Bass Station II v4.14
New Features User Guide

New Features:

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AFX Mode

AFX Mode allows multiple variations of patch parameters to be assigned to individual keys. This enables the user to effectively have a different patch on each key, bringing even more extensive possibilities to the Bass Station II. You could begin with your favourite patch and introduce subtle changes as you advance up the keyboard, prebuild drum sounds and assign them to given keys, use the Arpeggiator to structure overlays or even create full tracks entirely from the Bass Station II.

Overlays

An overlay contains a list of parameter values that are loaded on top of the patch. As soon as a key with an overlay is pressed, the parameter values stored in an overlay are recalled.

Overlays are arranged into banks of 25. Each bank of 25 overlays is positioned over the 25 notes of the two initial octaves of the BSII keyboard (when octave set to 0, C2 to C4). There are 8 banks of overlays, any of which can be loaded on top of any patch.

By default, no overlays are selected in each patch. To select a bank of overlays, hold **Function** and press the **Arp-Swing** key twice. Using the Patch < and > buttons, choose from o-0 (no overlays), and o-[1-8] (overlay banks 1-8).

To modify an overlay, press and hold the desired key and make some changes to the controls. The key will then exhibit the changes applied when pressed, all other keys will remain unaffected.

The banks of overlays are independent of the patches, allowing any bank of overlays to be recalled on any patch. For example, you can make changes to the overlays in bank 1 when using patch 1 and then recall the overlays in bank 1 on top of any other patch. The changes in bank 1 will then be applied to the selected patch, creating new variations on the patch.

By default, banks 1-4 contain preset overlays and banks 5-8 are left blank. When assigning a blank bank of overlays to a patch, the patch 'underneath' the overlay will be heard when first pressing a key.

Saving Overlays

Each bank of overlays must be saved individually. To do this, go to the overlay selection menu (by pressing Function + Arp-Swing twice) and press Save.

Any unsaved changes will be erased when changing an overlay bank. Changing patches may introduce a change to a different overlay bank.

The selected overlay bank is saved within the synth patch.

Individual overlays can only be saved as part of a bank. For individual overlay export, see the sysex support section

Clearing Overlays

Overlay banks can be cleared using Novation Components via the AFX Mode page. The default overlay banks can also be restored from this page.
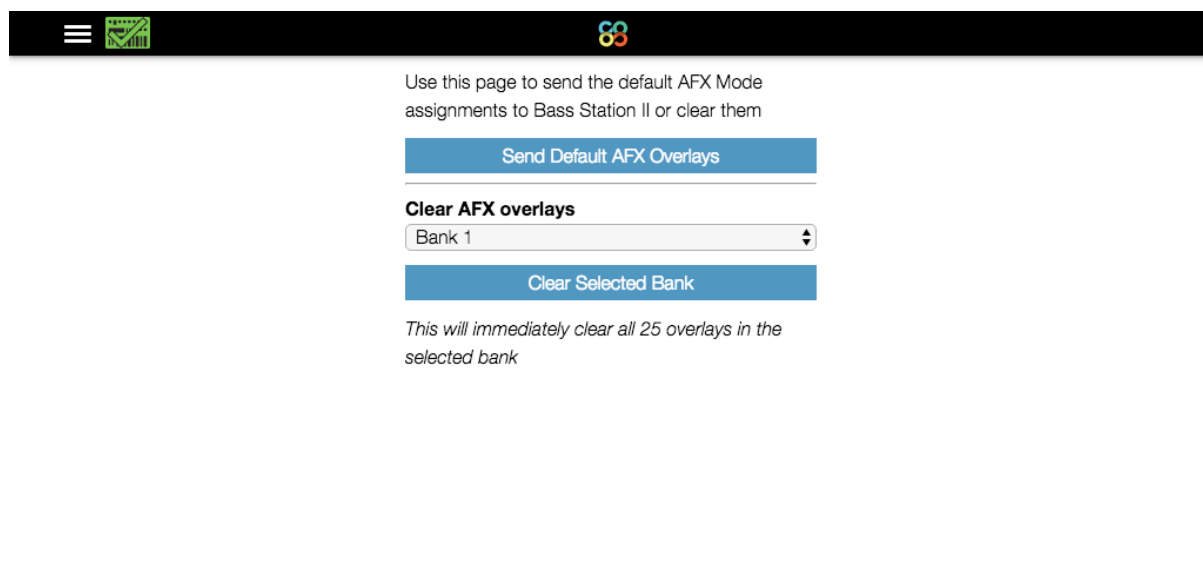
Individual overlays can be cleared individually via Sysex (see 'Sysex Support' below).

Copying Overlays

It is possible to copy and paste overlays from one note to another on the hardware.

Press and hold **Function**+**Transpose** (in that order) to enter copy-paste mode, this is only available when a bank of overlays is selected. Whilst holding **Function**+**Transpose**, press and hold a key to copy an overlay ("CPY" is shown on screen when the overlay is copied). With copied key still held, the overlay can then be pasted to any key by pressing the desired key ('PST' will be displayed on screen). An overlay can be pasted onto any number of keys.

Protecting Overlays

It's possible to write-protect your overlays to allow you to make performance changes to the synth without accidentally changing the overlays. To enable write-protection hold **Function** and press the **Seq-Retrig** key twice, then change r-0 (read-only disabled) to 1 (read-only enabled).

This write-protection applies only to the overlays.

Overlay Parameters

For a full list of the parameters stored in overlays see the table at the end of this document.

Overlay parameters are only those values that apply on a note-by-note basis. Arpeggiator settings and global (voice) settings are not included. Most surface controls and on-key parameters are included.

Sysex Support

AFX Mode has comprehensive sysex support.

Via sysex messages it's possible to export, import, copy, move and save the overlays. The current overlay bank and overlay write-protection can be changed using dedicated NRPNs.

Export

To dump/export an overlay over sysex, ensure the appropriate overlay bank is selected, then send the following request to the device:

0xF0 0x00 0x20 0x29 0x00 0x33 0x00 0x4F **0xnn** 0xF7

Where **0xnn** is the index of the overlay (0 – 24 where 0 corresponds to the C at the bottom of the home octave position).

The response to this message will be sysex of length 106 bytes. The sysex message received matches the format of the Import sysex message, allowing dumped overlay data to be later reinstalled.

Import

To import an overlay to BSII over sysex simply play the corresponding .syx file to the device using a MIDI librarian. The format of the message is:

0xF0 0x00 0x20 0x29 0x00 0x33 0x00 0x4e **0xnn** <data> 0xF7

Where **0xnn** is the index of the intended overlay (0-24).

Copy

The following sysex message copies an existing overlay from one position to another:

0xF0 0x00 0x20 0x29 0x00 0x33 0x00 0x4b **0xnn 0xmm** 0xF7

Where **0xnn** is the destination position and **0xmm** the source position. The source overlay is not affected by this operation.

Move

The following sysex message moves an existing overlay from one position to another. The source overlay is cleared after the move operation is carried out.

0xF0 0x00 0x20 0x29 0x00 0x33 0x00 0x4d **0xnn 0xmm** 0xF7

Where **0xnn** is the destination position and **0xmm** the source position.

Save Current Overlay Bank

The following message saves the current overlay bank to memory.

0xF0 0x00 0x20 0x29 0x00 0x33 0x00 0x4a 0xF7

Clear Current Overlay Bank

The following message clears the current overlay bank.

0xF0 0x00 0x20 0x29 0x00 0x33 0x00 0x49 0xF7

Note that this operation does not save the cleared bank, this must be performed separately.

Clear Single Overlay

The following message clears an individual overlay

0xF0 0x00 0x20 0x29 0x00 0x33 0x00 0x4c **0xnn** 0xF7

Where **0xnn** is the position of the overlay to be cleared (0-24).

Current Overlay Bank Selection

The overlay bank can be selected using NRPN 0:112.

Overlay Write Protection

Overlay write protection can be selected using NRPN 0:116.

Fixed-Duration Sustain Envelopes

A new feature has been added whereby the duration of the sustain period of each envelope can be fixed. When active, the envelope will move to the release stage a set period of time after entering the sustain stage, regardless of whether the triggering note is released or not. This can be helpful to produce envelopes that are not affected by how the note is played.

Once enabled, the decay stage is removed from the envelope. The decay slider will now determine the duration of the sustain stage of the envelope.
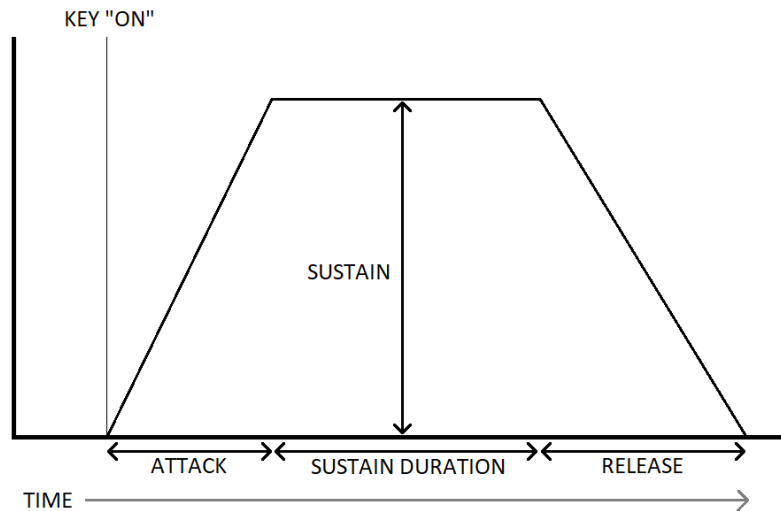
To change the envelopes to a fixed-duration mode, hold **Function** and press the **Amp-Env** or **Mod-Env** key four times (until the display changes to d-0). The fixed duration envelopes can be enabled on this page (d-1). When enabled, this overrides the envelope retriggering feature.

Fixed duration envelopes can be enabled/disabled using NPRNs 0:114 (amp envelope) and 0:115 (mod envelope). The timings can then be controlled using the standard decay controller.

Envelope Retriggering Count

As an extension to the retriggering envelope feature added in the 2.5 firmware update, re-triggering envelopes can be set to loop indefinitely, or up to 16 times.

Envelope Retriggering must be turned on for this feature to be effective. To turn on Envelope Retriggering, hold **Function** and press the **Amp-Env** or **Mod-Env** function keys twice (until the display changes to r-0), then use Patch </> buttons to select r-1. By default, the envelope will not retrigger.

To set the number of times the envelope will loop, hold **Function** and press the **Amp-Env** or **Mod-Env** key three times (until the display changes to c-0). When set to c-0 the envelope will loop indefinitely, this is the default setting. Select from c-[1-16] (using the Patch </> buttons) to set the number of loops from 1 to 16.

Envelope Retrigger Count can be configured using NRPNs 0:117 (amp envelope) and 0:118 (mod envelope)

Glide Divergence

By default, the same Glide time (portamento) is applied for all oscillators. It is now possible to introduce a customisable divergence between the glide times of the first and second oscillators.

To enable this feature, hold **Function** and press the **Input Gain** key twice (g-0) and select from g-[1-15] (using the Patch </> buttons). When glide divergence is enabled oscillator 2 will always glide more slowly than oscillator 1. The selected value determines how much slower oscillator 2 glides.

Oscillator glide divergence can be controlled using NPRN 0:113.

Extended Sub-Oscillator Tuning

The Sub-Oscillator slaves to the pitch of oscillator 1. It can now be detuned using the Coarse/Fine controls. This allows all 3 oscillators to be tuned to different pitches.

To adjust the tuning press and hold the **Function** key whilst adjusting the oscillator **Coarse/Fine** tune controls.

When the Sub-Oscillator detune is set to zero, it will match the detune of Oscillator 1, which is the default.

Sub-Oscillator Coarse can be controlled using NRPN 0:84. Sub-Oscillator Fine can be controlled using NRPN 0:77.

Overlay Parameter List

All of the following parameters can be stored in an overlay

Voice	Osc 1-2 Sync		Mod Env	Velocity
Osc 1	Waveform			Attack
	Pulse Width			Decay
	Range			Sustain
	Coarse			Release
	Fine			Trigger
Osc 2	Waveform			Retrigger
	Pulse Width			Fixed Duration
	Range			Retrigger Count
	Coarse		LFO 1	Waveform
	Fine			Delay
Sub-Osc	Wave			Slew
	Octave			Speed/Sync
	Coarse			Non-Sync Speed
	Fine			Sync Speed
Osc Extra	Tuning Error			Key Sync
	Glide Diverge		LFO 2	Waveform
Mixer	Osc 1			Delay
	Osc 2			Slew
	Sub-Osc			Speed/Sync
	Noise			Non-Sync Speed
	Ring Mod			Sync Speed
	External			Key Sync
Filter	Frequency		Aftertouch	Filter Freq
	Resonance			LFO 1 to Osc Pitch
	Overdrive			LFO 2 Speed
	Shape		LFO 1 >	Osc1 Pitch
	Type			Osc2 Pitch
	Slope			Sub-Osc Pitch
Amp Env	Velocity		LFO 2 >	Osc1 PW
	Attack			Osc2 PW
	Decay			Filter Freq
	Sustain		Mod Envelope >	Osc1 Pitch
	Release			Osc2 Pitch
	Trigger			Osc1 PW
	Retrigger			Osc2 PW
	Fixed Duration			Filter Freq
	Retrigger Count		Osc Filter Mod	Amount
			Distortion	Amount