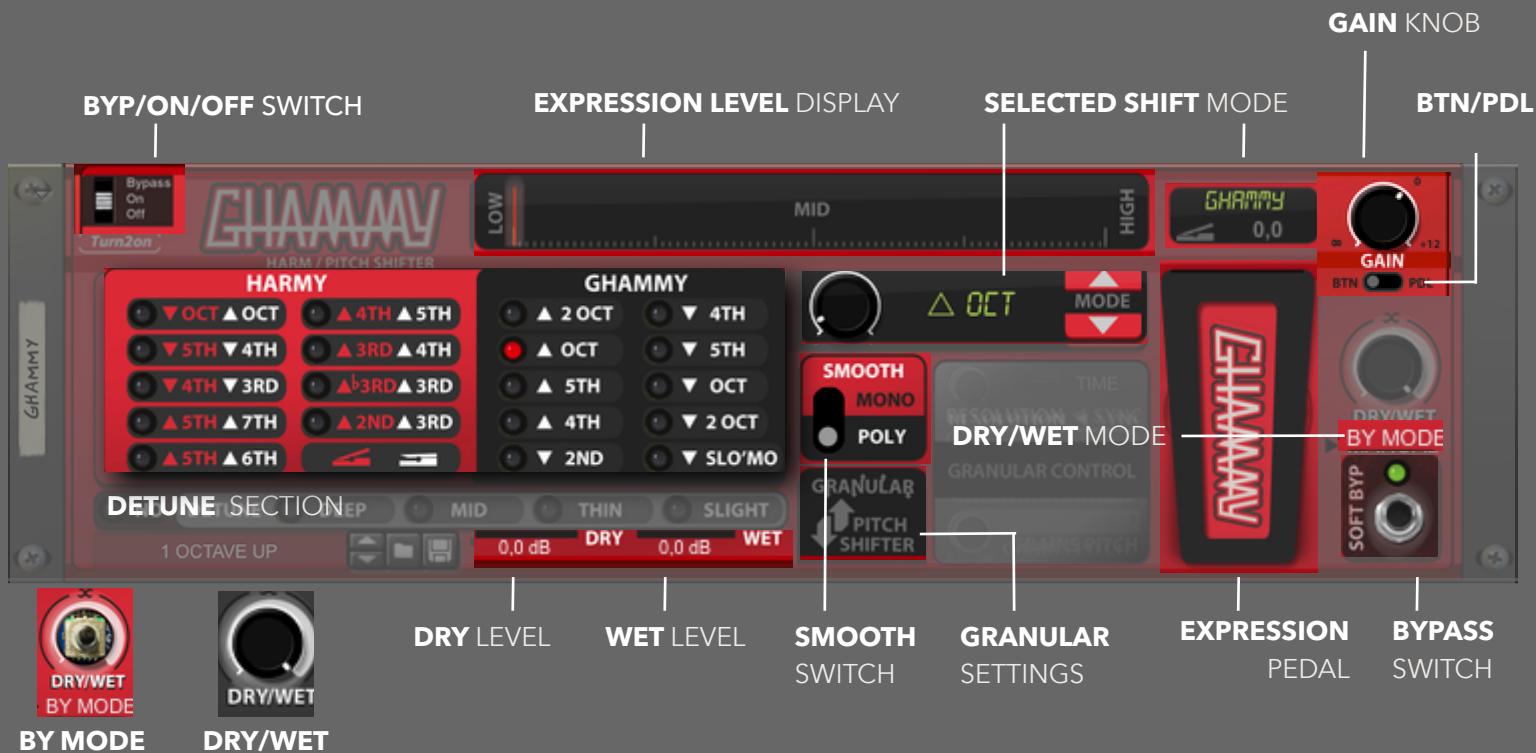
NO

NOT ACTIVE SECTION

MAIN CONTROLLERS:

USER INTERFACE

BASIC UI



Bypass / On / Off

Standard switch with 3 modes: Bypass effect, On Effect, Off Effect

Expression

Controls the pitch bending amount of the selected HARMY, GHAMMY or DETUNE modes. In active granular settings, this is the playback speed for each grain.

Expr. Disp

The Expression display shows position of the Expression pedal. (works if Granular settings is Off)

SHIFT MODES

Selects one of the sub-modes from the GHAMMY, HARMY and DETUNE sections

Mode LEDs

One of these LEDs shows which effect and Mode section is selected

SMOOTH

The smooth switch between two modes:

MONO: Classic pitch-shifting algorithm for single note play

POLY: Poly pitch-shifting mode which is better for bending of chords

DRY/WET MODE

Select to enable or disable Dry/Wet knob.

BY MODE: Default mode (no DRY signal). GHAMMY mode does not have a dry signal, which works like a real pedal. HARMY mode has a dry signal only if Expression position = 50%.

MANUAL: Activate Dry/Wet knob for all modes: GHAMMY, HARMY, DETUNE

GAIN

Controls the level of the master output signal (up to +12dB).

DRY, WET LEVELS

Dry level controls the level of the incoming pre-processed signal. Wet level controls the level of the processed signal (up to +12 dB). Helps to find better proportions of Dry/Wet signals

DRY/WET

Dry/Wet function of incoming and processed signals. Available only in the MANUAL mode. Mid position of Dry/WET (50%) - simulates a **12 string guitar**.

SOFT BYP

Bypass with soft fading of effect activity (without glitches)

BTN/PDL

Select main controller: Expression pedal [default] with Red/Black design, or Momentary button

GRANULAR SETTINGS

LIMITER & SATURATION

GRANULAR UI

DELAY FEEDBACK

VECTOR GRAIN PLAYBACK

HIGHPASS
FILTER
BEFORE

QUANTIZE GRAINS TO GRID

DELAY SIZE

RANDOM DELAY



GRANULAR SETTINGS MODE

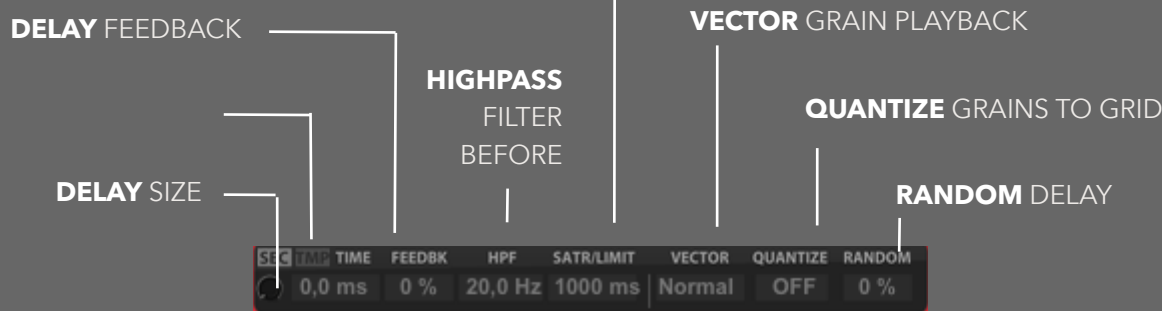
GRANULAR PITCH
LINK TO EXPRESSIONRESOLUTION SIZE
TIME/TEMPORESOLUTION SYNC
TIME/TEMPO

GRAINS PITCH CONTROL

GRANULAR SETTINGS	Activate panels of the Granular section. If the section is not active, current settings are actual.
MUTATION MODE	Select one of the mutation modes that change the character of the pitch bendings. VIBE: Pitch shifting mode with sparse blips of amplitude vibrations. BLIPS: Pitch shifting mode with frequent blips of amplitude vibrations. THICK: Pitch shifting mode with thick sound. THICKER: Pitch shifting mode with more thicker sound. 2 SIDE: Pitch shifting mode with alternating between two pitches.
GRAINS PITCH	Adds for even grains pitch value, while odd grains subtracted. Can be synced to the Expression pedal
Granular Expression	Activate sync of the Grains Pitch to the Expression pedal
Pitch Resolution	Set grain duration for the buffer of Pitch-shifting for processed signal
Resolution Sync	Select one of the Pitch Resolution modes: Time (grain duration time in ms), Tempo (adjust grain size relative to the quarter notes)
DRY, WET LEVELS	Dry level controls the level of the incoming pre-processed signal. Wet level controls the level of the processed signal (up to +12 dB). Helps to find better proportions of Dry/Wet signals
DRY/WET	Dry/Wet function of incoming and processed signals. Available only in the MANUAL mode. Mid position of Dry/WET (50%) - simulates a 12 string guitar.
SOFT BYPASS	Bypass with soft fading of effect activity (without glitches)

LIMITER & SATURATION

GRANULAR UI



DELAY TIME	Delay time before grains play
DELAY SYNC	Select Delay mode: Time (milliseconds) or Tempo (quarter note beats)
DELAY FEEDBACK	Feedback from grain output back to Delay input
HP FILTER	Highpass filter before output and delay Feedback
LIMITER / Saturation	Release time of limiter before output and delay Feedback. At low values it works as a Saturation / Distortion effect
DELAY RANDOM	Randomize grain position in the Delay line
VECTOR	Sets the grain playback as modes: Forward, Reverse, Alternating Forward/Reverse, Random for each grain
QUANTIZE	Quantizes the next grain to the specified beat grid

BLACK FRONT SKIN

SELECTABLE SKINS



MOMENTARY - ALTERNATIVE CONTROLLER OF PITCH SHIFTING.

PATCH BROWSER - OPEN LIBRARY OF GHAMMY PATCHES, OR SAVE YOUR OWN PATCHES

SKIN - ON THE REAR PANEL, THE USER CAN SELECT BETWEEN THE DEFAULT (RED) SKIN AND BLACK FRONT SKIN

REACTION - TIME OF EXPRESSION PEDAL PITCH BENDING EMULATION. SHORT HOLD OF MOMENTARY BUTTON EMULATE FAST PITCH BENDING. LONG HOLD OF MOMENTARY BUTTON EMULATE SLOW PITCH BENDING.



REAR SIDE PANEL



AUDIO INPUT / OUTPUT

Mono/Stereo connections for Input and Output audio signals



CV INPUTS

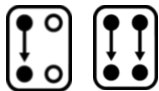
Use these CV inputs to control the main parameters of the GHAMMY effect device



SKIN - Select between the default (RED) and Black Front skins.

SHIFT CONVERTER - info table for converting intervals to semitones

CONNECTIONS:



The device is a True-Stereo effect. For Mono input, the device produces mono output. For Stereo input, the device sums the Left and Right channels before applying the effect. The output is in Stereo.

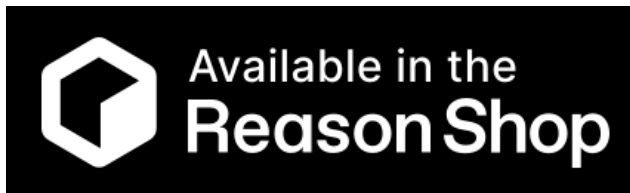


Highly recommend to use external Expression pedal with GHAMMY harm / pitch shifter. You can build custom Expression Midi -> USB converter based on Arduino. Please read [manual about custom controller](#), attached to Docs section at product page in the shop.



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Turn2on

Rack Extension Developer

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Thanks to all beta-testers.
 Special thanks for help to:

- Philip Meadows (Despondo)
- Cameron Jeffrey (MrFigg)

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