DB2 FX descriptions – V2 release

Five new FX variants added - Eco-MasifQ, Dly-MasifQ, Infrabass, Saturator and Bitbash 2.

New FX Cascade mode allows for FX-X and FX-Y engines to be cascaded, or chained, to run the output of FX-X to the input of the FX-Y allowing the audio to be processed by any combination of two different effects.

In cascade mode, any channel routed to FX-X can be processed by both engines, but the single effect on the FX-Y engine can still be accessed by routing the channel to Y, **with the crossfader off.**

There are 5 FX types or groups. Each FX type contains many different FX variants.

Types are: DLY (Delays), RVB (Reverbs), RES (Resonators), MOD (Modulators) and DMG (Damage).

DLY (Delay)

Delay times are BPM Conscious and displayed as beat fraction which is locked to the BPM detector on each channel.

In "ms mode" delay time can be manipulated manually, overriding the auto BPM detector.

Each delay can have two filter modes, "Bandpass filter" and "Sweepable Hi/Lo cut". These filter sections are pre the regen path, and the filters can be used in conjunction with regen delays to create filtered delays (space Echo sound fx).

Filter delay names that end with "-Q" use a Bandpass filter; the non-Q versions use a Sweepable Hi/Lo cut filter.

"Eco-" effects are configured with the on/off button PRE FX, allowing tails to ring out when effect is turned off. Eco- effects also allow you to mix the delayed signal back in with the source, without affecting the level of the dry source.

"Dly-" effects are configured with the on/off button POST FX allowing delays to be turned on and off sharply. Dly- Effects allow you to pan from the fully dry source, to the fully wet return using the Wet/Dry control.

The Roller (Loop Sampler) allows Wet/Dry balance between fully Dry and fully Wet (Looping) signal.

FX	Dry/wet	Expression	FX Adjust/Screen Scroller	Time
Roller Automatic loop sampler	**Wet/Dry balance**	**none**	**none**	**Beat fraction and delay ms mode.** Up to 4 bars (16 beats) loop length
Eco-Massif-Q bandpass delay	**Full Dry + Wet amount**	**Regen feedback**	**Bandpass center Freq.** Ultrawide bandwidth 4.7 octaves	**Beat fraction and delay ms mode.** LR delays ganged
Eco-FatQ bandpass delay	**Full Dry + Wet amount**	**Regen feedback**	**Bandpass center Freq.** Wide bandwidth 3.2 octaves	**Beat fraction and delay ms mode.** LR delays ganged
Eco-ThinQ bandpass delay	**Full Dry + Wet amount**	**Regen feedback**	**Bandpass center Freq.** Narrow bandwidth 0.25 octaves	**Beat fraction and delay ms mode.** LR delays ganged
Eco-Sweep Lo/hi cut filter delay	**Full Dry + Wet amount**	**Regen feedback**	**Lo and Hi Cut filter Freq** Min: LF only delay Mid: full range Max: HF only delay	**Beat fraction and delay ms mode.** LR delays ganged
Eco-PPong Lo/hi cut filter delay	**Full Dry + Wet amount**	**Regen feedback**	**Lo and Hi Cut filter Freq** Min: LF only delay Mid: full range Max: HF only delay.	**Beat fraction and delay ms mode.** Right delay is half of left delay creating a ping pong LR delay.

Eco-Scat Lo/hi cut filter delay	**Full Dry + Wet amount**	**Regen feedback**	**Lo and Hi Cut filter Freq** Min: LF only delay Mid: full range Max: HF only delay	**Beat fraction and delay ms mode.** Right delay time is 3/4 left delay time, creating an 'off beat' delay on right.
Dly-Massif-Q bandpass delay	**Full Dry + Wet amount**	**Regen feedback**	**Bandpass center Freq.** Ultrawide bandwidth 4.7 octaves	**Beat fraction and delay ms mode.** LR delays ganged
Dly-FatQ bandpass delay	**Wet/Dry balance**	**Regen feedback**	**Bandpass center Freq.** Wide bandwidth 3.2 octaves	**Beat fraction and delay ms mode.** LR delays ganged
Dly-ThinQ bandpass delay	**Wet/Dry balance**	**Regen feedback**	**Bandpass center Freq.** Narrow bandwidth 0.25 octaves	**Beat fraction and delay ms mode.** LR delays ganged
Dly-Sweep Lo/hi cut filter delay	**Wet/Dry balance**	**Regen feedback**	**Lo and Hi Cut filter Freq** Min: LF only delay Mid: full range Max: HF only delay	**Beat fraction and delay ms mode.** LR delays ganged
Dly-PPong Lo/hi cut filter delay	**Wet/Dry balance**	**Regen feedback**	**Lo and Hi Cut filter Freq** Min: LF only delay Mid: full range Max: HF only delay.	**Beat fraction and delay ms mode.** Right delay is half of left delay creating a ping pong LR delay.
Dly-Scat Lo/hi cut filter delay	**Wet/Dry balance**	**Regen feedback**	**Lo and Hi Cut filter Freq** Min: LF only delay Mid: full range Max: HF only delay	**Beat fraction and delay ms mode.** Right delay time is 3/4 left delay time, creating an 'off beat' delay on right.

RVB (Reverb)

There are 4 acoustic reverb models. Plate, Hall, Room and EMT emulation. Each of these models create different early/late reflections and spectral decay patterns to create accurate models of these sound spaces and reverbs. All use common controls for ease of use for the DJ.

Common controls for all Verbs	Dry/wet rotary Control balance between dry and wet levels	Expression **LF cut** Essential control for DJ using Reverb. Gives the ability to wind the LF energy in and out of the verb.	FX Adjust/Screen Scroller **HF decay** Controls the HF decay pattern of the verb. Closely connected to reverb size.	Time **Decay time** This is BPM conscious and is displayed in beat fraction.
EMT250	Mid 70's, classic plate still stands the test of time. EMT is great on mixed programme and creates space around music without destroying intelligibility and instrument voices – that's why it's great for DJ music. LF cut—not on original but essential for DJ LF control. HF decay time/pattern—similar to lever 3 on original. Decay 0.1 to 4.5 seconds. We have fixed predelay, optimal for mixed percussive programme.			
Hall 480	Classic Hall from the USA. Deep rich mid-range decay, well behaved with LF programme. It has a wide stereo field and artificial decay pattern that sounds great. Not an accurate model of a real Hall. On full decay creates large space without crowding the instruments. Set Expression Control (LF cut) low to maintain the rich LF decay. Decay 0.1 to 10 seconds.			
NxtDoor	Accurate reproduction of sound next door. Fully wet gives the impression of the sound in the next room. Keep expression setting low to produce 'Next Door'. For best results run in non KS mode as continuous fully wet sound is critical.			
Slap Rev	Slap reverb short decay pattern. Aggressive short bright reverb with echo. HF decay time/pattern - leave on max for full effect. Reflection and decay is dense but configured to create a slow build in reflection early decay energy. Great on HF percussive material.			
Arena	Models the sound field of an Arena. Huge late reflections and complex decay field. Also sounds interesting on short decay times due to the complex reflections. Decay 0.1 to 10 seconds.			
Kickbox	Creates box sound, ideal on percussive LF. Dark sounding Decay spectrum - decay on max creates a chamber. Decay 0.1 to 10 seconds.			
Chamber	Chamber sound is a 'boxy' enclosed sound space, rich in lower mid decay. Decay 0.1 to 10 seconds.			
HallMasif	Bright Massive Hall sound space. Complex reflections in decay energy. Creates long decay tails with HF energy not crowding other instruments. Decay 0.1 to 10 seconds.			
Hall Big	Realistic and accurate raw Hall sound, not tailored for sonic quality. Contains raw flutter echoes from a real Hall. Can also create a great kick sound on short decay setting. Decay 0.1 to 10 seconds.			
Hall Echo	Derived from a bright Hall vocal reverb. Rich in mid and HF echo. Can be difficult with percussive material. Decay 0.1 to 10 seconds.			
Hall Sml	Small Hall. Can sound artificial - great for mid frequency range percussive sounds. Decay 0.1 to 4.5 seconds. Caution, too much LF energy can create too much echo.			
Hall HF	Very bright artificial Hall. Good for space around percussive sounds without any other frequency colouration. Decay 0.1 to 10 seconds.			
Room Big	Accurate model of the local reflections and decay in a medium to large room. Decay 0.1 to 6 seconds.			

RoomSml	Accurate model of the local reflections in a small room. Decay 0.1 to 3 seconds.
Sml Vox	Small bright space derived from a vocal reverb. Does contain bright echo. Decay 0.1 to 3 seconds
Plt Gold	Model of a Gold Plate Reverb, smooth even and rich decay pattern. Soft build and decay. Predelay 20ms, Decay 0.1 to 10 seconds.
Plt Snare	Plate Reverb suited to snare. Noticeable predelay 40ms. Creates nice space around snare. Decay 0.1 to 10 seconds.
Plt HF	HF Vocal Plate Reverb. Very long predelay 90ms. Very rich in HF energy. Decay 0.1 to 10 seconds. On percussive sounds the long predelay can create an undesirable slap echo.
Plt Vox	Great mid range Vocal Plate. Noticeable 60ms predelay. Decay 0.1 to 10 seconds. On percussive sounds the long predelay can create an undesirable slap echo.

Res (Resonator) – beat conscious resonators….

This FX group is based on various gated resonator algorithms. The resonator envelope is divided into predelay, attack, sustain and decay phases. The total time period of the envelope is controlled by the channel BPM engine. The BPM conscious beat fraction 'Time' controls the resonator time envelope—creating BPM conscious resonator sounds.

The resonator also comprises of a filter section configurable as bandpass or Hi and Lo cut filter.

The filter control is the same as the Delay FX. Bandpass variant names have a suffix-Q, otherwise a Hi and Lo cut filter. The FX Adjust/Screen Scroller adjusts either the bandpass centre frequency or the Hi and Lo cut filter frequency.

FX	Dry/wet rotary	Expression control	FX Adjust/Screen Scroller	Time
Reverse-Q *Variable Attack Resonator, creates 'build' in resonator energy, - ultimately producing 'reverse sound'*	Control balance between dry and wet levels	**Predelay** time for resonator time trigger. Min 0, Mid 75, Max 170ms *Creates space between resonator and source. This control is intentionally not coupled with the BPM to allow the user to fine tune. Excessive predelay can destroy beat sync in track.*	**Bandpass center frequency** Variable bandwidth, mid position 1.7 octaves	**Attack time** This is BPM conscious and displayed as beat fraction.
Power-Q *Variable Sustain Resonator, controls the power in resonator energy.*	Control balance between dry and wet levels	**Predelay** time for resonator time trigger. Min 0, Mid 75, Max 170ms *Creates space between resonator and source. This control is intentionally not coupled with the BPM to allow the user to fine tune. Excessive predelay can destroy beat sync in track.*	**Bandpass center frequency** Variable bandwidth, mid position 1.7 octaves	**Sustain time** This is BPM conscious and displayed as beat fraction.
Decay-Q *Variable Decay Resonator, controls the decay of the resonator tail.*	Control balance between dry and wet levels	**Predelay** time for resonator time trigger. Min 0, Mid 75, Max 170ms *Creates space between resonator and source. This control is intentionally not coupled with the BPM to allow the user to fine tune. Excessive predelay can destroy beat sync in track.*	**Bandpass center frequency** Variable bandwidth, mid position 1.7 octaves	**Decay time** This is BPM conscious and displayed as beat fraction.
Tronic-Q *Resonator in rich harmonic 'tone' mode.*	Control balance between dry and wet levels	***Oscillator frequency*** *Resonator operates in rich harmonic oscillation. Expression controls the fundamental frequency of the harmonics, creating a unique sound.*	**Bandpass center frequency** Variable bandwidth, mid position 1.7 octaves	**Sustain time** This is BPM conscious and displayed as beat fraction.

Gritter *Grainy distorted, low density resonator.*	Control balance between dry and wet levels	**Predelay** time for resonator time trigger. Min 0, Mid 75, Max 170ms *Creates space between resonator and source. This control is intentionally not coupled with the BPM to allow the user to fine tune. Excessive predelay can destroy beat sync in track.*	**Lo and Hi Cut filter Freq** Min: LF resonator Mid: full range Max: HF resonator	**Sustain time** This is BPM conscious and displayed as beat fraction. *Resonator driven into distortion to create a grainy sound.*
Reverse *Variable Attack Resonator, creates 'build' in resonator energy, - ultimately producing 'reverse sound'*	Control balance between dry and wet levels	**Predelay** time for resonator time trigger. Min 0, Mid 75, Max 170ms *Creates space between resonator and source. This control is intentionally not coupled with the BPM to allow the user to fine tune. Excessive predelay can destroy beat sync in track.*	**Lo and Hi Cut filter Freq** Min: LF resonator Mid: full range Max: HF resonator	**Attack time** This is BPM conscious and displayed as beat fraction.
Power *Variable Sustain Resonator, controls the power in resonator energy.*	Control balance between dry and wet levels	**Predelay** time for resonator time trigger. Min 0, Mid 75, Max 170ms *Creates space between resonator and source. This control is intentionally not coupled with the BPM to allow the user to fine tune. Excessive predelay can destroy beat sync in track.*	**Lo and Hi Cut filter Freq** Min: LF resonator Mid: full range Max: HF resonator	**Sustain time** This is BPM conscious and displayed as beat fraction.
Decay *Variable Decay Resonator, controls the decay of the resonator tail.*	Control balance between dry and wet levels	**Predelay** time for resonator time trigger. Min 0, Mid 75, Max 170ms *Creates space between resonator and source. This control is intentionally not coupled with the BPM to allow the user to fine tune. Excessive predelay can destroy beat sync in track.*	**Lo and Hi Cut filter Freq** Min: LF resonator Mid: full range Max: HF resonator	**Decay time** This is BPM conscious and displayed as beat fraction.
Tronic *Resonator in rich harmonic 'tone' mode.*	Control balance between dry and wet levels	**Oscillator frequency** *Resonator operates in rich harmonic oscillation. Expression controls the fundamental frequency of the harmonics, creating a unique sound.*	**Lo and Hi Cut filter Freq** Min: LF resonator Mid: full range Max: HF resonator	**Sustain time** This is BPM conscious and displayed as beat fraction.

MOD (Modulators) - This groups comprises of a Rotary speaker, Flangers, Phasers and a Ring-Modulator.

The rotary speaker is driven by a cross-over so the user can determine what spectrum goes through the rotary speaker. Classically leave the LF stationary and rotary the HF energy.

There are 3 very different Flanger models. A Hard Mono Flanger with triangular LFO, tuned purely in the flange zone. Soft Flange using split phase LFO between left/right for stereo enhancement. Classic Flanger uses sine wave LFO, with band-limiting in parts of the circuit to recreate the classic sound.

The Phaser models are based on 3, 6, and 12 stage variants with various LFO configurations and analogue circuit emulations. Some of the most harmonically rich sounds of the 12 stage can be created with depth at minimum, then manual expression sweeping around 11 o'clock. Or chill out with a mild 3 stage.

FX	Dry/wet rotary	Expression control	FX Adjust/Screen Scroller	Time
RotaryXO *Rotary speaker with cross-over*	**Intensity of Rotary speaker** Dry - off Wet - on	**Depth of front to back rotation (proximity to speaker)** *Expression minimum: Rotary speaker is distant and has a low depth of front to back rotation.* *Expression maximum: Rotary speaker in immediate proximity (surrounding the listener) with a high depth of rotation.*	**XO (cross-over) frequency** Spectrum of signal that is rotary panned. Min: 100Hz, most audio is rotary panned. Mid: 1kHz and above is rotary panned. Max: 20kHz, minimal audio spectrum is rotary panned.	**Speed of rotation** BPM concious
Flnge Hrd LFO: Triangular, LR in-phase. *Hard intense flanger*	**Intensity/Regen** Dry: flanger off Wet: full regen	**LFO Depth** - modulation depth of flanger Min: minimum depth Max: maximum depth	**Stereo width** - enhances stereo width – high settings can destroy intensity of flanger. *Set low for full effect*	**LFO Speed** BPM conscious
Flnge Sft LFO: Inverted-sine rectified. LR Split-phase. *Soft Spatial flanger*	**Intensity/Regen** Dry: flanger off Wet: full regen	**LFO Depth** - modulation depth of flanger Min: minimum depth Max: maximum depth	**Stereo width** - enhances stereo width – high settings can destroy intensity of flanger.	**LFO Speed** BPM conscious
Flnge Old LFO: Sine Wave, LR in-phase. *Smooth with range limits recreating classic flanger sound.*	**Intensity/Regen** Dry: flanger off Wet: full regen	**LFO Depth** - modulation depth of flanger Min: minimum depth Max: maximum depth	**Stereo width** - enhances stereo width – high settings can destroy intensity of flanger.	**LFO Speed** BPM conscious
Phase V6 6 stage classic Phaser LFO: Triangular, LR in-phase. *Classic clean 6 stage sounding phaser.*	**Intensity** Dry: flanger off Wet: full regen	**Frequency Offset** Sets frequency range in which Phaser operates.	**LFO Depth** Modulation depth of Phaser	**LFO Speed** BPM conscious

Phase R6	**Intensity**	**Frequency Offset**	**LFO Depth**	**LFO Speed**
6 stage Phaser	Dry: flanger off	Sets frequency range in which Phaser operates.	Modulation depth of Phaser	BPM conscious
LFO: Rectified, LR in-phase.	Wet: full regen			
LFO in rectified mode creating a more aggressive sound at end stop of the phasing region.				
Phase D12	**Intensity**	**Frequency Offset**	**LFO Depth** – modulation depth of phaser	**LFO Speed**
Classic 12 stage Phaser	Dry: flanger off	*With scroller depth set low, sweep around 11 o'clock for the classic 'M sound', rich mid-range harmonics.*	*Set low, this FX is best used in manual sweep using the expression 'offset' around 11 o'clock position.*	BPM conscious
LFO: Rectified, LR in-phase	Wet: full regen/feedback			
Contains accurate emulation of a classic analogue circuit. Creating rich non-linear harmonics in phasing region.				
Phazer	**Intensity**	**Frequency Offset**	**LFO Depth**	**LFO Speed**
Mild 3-stage Phaser	Dry: flanger off	Sets frequency range in which Phaser operates.	Modulation depth of Phaser	BPM conscious
LFO: Rectified, LR in-phase	Wet: full regen/feedback			
creates light, hazy/trippy modulation.				
RingMod	**Intensity**	**Frequency Offset**	**Stereo width**	**Speed**
LFO: Triangular, LR in-phase	Dry: off	Sets frequency range in which Modulator operates.	Enhances stereo width	Modulation speed
High metallic modulated resonance	Wet: maximum intensity/feedback		*High settings can destroy intensity of modulator.*	

DMG (Damage) - FX grid bar/beat pattern control. Time control 'FX grid' algorithm on selected FX. A collection of distortion, drive, harmonic modifiers and AM choppers….

FX	Dry/wet rotary	Expression control	FX Adjust/Screen Scroller	Time
Distortion *Rich distortion with LF sensitivity and hi-cut control.*	**Intensity** Dry Signal / Fully Wet distortion	**Hi-cut frequency** Min: 600Hz, dark LF distortion Mid: 2kHz, Max: 20kHz full bandwidth hi tone distortion. *HF cut of distortion harmonics.*	**LF sensitivity** Min: -6dB Mid: 0dB Max: +6dB *Create LF growl in distortion*	*Beat fraction* *-/-* *continuously on.* *1/64 to 4/1 "stutter" style*
Overdrive *Soft Overdrive with LF sensitivity and hi-cut control. Creates fattening of sound particularly LF.*	**Intensity** Dry Signal / Fully Wet overdrive	**Hi-cut frequency** Min: 600Hz Mid: 2kHz Max: 20kHz *HF cut of overdrive harmonics.*	**LF sensitivity** Min: -6dB Mid: 0dB Max: +6dB *Emphases LF fat overdrive sound.*	**Not used**
Bitbash *Bit reducer - ' bit distortion'* *Produces low bit 'quantiser' distortion.* *As intensity is wound up the bit distortion verges into broadband quantisation noise. This can be filtered using the scroller and expression filters.*	**Dry/wet** Dry Signal / Fully Wet bit reduced signal	**Hi-cut frequency** Min: 400Hz Mid: 2.5kHz Max: 14kHz *HF cut of low-bit quantiser distortion*	**Lo-cut frequency** Min: 20Hz, full bandwidth with high levels of LF bit distortion Mid: 400Hz, mid freq to HF bit distortion Max: 7kHz high freq bit distortion	**Time** 'FX Grid' beat/bar pattern control of FX output level
Bitbash 2 *Bit reducer - ' bit distortion'* *Produces low bit 'quantiser' distortion.* *As intensity is wound up the bit distortion verges into broadband quantisation noise. This can be filtered using the scroller and expression filters.*	**Dry/wet** Dry Signal / Fully Wet bit reduced signal	**Hi-cut frequency** Min: 400Hz Mid: 2.5kHz Max: 14kHz *HF cut of low-bit quantiser distortion*	**Lo-cut frequency** Min: 20Hz, full bandwidth with high levels of LF bit distortion Mid: 400Hz, mid freq to HF bit distortion Max: 7kHz high freq bit distortion	**Time** *Beat fraction -/- continuously on.* *1/64 to 4/1 "stutter" style*
Fundmentl *LF Harmonic generator. Creates harmonics purely from LF signal energy.* *Can be used to create phantom LF energy that doesn't exist - lost fundamental useful on sound systems lacking LF.* *Also can be used to create strong boxy LF as a sound FX.*	**Dry/wet** Dry Signal / Fully Wet harmonics at full level to output.	**Harmonic Spectrum** Min: 90Hz Mid: 120Hz Max: 170Hz *Increases spectrum of harmonics to output.*	**Input sensitivity** *Reduces or increases sensitivity of input material.*	**Not used**

Infrabass	Dry/wet	Bass frequency	Input sensitivity	Not used
Low end enhancer that synthesises infra bass energy one octave below the bass spectrum. *Use with caution as it can create considerable very low frequency energy.* *Use on bass light tracks to add a new sub-bass line.*	*Dry – Dry signal only, no Infrabass,* *Mid – maximum Infrabass, full dry signal* *Fully Wet – Maximum Infrabass, dry signal attenuated by 40dB*	Min: 60Hz Mid: 120Hz Max: 160Hz *Sets the crossover frequency of the Bass spectrum*	*Infra bass gain. Reduces or increases the Infrabass level*	
Dicer *BPM level chopper, uses FX grid to enable numerous beat/bar patterns*	**Dry/wet** Dry Signal / Fully Wet chopped output	**Not used**	**Chop bar/beat time position** *Scroller moves the position of the 'FX Grid' chop pattern in the beat/bar.*	**Time** 'FX Grid' beat/bar pattern control of FX output level
Slice 'n' Dice *Distortion and Dicer in one FX.* *The Dicer only chops the distortion not the dry creating, pulsed BPM conscious distortion which you can mix with dry.*	**Dry/wet** Dry signal / Fully Wet chopped distorted output	**Hi-cut frequency** Min: 600Hz, dark LF distortion Mid: 2kHz, Max: 20kHz full bandwidth hi tone distortion. *HF cut of distortion harmonics.*	**Chop bar/beat time position** *Scroller moves the position of the 'FX Grid' chop pattern in the beat/bar.*	**Time** 'FX Grid' beat/bar pattern control of FX output level
Stutter *Beat fraction BPM conscious Chopper.* *Chopper time interval is even mark space, the time interval of the chopper is a beat fraction.*	**Dry/wet** Dry signal / Fully wet - chopped output	**Not used**	**Chop bar/beat time position** *Scroller moves the position of the chopper pattern in the beat/bar.*	**Time** *Beat fraction* *1/4 to 1/1 create great tremolo,* *1/64 to 1/8 create strobes*
Saturator *Versatile distorter with high HF content. Can add warmth with Dry/Wet at low settings, to sizzling, hard HF lead distortion, rich in harmonics at high setting.*	**Intensity** Dry Signal / Fully Wet Saturation	**Hi Frequency cut** Min: 600Hz Mid: 2kHz Max: 20kHz *HF cut of saturator harmonics.*	**LF Emphasis** Min: -6dB - Soft LF Mid: 0dB Max: +6dB – Hard LF *Works in conjunction with Wet/Dry control to contour the LF spectrum*	*Beat fraction* *-/- continuously on.* *1/64 to 4/1 "stutter" style*