XioSynth

USER GUIDE



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XioSynth

USER GUIDE

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Introduction and Credits

Thank you for purchasing the XioSynth. Before reading this User Guide, it is assumed that you have read the Getting Started Guide for the product and so have connected and powered up the keyboard and are aware of the basics of operation. If not, please read the Getting Started Guide before continuing with this User Guide.

As the XioSynth is designed with mainly patch playing in mind and only limited patch tweaking, despite being able to create and edit patches to a great extent, the User Guide does not explain all areas of the synthesizer in great detail. For more information about synthesis and the various sections of a Novation synthesizer, consult the X-Station User Guide, available for download at www.novationmusic.com.

All of the onboard patches have been created by or in conjunction with artists and sound designers across the globe. Special thanks go to: Kelvin Russel, James Zabiela, Ferry Corsten, Rennie Pilgrem, Roots Manuva, Shimon, Skeewiff, Olly Burke, Oli Cash, Lars Henning, Matt Derbyshire, Rob Jones, Mick Gilbert, Ian Jannaway, Nick Dowell and Dave Hodder.





Front Panel Features



1. Octave Up/Down buttons – Transpose the keyboard up and down whole octaves when in Synth or Controller mode. Also move the cursor left and right when naming Synth patches or Templates and using the X-Gator
2. Line Out and Phones Vol – control the level of the signal at the Line Outputs and Headphones Output on the Rear Panel, respectively
3. LCD Screen
4. PLAY button – changes between Synth and Controller modes
5. EDIT/COMPARE buttons – calls up EDIT Menus in MIDI Controlling mode. Also compares an edited patch with saved settings in Synth mode
6. WRITE button – saves settings
7. GLOBAL button – calls up Global Menus (there are two of these in Synth mode)
8. Tmp/bank/page buttons – cycle through Templates in Controller mode and Banks in Synth mode. Also move through different pages in Edit or Synth menus
9. Prog/data encoder – sends Program Change data (changes the onboard or software synth sound) in either PLAY mode (in Synth or MIDI controller mode). Also scrolls through options on each menu or Edit page
10. Menus/Audio button – press to select a Synth Menu with the buttons (lower LED will light) or press and hold to change Audio settings with the knobs (upper LED will light). In MIDI Controlling Mode, the Menus will be inactive, simply press once to change Audio settings with the knobs (upper LED will light)
11. Group A/B button – changes the function of the knobs in Synth Mode. Also cycles between Group A knobs/buttons and Group B knobs/buttons in MIDI Controlling mode
12. 11 buttons – Edit Synth parameters, call up Synth Menus. Also fully assignable buttons in MIDI Controlling mode
13. 11 knobs – Edit Synth parameters. Also fully assignable knobs in MIDI Controlling mode
14. Effect Select buttons – only active in Synth mode
15. Keyboard
16. X/Y Touchpad – Controls Filter (or other parameters) in Synth mode. Also 4 fully assignable controllers (2 on x-axis and 2 on y-axis) in MIDI Controlling mode
17. Pitch/mod Joystick – Controls pitch-bend and modulation in Synth mode. Also fully assignable joystick in MIDI Controlling mode



Rear Panel Features



1. PSU input – powers the XioSynth externally (only required if not powering over USB or with batteries)
2. Power select switch – cycles between PSU/battery, Off and USB power
3. USB Connection – sends/receives Audio and MIDI data, and receives power
4. MIDI Out port – sends MIDI data to external hardware
5. Sustain Pedal Input
6. Headphones Output
7. Unbalanced Line Outputs
8. Unbalanced Line Input
9. XLR Input (mic) – with phantom power



Synthesizing

Synth mode is selected with alternate presses of the PLAY button and synth patches are selected using the encoder to the right of the LCD screen, as detailed in the Getting Started Guide. Make sure that the Menus/Audio button has not been pressed if attempting to scroll to another sound, as the encoder is used to edit Synth or Audio Menu pages when either of the LEDs above the button are lit. The synth can then be played using the keyboard, joystick (pitch-bend/modulation) and Touchpad (filter frequency and resonance, or other parameters set in the 2-D controls Menu).

Editing a Synth Patch

Editing a Synth Patch can be done in a number of ways. The most popular synth parameters are accessed using the knobs and buttons, which are all labeled to show the parameters being adjusted. However, as there are only 11 of each, there is a button to change the function of the knobs. With the top LED illuminated, the knobs modify the upper row of parameters. Pressing the button to the left of the knobs will then change the knobs function to the lower row of parameters, as follows:

Press the Group A/B button to switch the function of the knobs between the upper and lower row of parameters



With the lower LED lit, the bottom row of parameters is active

Furthermore, to access the whole host of other Synth parameters available for editing, a serious of different Menus can be activated. For example, the oscillator section also has Octave select, portamento control and so on. To access these, the Osc Menu needs to be activated. This is done by pressing the Menus/Audio button, so that the lower LED lights, and then pressing the button directly above 'osc' as follows:

Once in Menus mode, press the button above osc (on the blue strip) to activate the Oscillators Menu



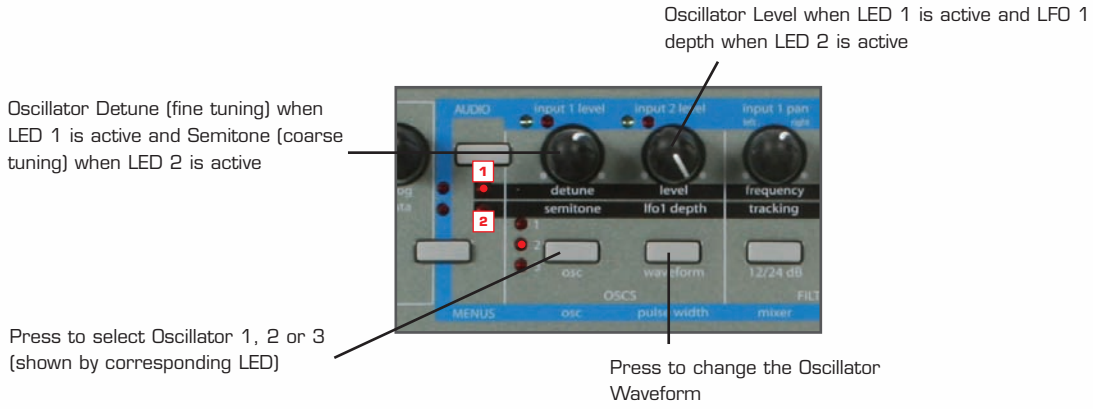
Press the Menus/Audio button to activate Menus mode (so that the bottom LED lights). Do not press and hold the button as this activates Audio mode

If the Menus/Audio button is held for too long, making the upper LED light (activating the Audio parameters across the knobs), then simply press it again to cancel and then once more to make the lower LED light.



The Oscillators (OSCS) Section/Menu

The XioSynth has three oscillators, a Noise generator and a Ring modulator. The oscillators are selected using the 'osc' button and indicated by the corresponding LEDs. For example, with the 2nd LED lit, the remaining three controls will adjust Oscillator 2, as follows:



The Waveforms available for each oscillator are four traditional waveforms:

SINE, TRIANGLE, SAWTOOTH, SQUARE/PULSE

Four Noise Types:

WHITE NOISE, HP NOISE, BP NOISE, HBP NOISE

And nine digitally sampled waveforms to help construct more traditional instruments or percussive sounds:

ORGAN, HARPSICHORD, ELECPIANO, SLAP BASS, RHOD PIANO, RHOD TINE, WHURLY EP, CLAVINET, ANA BASS.

The remaining Oscillator controls are adjusted in the Oscillator Menu, accessed by pressing the Menus/Audio button (so that the lower LED lights) followed by the button above 'osc'. Once in the Oscillator Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

OSC Portamento – sets the portamento (sliding between notes) of the Oscillators to a value between 0 and 127

OSC1ModEnv>Pitch – controls how much the Oscillator 1 pitch is modulated by the Modulation Envelope – negative and positive values have opposite effects on the pitch (falling then rising and vice versa, respectively) – set between -64 and +63, where 0 has no effect

OSC2ModEnv>Pitch – controls how much the Oscillator 2 pitch is modulated by the Modulation Envelope (see above)

OSC3ModEnv>Pitch – controls how much the Oscillator 3 pitch is modulated by the Modulation Envelope (see above)

OSC Osc1 Octave – sets the octave of Oscillator 1 between -1 and +2

OSC Osc2 Octave – sets the octave of Oscillator 2 between -1 and +2

OSC Osc3 Octave – sets the octave of Oscillator 3 between -1 and +2

OSC Poly Mode – sets whether the synth plays monophonically or polyphonically. Choose from the following options:

> **Mono –** Monophonic (only one note heard at any time)
>
> **Mono AG –** Monophonic with Auto Glide (automatic portamento when a note is pressed before the previous one is released)
>
> **Poly 1 –** Polyphonic 1 allows multiple notes to be played and will stack up repeated presses of the same note (getting louder and louder)
>
> **Poly 2 –** Polyphonic 2 allows multiple notes to be played but does not stack up repeated presses of the same note

OSC Unison – allows multiple voices to be used for each note, e.g. pressing one key makes up to 8 voices (8 x the signal from the Oscillators) sound rather than just one

OSC Uni Detune – if using the previous Unison option, this page allows the voices to be detuned with respect to one another. Increase as desired

OSC Vco Drift – sets how much the Oscillators pitch drifts. A good way of emulating old analogue synths that went out of tune as they heated up

OSC Preglide – applies up to an octave pitch slide up (negative value) or down (positive value) to the note when a key is pressed. The time taken for the pitch slide is controlled by the OSC Portamento (first page of this Menu). 127 sets an obvious preglide but at 0 no preglilde will be heard

OSC Porta Mode – sets the type of portamento used. Linear portamento slides between pitches at an equal rate whereas with exponential, the rate of sweep decreases throughout the duration

OSC Start Phase – allows the precise start point of the oscillator waveform to be determined, useful if simulating more percussive or plucked sounds for example. Set to OFF, the start point will be random. Set at 1, the waveform will start at 0 degrees. Each increment will increase the start point by around 3 degrees

OSC 1>2 Sync – allows oscillator 1 and 2 to be synchronised, often creating piercing, metallic effects. If oscillator 2 has a higher frequency (pitch) then it will take the frequency of oscillator 1 but add interesting harmonics due to the repeatedly interrupted waveform



OSC 23 FM Level – increases the amount that oscillator 3 is Frequency Modulated by oscillator 2, making the sound more metallic

OSC 2>3 FM ADEnv – increases the amount that the Frequency Modulation (set in the previous option) is modulated by the AD Envelope (envelope 3 of the XioSynth – see the Envelopes section for details). This allows a sound with more interesting harmonics at the start to be created

OSC 2>3 FM Lfo1 – allows the FM set in the previous FM Level option to be modulated by LFO 1

OSC Fixed Note – sets a fixed note (the same pitch) to be played by every key on the XioSynth. A 0 setting has no effect. 1-127 set the corresponding MIDI Note value

The remaining Oscillator controls can be found in the Pulse Width and Mixer Menus.



The Pulse Width Menu

The Pulse Width Menu allows the pulse width settings for the three oscillators to be set. This increases/decreases the amount of time the waveform spends in a high or low state, to change the sound of the waveform. The Pulse Width Menu is accessed by pressing the Menus/Audio button (so that the lower LED lights) followed by the button above 'pulse width'. Once in the Pulse Width Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

PW Osc1 Position – increases/decreases the pulse width of Oscillator 1

PW Osc1 Lfo2>PW – sets the amount that the pulse width of Oscillator 1 is modulated by LFO2

PW Osc1 ModEnv> – sets the amount that the pulse width of Oscillator 1 is modulated by the Modulation Envelope

PW Osc2 Position – increases/decreases the pulse width of Oscillator 2

PW Osc2 Lfo2>PW – sets the amount that the pulse width of Oscillator 2 is modulated by LFO2

PW Osc2 ModEnv> – sets the amount that the pulse width of Oscillator 2 is modulated by the Modulation Envelope

PW Osc3 Position – increases/decreases the pulse width of Oscillator 3

PW Osc3 Lfo2>PW – sets the amount that the pulse width of Oscillator 3 is modulated by LFO2

PW Osc3 ModEnv> – sets the amount that the pulse width of Oscillator 3 is modulated by the Modulation Envelope



The Mixer Menu

The Mixer Menu contains the remaining controls for Oscillator levels and mixing. The menu is accessed by pressing the Menus/Audio button (so that the lower LED lights) followed by the button above 'mixer'. Once in the Mixer Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

MIX Output Level – sets the Level of the signal at the output of the Oscillators section

MIX Noise Level – sets the level of the Noise generator in the Oscillators section

MIX Ring12 Level – sets the amount of Ring Modulation between Oscillator 1 and 2. This multiplies the two waveforms together to create a metallic (or bell-like) effect – the sound of the Daleks!

MIX Lfo1>Osc1 – sets the amount of modulation applied from LFO1 to Oscillator 1

MIX Lfo2>Osc1 – sets the amount of modulation applied from LFO2 to Oscillator 1

MIX Lfo2>Osc2 – sets the amount of modulation applied from LFO2 to Oscillator 2

MIX A/D Env>Osc3 – sets the amount of modulation applied from the AD Envelope to Oscillator 3

MIX Lfo1>Noise – sets the amount of modulation applied from LFO1 to the Noise Generator

Mix Lfo1>Ring12 – sets the amount of modulation applied from LFO1 to the Ring Modulator

MIX Noise Type – sets the Noise Type

WHITE – White Noise

HP – High-pass Noise

BP – Band-pass Noise

HP*BP – High-pass and band-pass (combined effect)

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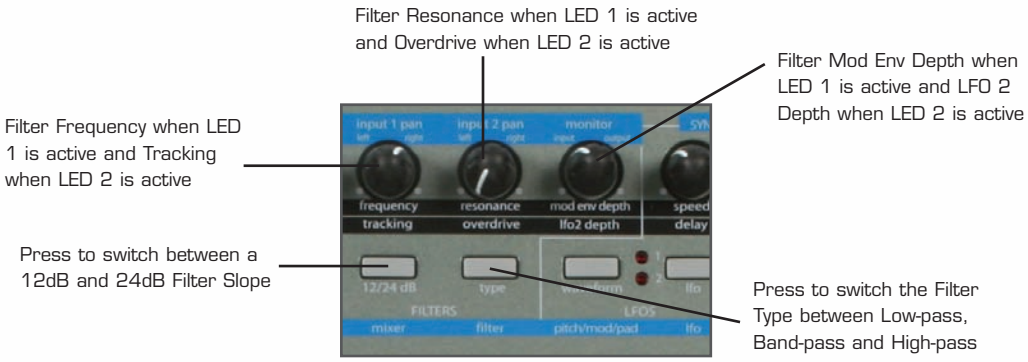
The Filters Section/Menu

The Filters section receives the signal from the Oscillators section (whether that be one oscillator or all three) and allows that signal to be shaped. The signal can be shaped by a High-pass (where low frequencies can be removed), Low-pass (where high frequencies can be removed) or Band-pass (where only a small band of frequencies remains) filter. To select the filter type, press the right hand button, and then adjust the filter using the remaining controls as follows:



Frequency – sets the cut-off frequency of the high/low-pass filter or the centre frequency of the band-pass filter

Tracking – sets the amount that the resonance of the filter follows the pitch of the key being pressed. At 0, the resonance will always have the same character

Resonance – sets the level of resonance (overtones/harmonics) of the filter. Increasing this value adds character to the sound

Overdrive – increases the filter Overdrive, making the sound richer and more distorted

Mod Env Depth – sets the amount that the Filter Frequency is modulated by the Modulation Envelope in either direction. A level of 0 will have no effect

LFO2 Depth – sets the amount that the Filter Frequency is modulated by LFO2

The remaining Filter controls are adjusted in the Filter Menu, accessed by pressing the Menus/Audio button (so that the lower LED lights) followed by the button above 'filter'. Once in the Filter Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

FILT Shape – changes the shape of the Filter to increase the amount of distortion and harmonics

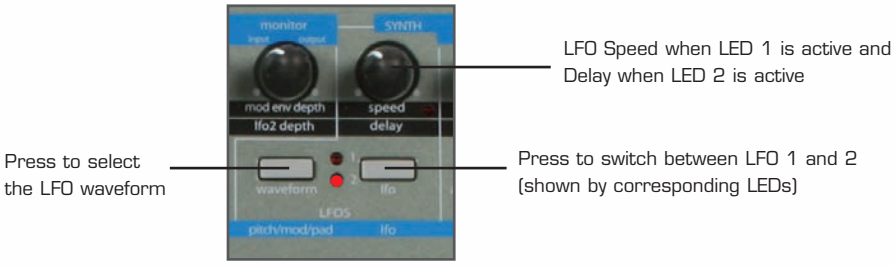
FILT Velocity – sets how much velocity controls the Filter Frequency. A negative value makes the frequency decrease with increased velocity, whereas a positive value has the opposite effect. Increase the value in either direction to increase the effect

FILT Q Normalise – sets the amount of resonance normalisation. At 0, the signal will remain at normal level when resonance is applied. Increasing the value, makes the signal level reduce in relation to the resonance



The LFOs Section/Menu

The LFOs (Low Frequency Oscillators) section allows the settings for either of the LFOs to be edited. LFO1 can be used to modulate the Oscillators and LFO2 the Filter. As there are two LFOs, there is a button for selecting which one is being controlled, indicated by the active corresponding LED. For example, with LED 2 active, the remaining controls modify the LFO as follows:



Speed – sets the speed of the selected LFO

Delay – sets the delay of the selected LFO (the amount of time before the LFO starts). Useful for applying vibrato

The available waveforms are:

SINE, TRIANGLE, SAWTOOTH, SQUARE, RANDOM S/H (Sample and Hold), QUANT (Quantize) S/H, CROSSFADE, EXP (Exponential) DECAYS 1-3, ATTACK EXP 1-3, SUST EXPS 1-3, PIANO ENV 1-3, EXP UPDOWN, CHROMATIC, MAJOR MODES, MAJOR-7, PATTERNS 1-9

The CHROMATIC, MAJOR MODES and MAJOR-7 waveforms can be useful if used for LFO 1. This can be used to make an Oscillator play a scale by just holding down a key. If doing this, make sure the LFO1 Depth knob in the Oscillator section is set to + or – 30, so that the scale is in key.

The remaining LFO controls are adjusted in the LFO Menu, accessed by pressing the Menus/Audio button (so that the lower LED lights) followed by the button above 'lfo'. Once in the LFO Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

LFO1 Velocity – sets the amount that velocity controls LFO1. Setting a positive value makes LFO1 increase with velocity, whereas setting a negative value has the opposite effect. Increase the value to increase the effect

LFO1 MonoDelTrig – allows a different LFO effect to be applied when in either Monophonic mode. For example, if wanting a delayed vibrato only on the first note of a musical phrase, set this to SGL (single). However, if wanting a delay on every note, set this to MLT (multi)

LFO1 Keysync – synchronises LFO1 to the keyboard. Set to ON, each key press will retrigger the LFO

LFO1 Init Phase – sets a different start point for the LFO waveform when the previous option (Keysync) is set to ON



LFO1 Unipolar – sets whether the LFO modulates in a positive and negative direction (set to OFF) or just in a positive direction (set to ON)

LFO1 Common – allows the LFO applied to each of the eight voices to be phase locked, creating a more unnatural sound. Note that with this set to ON, the Keysync page will have no effect. Instead, the Synth Global Sync option in the Synth Global Menu will override it

LFO1 One-Shot – makes the LFO cycle through its waveform only once and then stop, when set to ON

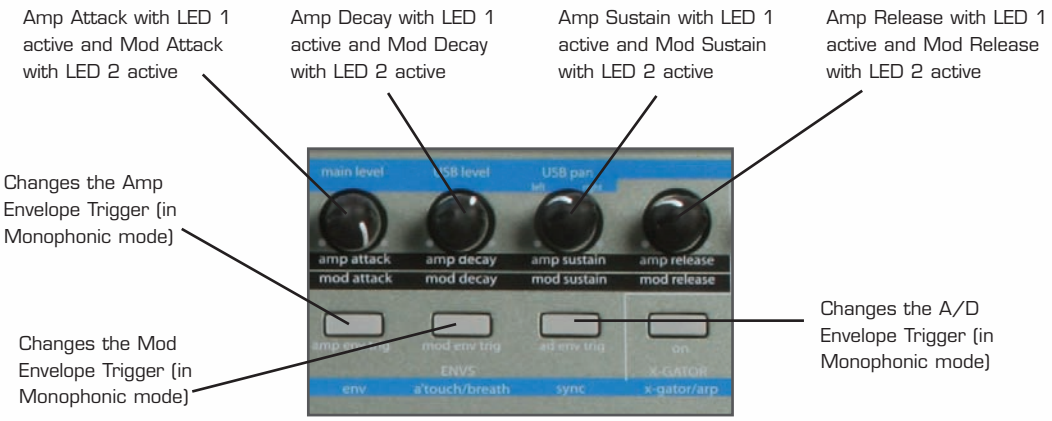
LFO2 Velocity – sets the amount that velocity controls LFO2. Setting a positive value makes LFO2 increase with velocity, whereas setting a negative value has the opposite effect. Increase the value to increase the effect

LFO2 MonoDelTrig – allows a different LFO effect to be applied when in either Monophonic mode. For example, if wanting a delayed vibrato only on the first note of a musical phrase, set this to SGL (single). However, if wanting a delay on every note, set this to MLT (multi)

…and the same as the remainder of options for LFO1.



The Envelopes (ENVS) Section/Menu



The Envelopes section allows the Amplitude, Modulation and A/D (Attack/Decay) Envelopes to be adjusted. The Amplitude Envelope is the level of the signal from the Oscillators section over time. The Modulation Envelope can be used to control three other area of the synth: Oscillator pitch, Oscillator pulse width and Filter frequency – each with individual settings in the respective sections or menus. The A/D Envelope can be used to modulate Oscillator 3 and control the FM amount. The options for AMP and MOD envelopes are as follows:

Attack – sets the amount of time taken for the envelope to reach maximum level

Decay – sets the amount of time taken for the envelope to fall to the sustain level after maximum level has been reached

Sustain – sets the level when a note is held down after the decay period

Release – sets the amount of time taken for the level to decrease when a note is released

The three buttons can be used to set the Trigger of each envelope. This sets whether or not an envelope is triggered with every key press, and is only applicable when the Oscillator section is in Monophonic Mode (see the Oscillators section for details). For example, you may want the AMP envelope to only be triggered on the first note of a legato phrase (so the phrase gets progressively quieter) but the MOD envelope to be triggered on every key press; in this case, the AMP ENV TRIG should be set to SGL (Single) and the MOD ENV TRIG to MLT (Multi). Press each button to alternate between these states.

The remaining Envelope controls are adjusted in the Envelopes Menu, accessed by pressing the Menus/Audio button (so that the lower LED lights) followed by the button above 'env'. Once in the Envelopes Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

ENV Amp Velocity – sets the amount that velocity effects the volume of the sound. Setting a negative value has the opposite effect (decreasing when pressed harder)



ENV Mod Velocity – sets the amount that velocity effects the level of the Modulation Envelope. Setting a negative value has the opposite effect (decreases when pressed harder)

ENV A/D Velocity – sets the amount that velocity effects the level of the A/D Envelope (Envelope 3). Setting a negative value has the opposite effect (decreasing when pressed harder)

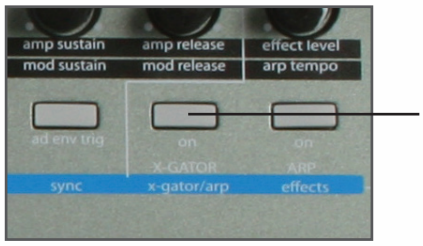
ENV A/D Attack – sets the Attack time of the A/D (Attack/Decay) Envelope

ENV A/D Decay – sets the Decay time of the A/D (Attack/Decay) Envelope



The X-Gator Menu

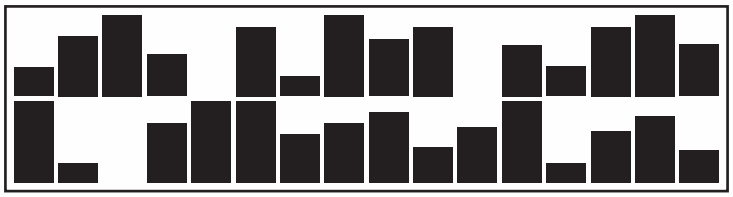
The X-Gator is turned On and Off, as well as latched (by pressing and holding), using the button above X-GATOR as follows:



Press to turn the X-Gator On and Off, press and hold to latch the X-Gator

The X-Gator is a patch programmer that literally gates the synth sound over time to allow patterns to be created. These patterns are set in a 32-step sequencer in the X-Gator Menu, where the remaining X-Gator parameters can be edited. The X-Gator Menu is accessed by pressing the Menus/Audio button (so that the lower LED lights) followed by the button above 'x-gator/arp'. Pressing this button, alternates between the X-Gator and Arp Menus so make sure you can see one of the pages below to ensure you are in the correct Menu. Once in the X-Gator Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

Page 1 allows the X-Gator pattern to be set:



Use the x-g buttons (also the Octave buttons) on the XioSynth to move the cursor through the 32 steps and the encoder to increase/decrease the level of each step.

XGATE Latch – sets the X-Gator Latch to ON or OFF

XGATE Mode – sets the mode of the X-Gator

MONO 16 – repeats the first 16 steps

MONO-ALT 1 – repeats all 32 steps

MONO-ALT 2 – plays the first 16 steps twice then plays the next 16 steps twice, then repeats

STEREO 16 – pans the first 16 steps (repeated)

ST-SWAP 1 – pans the first 16 steps in an alternating sequence - left then right etc. (repeated)

ST-SWAP 2 – pans the first 16 steps in a different alternating sequence (repeated)



XGATE Level – sets the level of the X-Gator

XGATE Edge – sets the edge of the X-Gator. Increase to soften and make the effect smoother

XGATE Decay – sets the decay time of each step. Below 64 shortens and above 64 lengthens

XGATE Delay – increases/decreases the amount of delay on the X-Gator

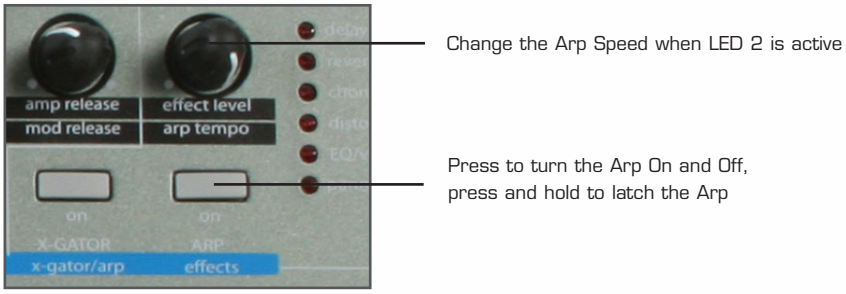
XGATE Keysync – synchronises the X-Gator start with each key press. Set to OFF to make the X-Gator run freely

The X-Gator tempo can be set in the Sync Menu (see the Sync Menu section for details).



The Arpeggiator Section/Menu

The Arpeggiator controls allow the Arpeggiator to be turned on and off, latched (by pressing and holding) and the speed to be set, as follows:



Note that the speed will be overridden by the Arp tempo set in the Sync Menu (see the Sync Menu section for details) if the XioSynth is synchronising to MIDI clock (received over USB). The XioSynth will synchronise automatically unless the MIDI Clock Sync option is changed in the Synth Global Menu (see the Synth Global Menu section for details).

The remaining Arpeggiator controls are adjusted in the Arpeggiator Menu. The Arpeggiator Menu is accessed by pressing the Menus/Audio button (so that the lower LED lights) followed by the button above 'x-gator/arp'. Pressing this button, alternates between the X-Gator and Arp Menus so make sure you can see one of the pages below to ensure you are in the correct Menu. Once in the ArpMenu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

ARP Mode – sets the Arpeggiator pattern to various up and down combinations (UP, DOWN, UP-DOWN 1, UP-DOWN 2), as played (PLAYED), randomly (RANDOM) or a chord of any notes pressed (CHORD)

ARP Latch – turns the Arpeggiator latch ON and OFF. Setting to ON makes the Arpeggiator sustain after a note is pressed

ARP Octaves – sets the number of octaves that the arpeggiator spans across from 1 to 4

ARP Pattern – sets the Arpeggiator to play a rhythmic pattern. Choose between 32 options

ARP Pattern Vel – sets the velocity of notes within the Arpeggiator pattern to follow the velocity of notes being played. Set to OFF to make the Arpeggiator pattern follow preset velocities

ARP Gate Time – sets the gate time (duration) of Arp notes. Set to a small value to make the notes more staccato. Increase to create a legato effect

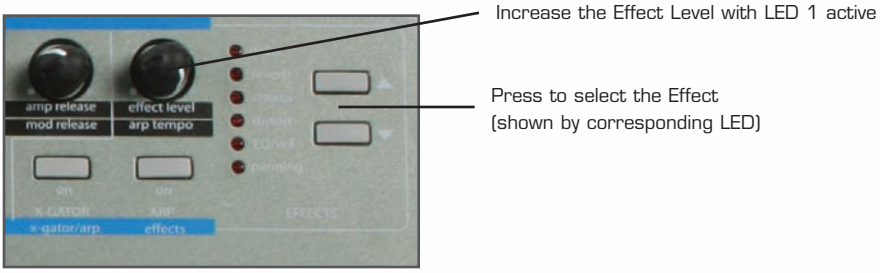
ARP Keysync – synchronises the Arp to each note press

ARP Notes – allows the Arpeggiator MIDI data (Note On/Off messages) to be sent to a number of destinations: INT (Internal Sound Engine), EXT (MIDI Output) or I+E (both)



The Effects Section/Menu

The Effects controls are used to apply any or all of the Effects (Delay, Reverb, Chorus/Phaser, Distortion, EQ/Vol and Panning) to the Synthesizer. Effects are applied using the Effect Select buttons and Effect Level knob as follows:



Delay – adds a delayed version of the signal (like an echo) a certain time after the original. This can be made to repeat many times if required (determined by the Feedback level)

Reverb – sets the amount of reverberant (reflected) sound to simulate an environment like a performance hall or small chamber

Chorus/Phaser – adds a repetition of the original signal with a variable delay to create the effect of multiple voices (hence chorus). The Phaser adds a repetition of the original signal with variable phase to create a swirling effect

Distortion – adds distortion (loud overtones) to the signal to create a heavier sound

EQ/Vol – increases/decreases the level of Low (as default), Mid or High (within the Menu) Frequencies. Also sets the MIDI Volume (within the Menu)

Panning – allows the sound to bounce from left to right. Increasing the level of this Effect increases the amount of stereo panning (PAN Mod Depth)

The remaining parameters for each effect can be accessed in each of the Effects' Menus. Note that there are 6 different Effects' Menus, all accessed in the same way but dependent on what Effect LED is active on the XioSynth. For example, if wanting to edit the remaining parameters for Delay, use the Effect Select buttons (shown above) to select Delay then press the Menus/Audio button (so that the lower LED lights) followed by the button above 'effects'. Once in the Delay (Effects) Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

DEL Delay Time – sets the length of the Delay

DEL Feedback – sets the amount of Feedback (the length of time for which the Delay continues)

DEL Stereo Width – sets the stereo width of the Delay



DEL L/R Ratio – sets the delay ratio between Left and Right channels
Whilst in the Effects Menu, you can move to another Effect simply by selecting it with the Effect Select buttons shown in the diagram above. For example, to access the Reverb parameters from the Delay Menu, press the downward Effect Select button so that the Reverb LED lights. Now, use the page up/down buttons next to the LCD screen to cycle through the following pages:

REV Type – sets the type of Reverb between: Chamber, S-Room (Small Room), L-Room (Large Room), S-Hall (Small Hall), L-Hall (Large Hall), G-Hall (Giant Hall)

REV Decay Time – sets the amount of time taken for the Reverb to decay

To view the Chorus parameters, press the downward Effect Select button once more so that the Chorus LED is active. Once in the Chorus (Effects) Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

CHOR Type – selects either CHORUS or PHASER mode

CHOR Mod Rate – sets the rate of Chorus modulation

CHOR Mod Depth – sets the amount of Chorus modulation

CHOR Centre Posn – shifts the centre point of the Chorus modulation between either extreme (dependent on the previous Depth setting)

CHOR Feedback – sets the amount of Feedback. It is normally advisable to have low levels of feedback when in Chorus mode and higher levels in Phaser mode

CHOR Init Posn – sets the Chorus start point to Left, Right, Middle or Off (where there is no defined start point)

To view the Distortion parameters, press the downward Effect Select button once more so that the Distort LED is active. Once in the Distortion (Effects) Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

DIST Compensate – compensates for/decreases the level overload caused by the Distortion

DIST Output Lvl – compensation can cause the overall level to be low so this page allows the level to be increased

To view the EQ/Vol parameters, press the downward Effect Select button once more so that the EQ/Vol LED is active. Once in the EQ/Vol (Effects) Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

EQ Mid – increases/decreases the level of Mid Frequencies

EQ Treble – increases/decreases the level of High Frequencies



MIDI Volume – sets the MIDI Volume from 0 to 127

To view the Panning parameters, press the downward Effect Select button once more so that the Panning LED is active. Once in the Panning (Effects) Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

PAN Position – sets the permanent pan position from fully left (-64) to fully right (+63)

PAN Mod Rate – sets the rate at which the signal oscillates between left and right extremes

PAN Init Posn – sets the start point of the signal to Left, Middle or Right. Setting to OFF makes the signal begin in a random position, unless no panning modulation is occurring

Delay, Chorus and Panning effects can all be synchronised to MIDI clock from the sequencer (received over USB). This is set up in the Sync Menu (see the Sync Menu section for details).



The 2-D controls Menu (Xpression pad and stick)

The 2-D controls Menu allows the function of the Xpression pad and joystick to be edited. All preset synth patches have the Xpression pad set up on the filter frequency (x-axis) and resonance (y-axis) but this can be changed within this Menu. Similarly, the joystick horizontal function and vertical function can be set.

To access the 2-D controls Menu, press the Menus/Audio button (so that the lower LED lights) followed by the button above 'pitch/mod/pad'. Once in the 2-D Controls Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

BW Osc1 Bend – sets the amount of pitch bend across the joystick (horizontal motion) for oscillator 1 between -12 and +12 semitones

BW Osc2 Bend – sets the amount of pitch bend across the joystick (horizontal motion) for oscillator 2 between -12 and +12 semitones

BW Osc3 Bend – sets the amount of pitch bend across the joystick (horizontal motion) for oscillator 3 between -12 and +12 semitones

MW Pitch Direct – increases/decreases the amount of Oscillator pitch variation in semitones when modulation (joystick vertical motion) is increased

MW Pitch Mod – sets the amount that modulation (joystick vertical motion) results in LFO1 modulating Oscillator pitch

MW Filter Freq – sets the amount that modulation (joystick vertical motion) affects the filter frequency. A negative value decreases the filter frequency as modulation is increased and a positive value increases it

MW Filter Freq Mod – sets the amount that modulation (joystick vertical motion) results in LFO2 modulating the filter frequency

MW Output Level – allows modulation (joystick vertical motion) to control the overall output level. A positive value makes the volume increase with modulation and a negative value makes the volume decrease

MW Delay Level – allows modulation to control the send level to the Delay effect. A positive value will increase the send level and a negative one will decrease it

MW Reverb Level – allows modulation to control the send level to the Reverb effect. A positive value will increase the send level and a negative one will decrease it

MW Chorus Level – allows modulation to control the send level to the Chorus effect. A positive value will increase the send level and a negative one will decrease it

MW Distort Level – allows modulation to control the send level to the Distortion effect. A positive value will increase the send level and a negative one will decrease it



Touchpad X Type – sets the Action of the Touchpad to: No Spring (value remains at the last contact point), Spring Left (value jumps to the extreme left value when contact with the pad is ended), Spring Centre (value jumps to the centre value when contact with the pad is ended)

Touchpad Y Type – sets the Action of the Touchpad to: No Spring (value remains at the last contact point), Spring Down (value jumps to the bottom value when contact with the pad is ended), Spring Centre (value jumps to the centre value when contact with the pad is ended)

Touchpad X Assign – sets the parameter controlled by the Touchpad x-axis between:

OFF – no control

BEND – pitch-bend

MOD - modulation

AFTERTOUCH - aftertouch

BREATH - breath

FILTER FREQ – filter frequency

FILTER RES – filter resonance

LFO1 RATE – speed of LFO1

LFO2 RATE – speed of LFO2

LFO2>FILTF – amount that LFO2 modulates the Filter Frequency

Touchpad Y Assign – sets the parameter controlled by the Touchpad y-axis between the identical parameters above



The Aftertouch And Breath Menu

This Menu allows the Aftertouch and Breath settings to be edited. Although the XioSynth keyboard does not have Aftertouch, it can be assigned to the Touchpad to allow effects to be created. The Breath settings determine how the XioSynth will respond to Breath (CC2) Messages, normally received from a MIDI wind instrument. Again, Breath can be assigned to either Touchpad axis and both Breath and Aftertouch messages can be received over USB.

To access the Aftertouch and Breath Menu, press the Menus/Audio button (so that the lower LED lights) followed by the button above 'a'touch/breath'. Once in the Aftertouch and Breath Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

AT Pitch Direct – increases/decreases the amount of Oscillator pitch variation in semitones when aftertouch is applied

AT Pitch Mod – sets the amount that aftertouch results in LFO1 modulating Oscillator pitch

AT Filter Freq – sets the amount that aftertouch affects the filter frequency. A negative value decreases the filter frequency as aftertouch is increased and a positive value increases it

AT Filter Freq Mod – sets the amount that aftertouch results in LFO2 modulating the filter frequency

AT Output Level – allows aftertouch to control the overall output level. A positive value makes the volume increase with modulation and a negative value makes the volume decrease

BR Pitch Direct – increases/decreases the amount of Oscillator pitch variation in semitones when breath is applied

BR Pitch Mod – sets the amount that breath results in LFO1 modulating Oscillator pitch

…followed by the remaining options for Aftertouch.



The Sync Menu

The Sync Menu allows the X-Gator, Arpeggiator, LFOs and Effects to all be synchronised to MIDI clock. This can be an external MIDI clock (from a sequencer for example) or the internal MIDI clock of the XioSynth, the speed of which is determined by the Arp Tempo knob. The XioSynth default settings mean that the keyboard will automatically lock to incoming MIDI clock. To change this setting, go to the Synth Global Menu (see the next section for details).

To access the Sync Menu, press the Menus/Audio button (so that the lower LED lights) followed by the button above 'sync'. Once in the Sync Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

SYNC Xgate Tempo – sets a tempo for the X-Gator (relative to the MIDI clock) to fractions of 1 bar, beginning at a 64th. On this page, T stands for Triplet and D for Dotted, allowing two more syncopated rhythmic options

SYNC Arp Tempo – sets a tempo for the Arpeggiator (relative to the MIDI clock) to fractions of 1 bar, beginning at a 32nd. On this page, T stands for Triplet and D for Dotted, allowing two more syncopated rhythmic options

SYNC Lfo1 Delay – sets a tempo for LFO1 Delay (relative to the MIDI clock) to fractions or multiples of 1 bar, beginning at a 32nd. On this page, T stands for Triplet and D for Dotted, allowing two more syncopated rhythmic options

SYNC Lfo1 Speed – sets a tempo for LFO1 Speed (relative to the MIDI clock) to fractions or multiples of 1 bar, beginning at a 32nd. On this page, T stands for Triplet and D for Dotted, allowing two more syncopated rhythmic options

SYNC Lfo2 Delay – sets a tempo for LFO2 Delay (relative to the MIDI clock) to fractions or multiples of 1 bar, beginning at a 32nd. On this page, T stands for Triplet and D for Dotted, allowing two more syncopated rhythmic options

SYNC Lfo2 Speed – sets a tempo for LFO2 Speed (relative to the MIDI clock) to fractions or multiples of 1 bar, beginning at a 32nd. On this page, T stands for Triplet and D for Dotted, allowing two more syncopated rhythmic options

SYNC Delay Time – sets a tempo for the Delay effect (relative to the MIDI clock) to fractions or multiples of 1 bar, beginning at a 32nd. On this page, T stands for Triplet and D for Dotted, allowing two more syncopated rhythmic options

SYNC Chor Rate – sets a tempo for the Chorus effect (relative to the MIDI clock) to fractions or multiples of 1 bar, beginning at a 32nd. On this page, T stands for Triplet and D for Dotted, allowing two more syncopated rhythmic options

SYNC Pan Rate – sets a tempo for Panning (relative to the MIDI clock) to fractions or multiples of 1 bar, beginning at a 32nd. On this page, T stands for Triplet and D for Dotted, allowing two more syncopated rhythmic options



Global Menu in Synth Mode

There are two Global Menus in Synth Mode, accessed by alternate presses of the GLOBAL button. The first is the standard Global Menu, accessed from Synth or MIDI Controlling Mode, and the second is the Synth Global Menu, just accessed whilst in Synth Mode. Within the Synth Global Menu, the general Synth settings, such as MIDI channel, port routing and transposition, can all be modified.

To access the Synth Global Menu, press the GLOBAL button twice, ensuring that one of the options below is displayed. Then, once in the Synth Global Menu, use the page up/down buttons next to the LCD screen to cycle through the following pages, using the data encoder to change the settings for each page:

Synth Midi Chan – sets the MIDI channel that the synth responds to. This defaults to 16

Synth Out Ports – sets the port routing for synth MIDI data to the USB, MIDI Out, both or neither

Def SampleRate – sets the sample rate of synthesizer audio transmitted over USB to 44.1 or 48kHz (dependant on your session)

Synth Tune Cents – allows fine tuning of the synthesizer. At +63, the pitch will be a semitone above the played note. At -64, the pitch will be a semitone below. At 0, the pitch will be unaffected

Synth Transpose – transposes the synthesizer pitch in whole semitones. Positive values increases, negative values decreases

Synth Glob Sync – allows the synthesizer (effects etc.) to be synchronised to the first note pressed after notes are released, a program change message or a song start message. This means that effects can have their start time linked to the start of a song for stunning effects

Synth Vel Curve – sets the Velocity Curve of the synthesizer to a curve from 1-7 (see the Template Common section for Velociy Curve Graphs) or to a constant value between 8 and 127

Synth Vel Resp – sets the response of the Velocity to SOFT (where softer playing will create low and high velocities) or HARD (where harder playing will be required to create the same dynamic range)

Syn Local Cntrl – determines whether the XioSynth keys and controls affect the onboard synthesizer. Useful if wanting to use the synth to send MIDI data but not be played whilst doing so. However, the XioSynth's hybrid modes mean that it's probably better to remain in MIDI controlling mode if wanting to utilise the full potential of the keyboard

Midi Clock Sync – sets the MIDI clock to AUTO (automatic synchronisation to MIDI clock received over USB), INT (Internal MIDI clock) or EXT (External MIDI clock)

Synth Mode (Input) Mute - allows either or both of the Inputs to be muted when in Synth Mode



Routing MIDI to and from the Synth

The XioSynth is an incredibly flexible instrument that can be used to send MIDI data to a sequencer or external hardware, and also receive MIDI data and be played simultaneously. (For more information about playing the Synth in MIDI Controlling mode, read the corresponding Hybrid mode section of this User Guide.)

Although it is advised to use Hybrid mode (using the Synth whilst in MIDI Controlling mode) if wanting to send MIDI data from the XioSynth keys and controls whilst the sequencer is playing the keyboard's Synth, it can be done whilst in Synth Mode. Firstly, make sure that the sequencer track sending MIDI Data is transmitting on channel 16. This is the default channel in the Synth Global Menu. Now, turn Local Control off by pressing the GLOBAL button twice to access the Synth Global Menu and scrolling to the relevant page, as outlined in the previous section.

With these settings, the keyboard's Synth will respond to MIDI information from the sequencer but not to its own keys and controls. To change the port routing that the MIDI data from the keyboard's keys and controls is sent to (e.g. if wanting to send it to external hardware and not the sequencer or vice versa), scroll to the Synth Out Ports page within the Synth Global Menu (see the previous section for details).



Saving a Synth Patch

A Synth Patch can be saved by pressing the WRITE button in Synth Mode. Doing so will activate the following page:

```
Patch Name
To Program XXX
```

Patch Name is the name of the currently selected Synth Sound and XXX is the number (from 100-299) of that Patch. Simply rotate the data encoder to select a different Patch number if required, then press WRITE again to save the current Patch to that onboard memory slot.

If after the first press of the WRITE button, the screen shows:

```
MEMORY
PROTECTED
```

(The message will appear temporarily and then the XioSynth will return to PLAY mode.)

Then the XioSynth GLOBAL setting has activated Memory Protect, which will mean onboard memory cannot be overwritten. (See the GLOBAL Menu section for details.)

Providing Memory Protect (in the GLOBAL menu) is off, once the WRITE button has been pressed for a second time, the LCD display will show:

```
Program ReName?
Patch Name
```

The name of the Template can now be modified if required by using the Menus/Audio button to change the character type from 0-9, A-Z, a-z or various punctuation, the data encoder to change the character and the Octave up/down buttons to move the cursor.

Pressing the WRITE button a third time will show the following (final) screen temporarily, before returning to EDIT mode:

```
PROGRAM SAVED
```

It is possible to abort the WRITE procedure at any stage by pressing another Mode/Menu button (e.g. PLAY, EDIT, GLOBAL).



Restoring a Synth Patch

If a Synth patch has been edited on the XioSynth, the COMPARE buttons will flash to indicate that the sound has changed. To listen to the saved preset, press and hold the COMPARE button. If the saved preset is preferred then it can be restored simply by using the data encoder to scroll to another onboard sound and then to return to that patch, e.g. if editing patch 256, then scroll to 255 then back to 256 to restore the saved settings. Make sure that the Menus/Audio button has not been pressed if attempting to scroll to another sound, as the encoder is used to edit Synth or Audio Menu pages when either of the LEDs above the button are lit.

Synth Levels

The level of the Synth has numerous controls, depending on the position in the signal path. In addition to the overall level controls for the Heaphones and Line Outputs, there are separate controls to set the level of the Synth across the analogue Outputs and over USB. These controls are knobs 6-9 (when in AUDIO/SYNTH mode):



To activate the parameters across the knobs, press and hold the Menus/Audio button so that the top LED lights; pressing and releasing the button, so that the bottom LED lights, activates the Synth Menus mode so will not suffice. Once in AUDIO/SYNTH mode, the knobs can be used to set the Main Level, that sent to USB (for recording) and the stereo USB panning.

Onboard Programs (Synth Patches)

The two sound banks on the XioSynth, each with 100 original, fantastic patches, are ordered in different ways. The first bank contains sounds from a US programmer Kelvin Russel, as well as all of the patches from the six highly-acclaimed artists and producers. Throughout both banks are numerous cutting edge patches from talented producers working at Novation Headquarters.

Bank 1

Bank 1 has 20 assorted sounds from Kelvin Russel, 10 from James Zabiela, 10 from Ferry Corsten, 10 from Rennie Pilgrem, 10 from Skeewiff, 10 from Shimon/Ram Records,10 from Roots Manuva, 10 retro sounds, 9 X-Gator/Arp patches and 1 single sawtooth wave on oscillator 1 (for creating patches), in that order:

Patch Number	Patch Name	Category
100	Big Bass	Bass
101	Little Old One	Bass
102	Alls Square In	Bass
103	Moosa	Lead
104	Somewhere Out	Lead
105	Grapefruit Dream	Arp
106	A Bassive	X-G
107	The Mellow One	Pad
108	Blade Stepper	Pad
109	They Well Grow	FX
110	Bottom Feeder	Bass
111	SEMe Bass	Bass
112	Click Bass	Bass
113	Bend Me	Lead
114	Rezo Lead	Lead
115	1/5s Arp	Arp
116	ZigZag Bass	X-G
117	Wooden Sides Too	Pad
118	SEMe Pad	Pad
119	Sliding	FX
120	Jzab NastyBass	Bass
121	Jzab HypnoBass	Bass
122	Jzab troit Bass	Bass
123	Jzab Square Bass	Bass
124	Jzab Steel Bass	Lead
125	Jzab Wap Lead	Lead
126	Jzab Bronze	Lead
127	Jzab Gamelan	Lead
128	Jzab Nice Pad	Pad
129	Jzab CricketB	FX
130	Fery FuzzyTriad	Bass
131	Fery Mango Bass	Bass
132	Fery Beefy	Bass
133	Fery LemonChick	Lead
134	Fery Zee Lead	Lead
135	Fery TriLazer	Lead
136	Fery AcidPassArp	Arp
137	Fery Housesitter	Arp
138	Fery Aurian	Pad
139	Fery PitchClitch	FX
140	RenP Bigfoot	Bass
141	RenP Amp Bass	Bass
142	RenP Diatribe	Bass
143	RenP Funkenstein	Bass
144	RenP Perception	Bass
145	RenP Paranoia	Lead
146	RenP Pyro	Lead
147	RenP Tube	Lead
148	RenP Rushcutter	Pad
149	RenP Rip	FX
150	Skwf Throaty	303
151	Skwf Sweepitup	Organ

Patch Number	Patch Name	Category
152	Skwf Long Road	Organ
153	Skwf Shizzle	Organ
154	Skwf Roargun	Organ
155	Skwf Butcher	Lead
156	Skwf Lil Ben	Organ
157	Skwf Vibey	Vibes
158	Skwf Skankhead	Organ
159	Skwf Swirlygig	Pad
160	Shim Mod Wheely	Bass
161	Shim Shim Bass	Bass
162	Shim Mod Bass	Bass
163	Shim Lokey Bass	Bass
164	Shim StabardMod	Lead
165	Shim EastisEast	Lead
166	Shim Dark Storm	Lead
167	Shim Mars	Pad
168	Shim Loopay	Arp
169	Shim Spacecode	FX
170	Roots Wingart	Bass
171	Roots Wobblin	Bass
172	Roots SnapBass	Bass
173	Roots Gabriel	Bass
174	Roots Stringoo	Strings
175	Roots Lasticband	Lead
176	Roots Strings	Strings
177	Roots Vibratine	Vibes
178	Roots Drawthebar	Organ
179	Roots DeepSpace9	FX
180	MyroMe	Lead
181	DropTheP	Lead
182	DropTheP2	Lead
183	80 Pad1 (wMod)	Pad
184	80 Pad2 (wMod)	Pad
185	Raymondsynth	Organ
186	Ampsource	Bass
187	StolenFork	FX
188	Siren (8vesplit)	FX
189	Superfoghorn	FX
190	Wooden Sides	X-G
191	Pluck Pad	X-G
192	Maroder	Arp
193	Wired X-Gator	X-G
194	Pad Gator	X-G
195	Classic Pulse	X-G
196	Mars Gator	X-G
197	Release Me	Arp
198	SlipperyWalls	X-G
199	Init Program	User Patch



Bank 2

Bank 2 has a variety of fresh, powerful sounds, arranged in groups to help with composition, e.g. basses all together, then leads etc.:

Patch Number	Patch Name	Category
100	Angry Bass	Bass
101	Chunky Bass	Bass
102	Concept	Bass
103	Detroit	Bass
104	DnB Bandpass Bas	Bass
105	DnB Reverse Bass	Bass
106	DnB Short Bass	Bass
107	DnB Square Bass	Bass
108	Eighty	Bass
109	Electro Bass	Bass
110	Fat Kid Bass	Bass
111	Garage Bass	Bass
112	Heavy Bass	Bass
113	LFO Repeat Bass	Bass
114	Lime Green Bass	Bass
115	moogs R Us	Bass
116	Mute Bass	Bass
117	Need Atkins?	Bass
118	ObiUnia	Bass
119	Old Funk Bass	Bass
120	Pro Ones	Bass
121	Punch Growl Bass	Bass
122	Ruff Bass	Bass
123	TB-303 Bass	Bass
124	Velo Bass Slap	Bass
125	Wobble Bass	Bass
126	X-Bass	Bass
127	Abalone	Lead
128	Action	Lead
129	All Star	Lead
130	Backwoods	Lead
131	Band Pass Sweep	Lead
132	Bright Lead	Lead
133	Cold Calling Lead	Lead
134	Eastern Promise	Lead
135	EDP Wasp Lead	Lead
136	Freakin	Lead
137	Greydance	Lead
138	Guilotine	Lead
139	Harsh Lead	Lead
140	Kano	Lead
141	Legato Lead	Lead
142	Liam Lead	Lead
143	Lovely Hard Lead	Lead
144	Mario MDMA	Lead
145	Mellow Chord Lead	Lead
146	Prophecy Lead	Lead
147	Quake	Lead
148	Rockford Lead	Lead
149	Shadow Lead	Lead
150	Simple Plink	Lead
151	Soft Me Hit Meee	Lead
152	Spooked	Lead
153	Square Stab	Lead
154	Surrender	Lead
155	Aerosol	Pad / String / Chord
156	Ambient Pad	Pad / String / Chord
157	Big Soft Pad	Pad / String / Chord
158	Brass Pad	Pad / String / Chord
159	British Patch	Pad / String / Chord
160	Cern	Pad / String / Chord
161	Church Organ	Pad / String / Chord
162	Euphonic	Pad / String / Chord
163	Float Pad	Pad / String / Chord
164	Long Pad S/H AT	Pad / String / Chord
165	Melancholy	Pad / String / Chord
166	Quiet Pad	Pad / String / Chord
167	Sharp String	Pad / String / Chord
168	Space Pad	Pad / String / Chord
169	Symphonic	Pad / String / Chord
170	Tall Frost	Pad / String / Chord
171	Tape Strings	Pad / String / Chord
172	Thin Obie String	Pad / String / Chord
173	Twin Peaks String	Pad / String / Chord
174	And Again Arp	Arp
175	Animation	Arp
176	Epic Arp	Arp
177	Fast Boil	Arp
178	Hazel Eye	Arp
179	Simple Chord Arp	Arp
180	Trance Thing Arp	Arp
181	Aaaaahhhh	SFX
182	Brain Washed	SFX
183	Ciani PopNPour	SFX
184	Digeridoo	SFX
185	Engines AT	SFX
186	Kick Start AT	SFX
187	Schrodingers Cat	SFX
188	Scratch Perverts	SFX
189	SH-101 Thunder	SFX
190	Take Off	SFX
191	Whoosh	SFX
192	WIndscreenWipers	SFX
193	808 cowbell	Drum / Drum Arp
194	DnB Bomb Tom	Drum / Drum Arp
195	Fuzz 808 Kick	Drum / Drum Arp
196	Gaba Kick + 303	Drum / Drum Arp
197	Psy Kick Pattern	Drum / Drum Arp
198	Single Psy Kick	Drum / Drum Arp
199	Splat	Drum / Drum Arp

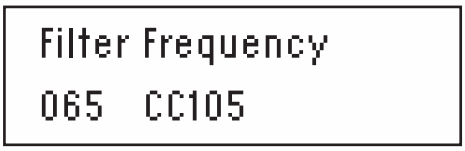


Selecting/Using a Template

When MIDI Controlling mode is initially accessed by pressing the PLAY button, the XioSynth is in TEMPLATE SELECT mode. The display shows the Template's name and location in this mode, for example:



When a knob/button is rotated/pressed, the changing value of MIDI data assigned to it is displayed temporarily. For example, if Filter Frequency is assigned to the Knob 1 on Continuous Controller number 105 and that knob is rotated then the following will be briefly shown:



(065 will not be a fixed value but will change as the knob is rotated.) Once the value has been set and the knob/button has been released, the currently selected Template reappears after an amount of time set within the GLOBAL menu. See the GLOBAL Menu section for details.



GROUP A/B Button

Press to switch between Group A and B (this means that you have double the amount of assignable controls available in each Template)



Although there are only 11 knobs and 11 buttons visible on the XioSynth, there are in actual fact double that amount available for edit; two Groups (A and B) mean that there are a total of 22 knobs and 22 buttons accessible. The XioSynth will default to Group A, as indicated by the top LED being illuminated. Simply press the GROUP A/B button to activate the second group of knobs/buttons (the LED below will light to show that Group B is activated), all 11 knobs and all 11 buttons will now have a different function (in preset Templates) or can now be assigned completely different parameters within the User Template (if building your own).

Display of X / Y TouchPad controls

In PLAY mode, when the touchpad is pressed the display will show:

```
X1 = XXX Y1 = XXX
X2 = XXX Y2 = XXX
```

XXX is the actual value being sent. For example, if the high value has been set to 10 and the low value 3, then a value between 3 and 10 will appear. XXX will show 'Off' if that control within the Touchpad is not activated. Both the X-axis (horizontal) and Y-axis (vertical) can be assigned up to two parameters, shown by X1/X2 and Y1/Y2. For example, filter frequency and delay time could both be set to the X-axis, whilst filter resonance and delay feedback are both assigned to the Y-axis. Alternatively, just one control could be assigned to one axis if a simpler function is required.

Display of Sustain Pedal

If a Sustain pedal is connected to the XioSynth's rear panel input and activated during PLAY mode, the display will show:



XXX shows 'On' if the MIDI value sent is 64 or 'Off', if the MIDI value sent is less than 64.

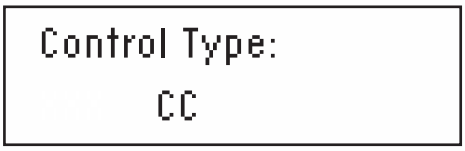
Editing a Template

This mode is used to either edit individual controls within one of the 16 onboard MIDI Templates or change the common Template parameters (the settings across all Templates) such as the velocity curve that the keyboard is set to. The two different EDIT Mode menus are accessed by either the first or second press of the EDIT button. Pressing the EDIT button once, whereby the LED to the left of the button will illuminate constantly, activates the individual Template Edit menu. Pressing the EDIT button twice, making the LED to the left of the button flash, accesses the Common Template Edit menu.

To view all the Template controls simultaneously and edit them quickly and easily on your computer, use the separate Template Editor application, which can be downloaded for free from www.novationmusic.com.

Editing an individual onboard Template

After the EDIT button has been pressed once to activate the Template Individual Edit Menu (the LED to the left of the button will be illuminated continuously), the MIDI data assigned to Knob 1 (in Group A or B, depending on which is selected) will be displayed on the LCD screen. Pressing/rotating/moving any of the XioSynth's controls will call up the MIDI data for that particular control for editing on the LCD screen, by stepping through the pages of the Template Individual Edit Menu. The first option in the Template Individual Edit Menu is the type of MIDI data that the control has assigned to it. So, if the button/knob is set to a Continuous Controller number then the screen shows:



The types of MIDI data available are:

CC Continuous Controller. Any controller number can be used, however the MIDI standard defines controller numbers 0, 6, 32, 38, 96, 97, 98, 99, 100, 101 & 120-127 for specific specialised purposes. These values should not be used unless the consequences upon the connected MIDI device are appreciated.

NRPN Non-registered Parameter Number.

RPN Registered Parameter Number.

MMC MIDI Machine Control. This can only be selected for buttons.

Note On/Off Note On/Note Off message. This can only be selected for buttons.

Program Change Program Change message. This can only be selected for buttons.

Pitch Bend Pitch Bend. This can only be selected for the X / Y Touchpad.

Aftertouch Aftertouch. This cannot be selected for buttons.

No Control The control will transmit no MIDI when touched. There are no further menu pages available if this option is selected.

To change between these types of MIDI data, simply rotate the DATA encoder. Once the type of MIDI data is selected, the remaining settings for that MIDI control can be defined by accessing the additional individual Template Edit menu pages. This is done using the PAGE UP/DOWN buttons to the right of the LCD screen.

The above MIDI data may be applied to EACH of the 11 knobs or 11 buttons for Groups A and B, the Pitch/Mod Joystick, any of the 4 quadrants of the X/Y Touchpad and a sustain pedal (if one is attached).



Template Individual Edit 'CC' Menu

Page Number	Page Name	DATA Encoder selects…
1	Control Type	Control Type (See List above)
2	Control Number	0–127
3	Display Type	0-127 or –64 +64
4	Pot Control	'Jump' or 'Pickup' Mode
5	Low Value	Low Value of control
6	High Value	High Value of control
7	Button type	Action of button
8	Button Step size	Size of increment
9	MIDI Channel	MIDI Channel for this control
10	MIDI Ports	Port routing for this control
11	Control Naming	Name of control

Here is a detailed breakdown of each page of the individual Template Edit Menu once 'CC' has been selected on Page 1:

Edit Menu Page 2 –Control Number



This page allows you to select the Continuous Controller Number. Rotating the DATA encoder scrolls through numbers 0 to 127.

Edit Menu Page 3 –Display Type



This page chooses the specific values you wish the control to send, whether they are between 0 and 127 or -64 and +63. Rotating the DATA encoder selects either XXX = 0 – 127 or XXX = -64 to +63 as the minimum and maximum values for the control. For example, if wanting to assign the volume of a track to a knob then 0-127 would be preferable, whereas the pan would suit -64 to +63.

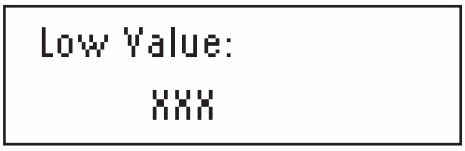


Edit Menu Page 4 –Jump or Pickup Mode



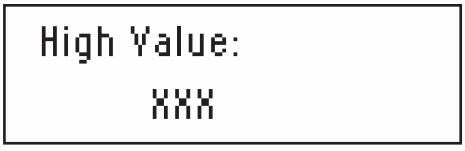
Here, XXX = Pickup or Jump, representing the two types of pot (knob) behaviour. Pickup mode means that the knobs only transmit MIDI data once they have passed through the value of MIDI data set to that control in the currently selected Template, whereas Jump mode transmits MIDI data as soon as the knob is rotated.

Edit Menu Page 5 –Control LOW value setting



XXX can be set to a value between 0 and 127 or -64 and +63 (depending on how Page 3 of this Menu is set) using the DATA encoder. This is the minimum value of the control, which will often be 0 or -64 but in the case of wanting to set a control to vary from 20 to 30, it would be 20.

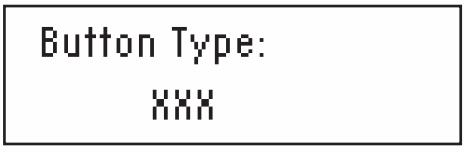
Edit Menu Page 6 –Control HIGH value setting



XXX can be set to a value between 0 and 127 or -64 and +63 (depending on how Page 3 of this Menu is set) using the DATA encoder. This is the maximum value of the control, which will often be 127 or +63 but in the case of wanting to set a control to vary from 20 to 30, it would be 30.

If this value is set to be lower than the Low Value on the previous Menu Page then the control will effectively be reversed. For example, rotating the knob clockwise would reduce the value.

Edit Menu Page 7 – Button Type Selection



This Page allows you to select the way the button will behave, with XXX selectable as either Normal, Momentary, Toggle or Step using the DATA encoder.



Explanation of Button Type

Normal
The low value will be sent out as a MIDI message on depression of the button. There will be no action on release of the button.

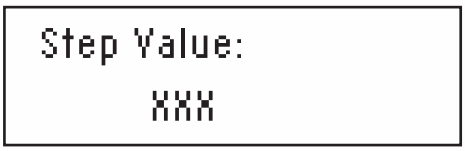
Momentary
The low value will be sent out as a MIDI message on depression of the button and the high value sent on release.

Toggle
When the button is pressed for the first time the high value is sent. The next press causes the low value to be sent. The next press causes the high value and so on.

Step
On the first button press, the low data value is transmitted. Each subsequent button press increments in the amount set by the next Menu page, until the high data value has been reached. The next press results in the low value and so on. Data is only sent when the button is pressed not released.

These button options allow a range of applications to be easily controlled. For example if there is a button on a software synthesizer that has three options, then it may respond to a MIDI continuous controller number with a range of 0 - 2. When programming a button to control the software, the low value would be set to 0 (Menu page 5 - detailed above) and the high value would be set to 2 (Menu page 6 - detailed above). The step option would then be selected, with a step size of 1 (see below).

Edit Menu Page 8 –Button step size



This page defines the size of increment of MIDI data each time the button is pressed when in Step mode, allowing a small range of options to be controlled by a large range of MIDI values. Rotating the DATA encoder selects a value for XXX between 0 and 127.

For example, a soft synth may have 4 waveforms altered by particular controller numbers spread evenly between 0 and 127 (e.g sine from 0-31, square from 32-63, triangle from 64-95 and sawtooth from 96-127.) In that instance, it is best to use a knob sweeping across the whole range or a button that moves in steps of 32. To assign a button to move in steps for this purpose, simply choose 0-127 on page 3, then set 0 as the low value and 127 as the high value, choose Step as the button type and select a Step size of 32.

Edit Menu Page 9 –Control MIDI channel setting



XX is set to any of the 16 MIDI channels using the DATA encoder. This means that all CC MIDI data assigned to the control will be transmitted on that MIDI channel.

Edit Menu Page 10 –Control MIDI Port routing



XXX is set to OFF, USB (USB Port), MIDI (MIDI Out port) or USB+MIDI using the DATA encoder. This means that all CC MIDI data assigned to the control will be sent to the selected port(s) only.

Edit Menu Page 11 –Control Name



The DATA encoder is used to change the currently selected character (with the cursor positioned below it) between A-Z, a-z, 0-9 etc. and the cursor is moved left and right using the OCTAVE UP/DOWN buttons. Repeated presses of the Menus/Audio button cycles between capitals, lower case, numbers or punctuation.

At any time whilst in EDIT mode, rotating/pressing a knob/button will cause it to become the control for editing regardless of which Menu Page is currently selected in the Template Individual Edit Menu.



Template Individual Edit 'NRPN' Menu

Page 1 is the same for all Template Edit Menus (Control Type – see CC Menu for details).

Page Number	Page Name	DATA Encoder selects…
2	NRPN LSB Number	LSB of NRPN (0-127)
3	NRPN MSB Number	MSB of NRPN (0-127)
4	Display Type	Display Type 0-127 or –64 +64
5	Button type/Pot Control	Action of button/knob
6	Button Step size	Size of increment
7	Low Value	Low Value
8	High Value	High Value
9	MIDI Channel	MIDI Channel for this control
10	MIDI Ports	Port routing for this control
11	Control Naming	Name of Control

Here is a detailed breakdown of each page of the individual Template Edit Menu once 'NRPN' has been selected on Page 1:

Edit Menu Page 2 – LS Bank number selection



This page allows the Least Significant Bank controller number of the NRPN control to be changed. The data encoder scrolls through values of XXX from 0 - 127.

Edit Menu Page 3 –MS Bank number selection



This page allows the Most Significant Bank controller number of the NRPN control to be changed. The data encoder scrolls through values of XXX from 0 - 127.

The remainder of the individual Template Edit Menu for NRPNs is exactly the same as the corresponding pages of the Menu for CC data (see previous pages).



Template Individual Edit 'RPN' Menu

Page 1 is the same for all Template Edit Menus (Control Type – see CC Menu for details).

Page Number	Page Name	DATA Encoder selects...
2	RPN LSB Number	LSB of RPN (0-127)
3	RPN MSB Number	MSB of RPN (0-127)
4	Display Type	Display Type 0-127 or –64 +64
5	Button type/Pot Control	Action of button/knob
6	Button Step size	Size of increment
7	Low Value	Low Value
8	High Value	High Value
9	MIDI Channel	MIDI Channel for this control
10	MIDI Ports	Port routing for this control
11	Control Naming	Name of Control

Here is a detailed breakdown of each page of the individual Template Edit Menu once 'RPN' has been selected on Page 1:

Edit Menu Page 2 – LS Bank number selection



This page allows the Least Significant Bank controller number of the RPN control to be changed. The data encoder scrolls through values of XXX from 0 - 127.

Edit Menu Page 3 –MS Bank number selection



This page allows the Most Significant Bank controller number of the RPN control to be changed. The data encoder scrolls through values of XXX from 0 - 127.

The remainder of the individual Template Edit Menu for RPNs is exactly the same as the corresponding pages of the Menu for CC data (see previous pages).



Template Individual Edit 'MMC' Menu

Page 1 is the same for all Template Edit Menus (Control Type – see CC Menu for details).

Page Number	Page Name	DATA Encoder selects…
2	Device ID	Value between 0 and 127
3	MMC Command	Type of MMC message
4	MIDI Ports	Port routing for the control

Here is a detailed breakdown of each page of the individual Template Edit Menu once 'MMC' has been selected on Page 1. Note that MMC can only be selected for buttons:

Edit Menu Page 2 – device ID selection



This page selects the device ID number for the MMC message. Rotating the DATA encoder selects a value for XXX between 0 and 127.

Edit Menu Page 3 – MMC Command selection



This page selects the type of MMC message that is transmitted. XXX is selected to be one of the following choices:

Stop
Play
Def Play
Forward
Rewind
Record
Record Exit
Record Pause
Pause
Eject
Chase
Err Reset (Error Reset)
MMC Reset

The last page of the Menu for MMC messages is the MIDI routing Page that is also the last page for CC numbers (see previous pages).



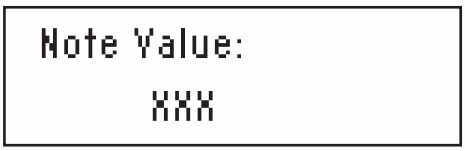
Template Individual Edit 'Note On/Off' Menu

Page 1 is the same for all Template Edit Menus (Control Type – see CC Menu for details).

Page Number	Page Name	DATA Encoder selects…
2	Note Value	MIDI note value
3	Button type	Action of button
4	Note Velocity	Note velocity
5	MIDI Channel	MIDI Channel for this control
6	MIDI Ports	Port routing for the control
7	Control Naming	Name of Control

Here is a detailed breakdown of each page of the individual Template Edit Menu once 'Note On/Off' has been selected on Page 1. Note that Note On/Off can only be selected for buttons:

Edit Menu Page 2 – Actual Note Selection



This page selects any MIDI note to be played when the button is pressed. Rotating the encoder selects the value of XXX as C-2, C#-2, D-2… etc. all the way to …A7, A#7, B7, C8.

Edit Menu Page 3 – Button Type

This page is the same as the corresponding option for CC Numbers (see the previous section), only there is no Step option possible for Note On/Off messages.

Explanation of button types

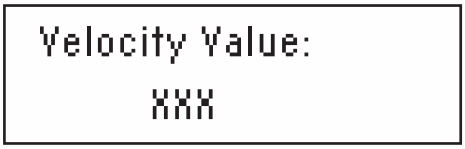
Normal
The Note On data will be sent out as a MIDI message on depression of the button. There will be no action on release of the button. (Not normally advisable as this means the note will sustain indefinitely.)

Momentary
The Note On data will be sent out as a MIDI message on depression of the button and the Note Off sent on release.

Toggle
When the button is pressed for the first time the Note On data is sent. The next press causes the Note Off data to be sent. The next press causes the Note On data to be sent and so on.



Edit Menu Page 4 – Note Velocity Selection



This page allows the velocity value of the control to be chosen, with XXX set to a value between 0 and 127 by the DATA encoder.

In this mode, the buttons can become a reasonable trigger device for Drum type sounds although the velocity is not dynamic.

The remaining pages of the Menu for Note On/Off messages are identical to the corresponding pages for CC data (see previous pages).

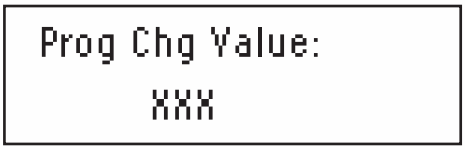
Template Individual Edit 'Program Change' Menu

Page 1 is the same for all Template Edit Menus (Control Type – see CC Menu for details).

Page Number	Page Name	DATA Encoder selects…
2	Program Change	Program Change Value
3	MIDI Channel	MIDI Channel for this control
4	MIDI Ports	Port routing for the control
5	Control Naming	Name of Control

Here is a detailed breakdown of the unique page(s) of the individual Template Edit Menu once 'Program Change' has been selected on Page 1. Note that Program Change can only be selected for buttons:

Edit Menu Page 2 – Program Change Value Selection



This page allows a Program Change data value to be selected by rotating the DATA encoder to make XXX a value of between 0 and 127. Be aware that some MIDI devices number Programs from 1 to 128 instead of 0 to 127; in this case, the number 1 (on the MIDI device) will correspond to 0 (on the XioSynth) and 128 (on the device) to 127 (on the Xio).

When set to a Program Change type control, a button will only function in Momentary mode.
That is, when pressed the Program Change data will be transmitted. When released, a Note off will be transmitted?

The remaining pages of the Menu for Program Change messages are identical to the corresponding pages for CC data (see previous pages).

Aftertouch Edit Menu

Page 1 is the same for all Template Edit Menus (Control Type).

Page Number	Page Name	DATA Encoder selects…
2	MIDI Channel	MIDI Channel for this control
3	MIDI Ports	Port routing for the control
4	Control Naming	Name of Control

As there are no other parameters to define, once 'Aftertouch' has been chosen on page 1, the Menu moves straight to the MIDI Channel page. These last pages are identical to the corresponding pages of the Template Individual 'CC' Edit menu (see previous section for details).



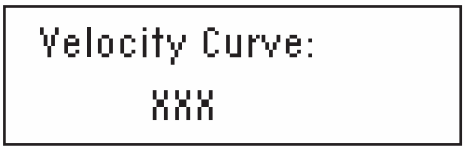
Template Common Edit Menu

Pressing the EDIT button twice will access the common Template Edit mode, which allows settings that effect ALL controls within the currently selected Template to be modified (e.g. keyboard velocity). Once in this mode, the LED to the left of the EDIT button will flash.

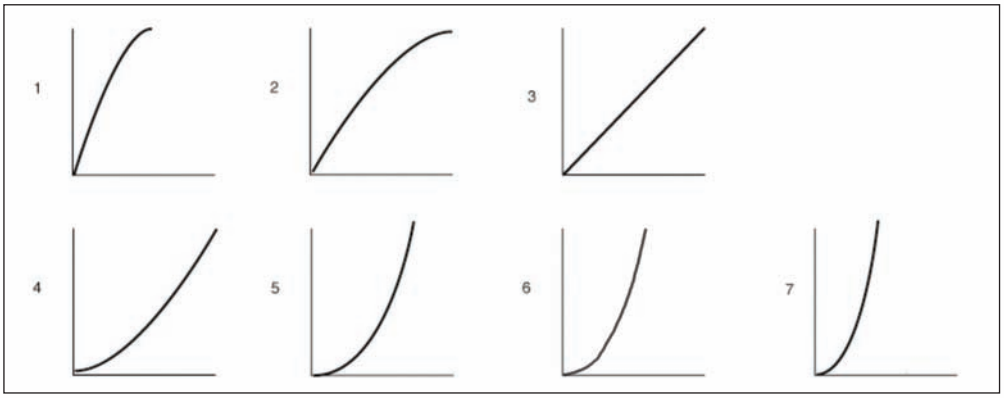
The menu pages in Template Common Edit mode are as follows:

Page Number	Page Name	DATA Encoder selects...
1	Velocity Curve	Velocity Curve 1 – 7, or fixed velocity 8 - 127
2	Template Trans	Value between -64 and +63 for transposing keyboard
3	Keyboard MIDI Chan	MIDI Channel 1 – 16
4	Keyboard MIDI Ports	Port routing for Keyboard
5	Override Channel	MIDI Channel 1 – 16
6	Touchpad X Type	Function of TouchPad X Function
7	Touchpad Y Type	Function of TouchPad Y Function
8	Synth by Control	Activates Hybrid Mode 1
9	Synth by MIDI	Activates Hybrid Mode 2

Edit Menu Page 1 – Velocity Curve Select



This page allows a velocity curve for the XioSynth keyboard to be selected; this is the ratio of velocity of transmitted data (relating to volume of sound) to the force with which the keys are pressed. Rotating the DATA encoder selects between Curves 1-7. The velocity curves available are as follows:



Curve selection No. 3 is the default setting. If a softer touch is required (lighter key presses giving the same velocity output) then try selecting Curve 1 or 2. Alternatively, Curves 4, 5 and 6 provide a harder response.

Selecting a value of between 8 and 127 sets a fixed velocity value (of that amount) for the keyboard.



Edit Menu Page 2 – Template Transpose



This page allows the keyboard to be transposed within the Template. Rotating the DATA encoder will select a value of XXX between - 64 and + 63. This will be the amount in whole semitones that the keyboard is transposed by, e.g. to transpose up 4 semitones, set to + 4.

Edit Menu Page 3 – Keyboard Channel Select



This page defines the MIDI channel that the keyboard will transmit MIDI data on. Rotating the DATA encoder will select a value of XX between 1 and 16. NB The MIDI channel for the pitch/mod joystick is separate from this and programmable from within the individual Template (its MIDI channel can also be overridden using Edit Menu Page 4 – Override Channel).

Edit Menu Page 4 – Keyboard Channel Select



This page defines the MIDI ports that the keyboard will send MIDI data to. Rotating the DATA encoder will select an option for XXX between OFF, USB, MIDI and USB+MIDI. NB The MIDI ports for the pitch/mod joystick are separate from this and programmable from within the individual Template.

Edit Menu Page 5 – Override Channel



This page allows the user to quickly set all controls (knobs and buttons within the current template) to send data on the same MIDI channel without having to individually edit each control. XX can be set as 'OFF' or at a value between 1 and 16 as required, using the DATA encoder. If MIDI channel 4 is selected then all controls will output data on MIDI channel 4 despite how they have been individually assigned.



Edit Menu Page 6 – X/Y Touchpad X Control Define



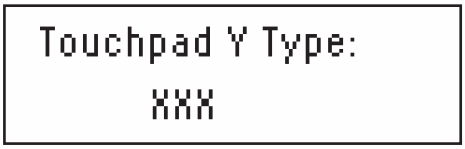
This page selects the type of X/Y Touchpad X-axis (horizontal) action. Rotating the DATA encoder scrolls between three modes for XXX: No Spring, Spring Left and Spring Center.

1. No Spring – As soon as a finger is released from the touchpad, the value of the touchpad will remain in the last touched position. A subsequent touch to the pad will result in a shift (at a sensible rate) to the new touch value.

2. Spring Left – As soon as a finger is released from the Touchpad, the value of the Touchpad will shift back to the far left (to a value of zero if 0-127 has been defined for this axis, or to a value of -64 if -64-+63 is assigned to it).

3. Spring Centre – As soon as a finger is released from the Touchpad, the value of the Touchpad will shift to the centre point of that axis (to a value of 64 if 0-127 is defined for that axis, or to a value of 0 if -64-+63 is assigned to it).

Edit Menu Page 7 – X/Y Touchpad Y Control Define



This page selects the type of X/Y Touchpad Y-axis (vertical) operation. Rotating the DATA encoder scrolls between three modes for XXX: No Spring, Spring Down and Spring Center. See above for definitions (middle option jumps down).

Edit Menu Page 8 – Hybrid Mode 1 Activation



This page activates Hybrid Mode 1, where the XioSynth keyboard and/or 2-D controls can be used to play the onboard Synth whilst using the rest of the knobs and buttons to MIDI control. Use the data encoder to select from the following options:

OFF – The Synth will be inactive

KBD – The keyboard will play the Synth (and the data encoder will select the sound being played)



KBD+JOY – The keyboard and Joystick will play the Synth (and the data encoder will select the sound being played)

KBD+PAD – The keyboard and Touchpad will play the Synth (and the data encoder will select the sound being played)

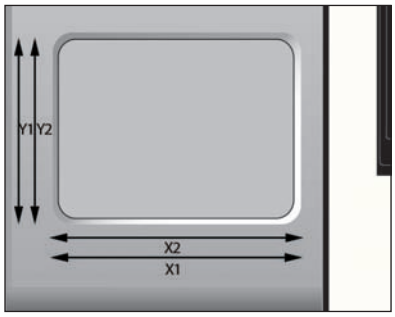
KBD+PAD+JOY – The keyboard, Touchpad and Joystick will all play the Synth (and the data encoder will select the sound being played)

Edit Menu Page 9 – Hybrid Mode 2 Activation



This page activates Hybrid Mode 2, where the XioSynth onboard Synth can be played by incoming MIDI data received over USB. This means that all of the XioSynth controls (knobs, buttons, pad, stick) and keyboard could be MIDI controlling various software or hardware, whilst the synth is being simultaneously played by a track within the sequencer. Use the data encoder to set this to On or Off. When set to On, the data encoder is used to select the XioSynth onboard sound being played by incoming MIDI data, when playing the Template.

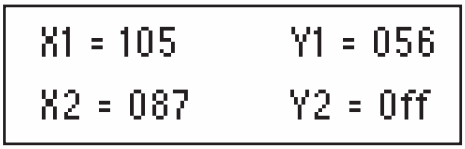
Using the X/Y Touchpad



The touchpad allows transmission of up to four MIDI data values, two on the X-axis (horizontal) and two on the Y-axis (vertical). The MIDI data transmitted depends on how a finger moves along the Touchpad; by moving a finger in a diagonal direction, both X- & Y-axis data is generated simultaneously. Alternatively, just moving a finger along the bottom of the Touchpad will only transmit X-axis data.

Using the Touchpad in PLAY Mode

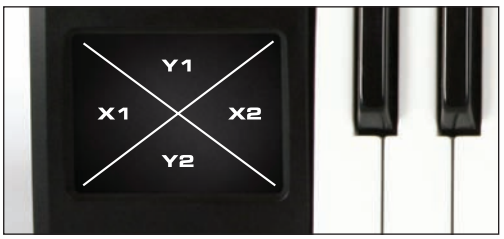
In PLAY mode, the display will show the values being sent out to the USB port and/or MIDI, for example:



If any of the X or Y controls have been set to 'No Control', then the display will show 'Off' for that control. In the example above, the Y2 control has been set to 'No control', so only one parameter is assigned to the Y-axis but two to the X-axis. This display allows the exact size of each parameter on each axis to be viewed while in use, it does not allow the viewing of the type of MIDI data assigned to each axis. Edit Mode must be selected to view the details of the MIDI data being transmitted by each axis (see below).

Using the Touchpad in EDIT Mode

By pressing the EDIT button once and entering the individual Template Edit Mode (the LED to the left of the button will illuminate not flash), the MIDI data assigned to the Touchpad can easily be viewed and edited, as with any of the XioSynth's controls. Selecting either X1, X2, Y1 or Y2 for edit is slightly different than editing any other control as there are essentially four different controls on the one Touchpad. With other assignable controls (knobs and buttons), simply moving the control will suffice but these only have one parameter assigned to them at any one time. With the Touchpad in EDIT Mode, there needs to be a way of calling up any of the four parameters for edit. This is done by dividing the Touchpad into four quadrants, as follows:



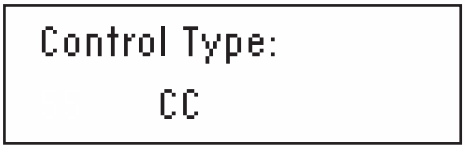


Simply pressing and holding the Touchpad in one of the quadrants as shown in the diagram will first display all MIDI data assigned to that control within the touchpad, as follows:



If the X1 quadrant had been pressed, this would signify that Filter Frequency had been assigned to the first parameter on the X-axis (horizontal) on Continuous Controller number 74, at a current value of 55. The 1 and U signify that X1 is transmitting on MIDI channel 1 and over USB.

Then the display will move to the first page of the Template Individual Edit Menu as it would do if any assignable control was touched in this mode, showing the following:

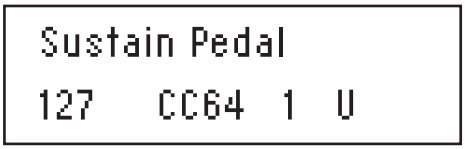


Now, whatever control within the Touchpad was pressed (X1, X2, Y1 or Y2) can be edited the same way as any assignable control on the XioSynth. See the Template Individual Edit mode menus for more information on how to do this.

Using a Sustain Footswitch

A Sustain Footswitch socket on the rear panel can be used to plug in a pedal to sustain notes, in a similar manner to the sustain pedal on a piano. This pedal is set to CC number 64 in the Factory preset Templates but can be changed in the same way as any other assignable control (by pressing the pedal whilst in EDIT mode and then stepping through the pages of available parameters).

In PLAY mode, the display will show the following when the footswitch is activated (providing no edits have been made to its function):



The value on the far left shows 127 to signify that the footswitch has been activated and is now 'On'. There are two settings, 'On' (127 is transmitted) and 'Off' (0 is transmitted).

In EDIT mode, the data assigned to the footswitch can be changed as with any assignable control. Simply press the EDIT button once to enter individual Template Edit mode (the LED to the left of the button will illuminate continuously, not flash) then press down on the footswitch to call up the first page of the Edit menu for that control.

Using the Octave Up/Down buttons

These buttons are DUAL function. They function in the normal manner in PLAY mode, shifting the XioSynth keyboard up and down in octaves across the whole MIDI Note range. For example, if the OCTAVE UP button is pressed once then the screen will show:



When naming synth patches or Templates, however, the Octave buttons are used to move the cursor left and right.

Saving/Naming a Template

Once some edits have been made to an existing Template or an entirely new one has been constructed, the Template must be saved to the onboard memory in order to recall that Template at a later date. The other alternative is to send the Template to the Template Editor application that can be downloaded from www.novationmusic.com and then save it to the desktop. If saving onboard though, simply pressing the WRITE button will move through the saving procedure. After pressing once, the screen shows:



V-Station is the name of the currently selected Template and XX is the number (from 1-16) of that Template. Simply rotate the DATA encoder to select a different Template number if required, then press WRITE again to save the current settings to that Template number.

If after the first press of the WRITE button, the screen shows:



(The message will appear temporarily and then the XioSynth will return to PLAY mode.)

Then the XioSynth GLOBAL setting has activated Memory Protect, which will mean onboard Templates cannot be overwritten. (See the GLOBAL memory section for details.)

Providing Memory Protect (in the GLOBAL menu) is off then, once the WRITE button has been pressed for a second time, the LCD display will show:



The name of the Template can now be modified if required by using the DATA encoder to change the character from A-Z, a-z, 0-9 etc. and the OCTAVE UP/DOWN arrows to move the cursor. Repeated presses of the Menus/Audio button cycles between capitals, lower case, numbers or punctuation.



Pressing the WRITE button a third time will show the following (final) screen temporarily, before returning to EDIT mode:



It is possible to abort the WRITE procedure at any stage by pressing another Mode/Menu button (e.g. PLAY, EDIT, GLOBAL).

If a Template is not saved to the XioSynth memory or sent to the Template Editor before selecting another Template in PLAY mode or turning off the XioSynth, then the settings will be lost forever. However, there are only 16 onboard Templates and overwriting one will replace it forever. So, it is advisable to install the Template Editor so that Templates can easily be sent back and forth between the XioSynth and the computer. The Template Editor has a 'Restore Factory Templates' button embedded within its 'Bulk Dumps' menu so overwriting factory Templates is not a problem. Additionally, the editor allows the upload of the numerous extra factory Templates available for the XioSynth from www.novationmusic.com.

Playing the Synthesizer in MIDI Controlling Mode – Hybrid Mode

A great feature of the XioSynth is its ability to allow the Synth to be played whilst in MIDI Controlling mode, meaning the full extent of the keyboard can be utilised. These Hybrid mode settings are accessed in the Template Common Edit Menu, activated by pressing the EDIT button twice. The first page, Synth By Control, allows the keyboard, joystick and touchpad to be assigned to control the onboard Synth. For example, if wanting to use the keyboard and joystick to play the Synth, whilst using the XioSynth knobs, buttons and touchpad to MIDI control software or connected hardware, set this to KYB+JOY. All the while in this mode, the encoder is used to change the keyboard's Synth Patch.

If wanting the Synth to be played by MIDI data from the Sequencer then scroll to the following Template Common page, Synth By Midi, and set it to On. This means that, whilst using the MIDI Template to control software or hardware, the keyboard's Synth can be played by a MIDI track within the sequencer, as long as that track is set to channel 16, or the corresponding channel set in the Synth Global Menu. (See the Synth Global Menu section for details.)



Guide to the onboard Templates

Ableton 5

Layout
Group A
Knobs 1-8: Track 1-8 Volume
Knobs 9 and 10: Free Assign 1 and 2
Knob 11: Cue Level

Buttons 1-8: Track 1-8 Solo
Buttons 9 and 10: Scene Up and Down
Button 11: Cycle

Group B
Knobs 1-8: Track 1-8 Sends
Knobs 9 and 10: Return A and B
Knob 11: Master Vol

Buttons 1-8: Track 1-8 Active
Buttons 9-11: Play, Stop and Record

Touchpad is assigned the Crossfader throughout.

Setup
No setup is required for the Template to work, but a Template session must be used. This session should be opened before you start working on your track, as the relevant areas of the session have been assigned to work with the XioSynth. The session has been created in Live 5 but will also work in Live 4.

Absynth 3

Layout
Group A
Knob 2: Volume, knobs 3-6: Filter Frequency, Resonance, Attack and Release Knobs 7-10: Amplitude Attack, Decay, Sustain and Release
Knob 11: Effect level

Buttons 1-11: No Control

Group B
Knobs 1-11: CC numbers for free assign
Buttons 1-11: No Control

Touchpad has modulation assigned to it throughout.

Setup
No setup is required for the Template to work.



Albino 2

Layout

Group A
Knobs 1 and 2: Osc 1 Cent and Volume
Knobs 3-5: Filter 1 Frequency, Resonance and Mod Depth
Knob 6: LFO 1 Rate
Knobs 7-10: Amp Attack, Decay, Sustain and Release
Knob 11: Master Volume

Buttons 1 and 2: Osc 1 On/Off and Type
Buttons 3 and 4: Filter 1 Mode and Type
Buttons 5 and 6: LFO 1 Waveform and Mono
Buttons 7 and 8: Amp Env Type and Loop
Button 9: No control
Buttons 10 and 11: Filter 1 On/Off, Filter 2 On/Off

Group B
Knobs 1 and 2: Osc 2 Cent and Volume
Knobs 3-5: Filter 2 Frequency, Resonance and Mod Depth
Knob 6: LFO 1 Delay
Knobs 7-10: Mod Attack, Decay, Sustain and Release
Knob 11: Arp Length

Buttons 1 and 2: Osc 2 On/Off and Type
Buttons 3 and 4: Filter 2 Mode and Type
Buttons 5 and 6: LFO 1 Waveform and Ret On/Off
Buttons 7 and 8: Mod Env Type and Loop
Button 9: No control
Buttons 10 and 11: Arp On/Off and Mode

Touchpad has Filter 1 Frequency and Resonance assigned to it throughout.

Setup

To allow control of Albino 2 using the XioSynth, load an instance of Albino 2 into your sequencer and select 'Load' from the Easy Controller Setup (ECS) menu (click on the button labelled 'ECS' in the Albino 2 window). Then locate and open the file 'XIOSYNTH_ALBINO_2.MOD', found in the Albino Template folder on the Resources disk.



Atmosphere/Trilogy

Layout
Group A
Knobs 1 and 2: Layer A Pitch Fine Tuning and Level
Knobs 3-5: Master Filter Cut, Resonance and Mod Env Depth
Knob 6: LFO Rate
Knobs 7-10: Amp Attack, Decay, Sustain and Release
Knob 11: Master Volume

Buttons 1 and 2: Layer Select and Layer A On/Off
Buttons 3-10: No Control
Button 11: Link On/Off

Group B
Knobs 1 and 2: Layer B Pitch Fine Tuning and Level
Knobs 3-5: Filter Cutoff, Resonance and LFO Mod Amount
Knob 6: LFO Depth
Knobs 7-10: Filter Envelope Attack, Decay, Sustain and Release
Knob 11: Glide Time

Buttons 1 and 2: Layer Select and Layer B On/Off
Buttons 3-10: No Control
Button 11: Solo On/Off

Touchpad has M Filter Frequency and Resonance assigned to it throughout.

Setup
No setup is required for the Template to work.

B4

Layout
Group A
Knobs 1-9: Upper 16, 5 1/3, 8, 4, 2 2/3, 2, 1 3/5, 1 1/3, 1
Knobs 10 and 11: No Control

Button 1: Upper Vib On/Off
Buttons 2-7: No Control
Buttons 8-11: Perc, Drive, Rotator, Velocity On/Off

Group B
Knobs 1-9: Lower 16, 5 1/3, 8, 4, 2 2/3, 2, 1 3/5, 1 1/3, 1
Knobs 10 and 11: No Control



B4 (continued)

Button 1: Lower Vib On/Off
Buttons 2-7: No Control
Buttons 8-11: Perc, Drive, Rotator, Velocity On/Off

Touchpad has Rotator Speed (x-axis) and Swell (y-axis) assigned to it throughout.

Setup
No setup is required for the Template to work.

Bass station

Layout
Group A
Knobs 1 and 2: Osc 2 Detune and Osc 1-2 Mix
Knobs 3-5: Filter Frequency, Resonance and Mod Depth
Knob 6: LFO Speed
Knobs 7-10: Amp Attack, Decay, Sustain and Release
Knob 11: Amp Env Velocity

Buttons 1 and 2: Osc 1 Sync and Waveform
Button 3: Filter Slope
Button 4: No Control
Button 5: LFO Waveform
Buttons 6-10: No Control
Button 11: Osc Voice Mode

Group B
Knobs 1 and 2: Osc 2 Semitones and Osc 1-2 Mix
Knobs 3-5: Filter Frequency, Resonance and LFO Amount
Knob 6: LFO Delay
Knobs 7-10: Mod Env Attack, Decay, Sustain and Release
Knob 11: Mod Env Velocity

Buttons 1 and 2: Osc 2 Octave and Waveform
Button 3: Filter 2 Slope
Button 4: No Control
Button 5: LFO Waveform
Buttons 6-10: No Control
Button 11: Osc Voice Mode

Touchpad has Aftertouch (x-axis) and Breath Control (y-axis) assigned to it throughout.

Setup
No setup is required for the Template to work.



Cubase SX3

Layout

Group A
Knobs 1-8: Audio Track 1-8 Volume
Knobs 9 and 10: FX1 and 2 Level
Knob 11: Output Level

Buttons 1 and 2: Punch In and Out
Buttons 3 and 4: Cycle Record Mode and On/Off
Buttons 5-11: Transport

Group B
Knobs 1 and 2: Level and Pan
Knobs 3-5: Sends 1-3
Knobs 6-8: EQ 1 Gain, Frequency and Q
Knobs 9-11: EQ 4 Gain, Frequency and Q

Buttons 1 and 2: Track Mute and Solo
Buttons 3-5: Sends 1-3 On/Off
Buttons 6-9: EQ 1-4 On/Off
Buttons 10 and 11: Track Select Up/Down

Touchpad is assigned Aftertouch (x-axis) throughout.

Setup

To import the setup file, do the following:

1. Open Cubase application and go to Devices\Device Setup
2. Click on 'Add/Remove' tab (the + button in later versions) and add a 'Generic Remote'.
3. 'Generic Remote' will appear in the list on the left-hand side of the devices window. Click on this to bring up the generic remote settings.
4. Click 'Import' and locate the set up file 'XioSynth_SX.xml' on the resources disc (or 'XioSynth _SX2.xml' or 'XioSynth _SX3.xml' depending on the version of Cubase).
5. Click 'Open' to load the setup file and select XioSynth as the MIDI input device at the top of the device setup window (do NOT select it as the MIDI output).
6. Click 'Apply' and 'OK' to exit the device setup window.

All controls have been set to transmit on MIDI channel 16 so, when using the generic remote with the XioSynth in Cubase, it is advisable to exclusively reserve MIDI channel 16 solely control Cubase. To do this open the preferences dialog and select the MIDI Filter Page. Click on the '16' box in the Channel section to filter out messages on channel 16, then click 'Apply' to save the changes followed by 'OK' to exit preferences.



Cubase SX3 (continued)

In order that the controls on the XioSynth work correctly with Cubase you need to use the appropriate default Cubase arrangement supplied on the resources disc. Open the file 'Default_SX.cpr' (or 'Default_SX2.cpr' or 'Default_SX3.cpr' depending on the version of Cubase) to start making music with Cubase and theXioSynth. It is recommended to copy the default XioSynth project into the Cubase templates folder so that it is available in the templates box when you open a new session.

The Cubase templates folder is found in the following location:

PC - Program Files\Steinberg\Cubase\Templates

Mac - Applications\Cubase\Contents\Templates (Control click on the Cubase application and select 'Show Package Contents' to get to the 'Contents' folder)

FM7

Layout
Group A
Knob 1: Freq Ratio Low
Knob 2: Level
Knobs 3-5: Timbre Bright, Harmonic and Env Amount
Knob 6: LFO Rate
Knobs 7-10: Amp Attack, Decay, Sustain and Release
Knob 11: Effect Strength

Buttons 1 and 2: Operator and Wave
Buttons 3-10: Op Sel, A-F, X and Z On/Off
Button 11: Effect On/Off

Group B
Knobs 1 and 2: Freq Ratio Mid and LFO Vibrato
Knob 3: Timbre Velocity Sensitivity
Knob 4: Timbre Detune
Knob 5: LFO Timbre
Knob 6: No Control
Knob 7-10: Timbre Attack, Decay, Sustain and Release
Knob 11: Delay Feedback

Buttons 1 and 2: Operator and Wave
Buttons 3-10: O. S, B-F, X and Z On/Off
Button 11: D. T. Sync

Touchpad has Timbre Bright (x-axis) and Timbre Harmonics (y-axis) assigned to it throughout.



FM7 (continued)

Setup

There is an FM7 setup file 'XioSynth_LE.F7c' on the Resources disk, which must be loaded into the FM7. To load the file into the FM7, click on the controller 'LOAD' button in the master section of the FM7. Navigate to the file 'XioSynth_LE.f7c and open it. Note this can then be saved to the c:/program files/native instruments/FM7/assigns folder where C: is the hard drive that the FM7 is installed on. From the FM7 preferences option, make sure that the following options are checked:

1 MIDI controller range 000-127
2 0...63: off 64...127: on
3 Use OP A controllers for selected op
4 OP Select controller: 9
5 Use 3 ccs for ratio.

Logic 7

Layout

Group A
Knobs 1 and 2: Track Level and Pan
Knobs 3-10: Track 1-8 Sends
Knob 11: Master Vol

Buttons 1 and 2: Track Up and Down
Buttons 3 and 4: Mute and Solo
Buttons 5 and 6: Record Enable and Hide View
Buttons 7-11: Transport (Record, Play, Stop, Rewind, Forward)

Group B
Knobs 1-10: Bus 1-10 Level
Knob 11: Out 1-2 Level

Buttons 1 and 2: Loop and Toggle Drop
Buttons 3 and 4: Mute and Solo
Buttons 5 and 6: Sync and Click On/Off
Buttons 7-11: Transport (Record, Play, Stop, Rewind, Forward)

Touchpad is assigned Aftertouch (x-axis) throughout.

Setup
Locate the files 'com.apple.logic.pro' and 'com.apple.logic.pro.cs' in the folder:

User/Library/Preferences/Logic



Logic 7 (continued)

Then replace them with the ones in the Logic 7 folder on the Resources disk. Note that any existing Control Surface and Key Command preferences will be overwritten. The project 'XIOSYNTH_LOGIC_PRO_7.lso' has been created to correspond best to the XioSynth assigned controls. To save this as the default Logic project rename it 'autoload.lso' and place it in the folder:

User/Library/Application Support/Logic/Song Templates

Note that it is not necessary to use 'XIOSYNTH_LOGIC_PRO_7.lso' project when using the XioSynth to control Logic Pro 7.

Minimonsta

Layout

Group A
Knobs 1 and 2: Osc 1 Range and Mix
Knobs 3-5: Filter Cut, Emphasis and Centre
Knob 6: Mod Mix
Knobs 7-9: VCA Attack, Decay and Sustain
Knob 10: Master Volume
Knob 11: Delay Amount

Buttons 1 and 2: Osc 1 On/Off and Waveform
Buttons 3 and 4: VCF Keyboard 1 and 2
Buttons 5 and 6: Osc 3 Control and Osc Mod
Buttons 7-11: No Control

Group B
Knobs 1 and 2: Osc 2 Range and Mix
Knob 3: Osc 3 Mix
Knob 4: Noise Mix
Knob 5: Ext Input Mix
Knob 6: Mod Mix
Knobs 7-9: VCF Attack, Decay and Sustain
Knob 10: No Control
Knob 11: Delay Feedback

Buttons 1 and 2: Osc 2 On/Off and Waveform
Button 3: Osc 3 On/Off
Button 4: Noise On/Off
Button 5: Noise Colour
Button 6: Filter Mod
Buttons 7-11: No Control

Minimonsta (continued)

Touchpad is assigned Filter Cut (x-axis) and Emphasis (y-axis) throughout.

Setup
No setup is required for the Template to work.

Oddity

Layout
Group A
Knob 1: V1 FNTNE
Knob 2: VCO 1 Level
Knobs 3-5: VCF Frequency, Resonance and Mod 3 Amount
Knob 6: LFO Frequency
Knobs 7-10: Amp Attack, Decay, Sustain and Release
Knob 11: VCA Mod Level

Button 1: No Control
Button 2: VCO 1 Tri/Square
Buttons 3 and 4: No Control
Button 5: VCF Mod 3 Source
Button 6: Tempo LFO Sync
Button 7: ADSR Gate Repeat
Button 8: ADSR Repeat Auto
Buttons 9 and 10: No Control
Button 11: VCA Mod Source

Group B
Knob 1: VCO2 Fine Tuning
Knob 2: VCO 2 Level
Knob 3: HPF Cutoff Frequency
Knobs 4 and 5: VCF Mod 1 and Mod 2 Amount
Knob 6: LFO Frequency
Knobs 7 and 8: AR Attack and Release
Knobs 9 and 10: Velocity to VCA and Velocity to VCF
Knob 11: Portamento

Buttons 1 and 2: VCO 2 Sync and Tri/Square
Button 3: No Control
Buttons 4 and 5: VCF Mod 1 and Mod 2 Source
Button 6: Keyboard LFO Retrig
Button 7: AR Gate Repeat
Buttons 8-10: No Control
Button 11: Mono/Duo Mode

Touchpad is assigned VCF Resonance (x-axis) and VCF Cutoff Frequency (y-axis) throughout.



Oddity (continued)

Setup

No setup is required for the Template to work.

PRO53

Layout

Group A
Knobs 1 and 2: Osc A Frequency and Level
Knobs 3-5: Filter Frequency, Resonance and Envelope Amount
Knob 6: LFO Freq
Knobs 7-10: Amp Attack, Decay, Sustain and Release
Knob 11: Delay Wet

Buttons 1 and 2: Osc A Waveform Saw and Osc A Waveform Square
Button 3: No Control
Button 4: High-pass On/Off
Button 5: LFO Saw Waveform
Button 6: LFO Pulse Waveform
Button 7: Amp Env Hold
Buttons 8 and 9: No Control
Buttons 10 and 11: Delay Sync and On/Off

Group B
Knobs 1 and 2: Osc B Fine Tuning and Level
Knob 3: Filter Keyboard Track,
Knob 4: Analogue
Knob 5: Poly-Mod Osc B
Knob 6: LFO Noise
Knobs 7-10: Filter Attack, Decay, Sustain and Release
Knob 11: Glide

Buttons 1 and 2: Osc B Waveform and Osc B Waveform
Button 3: No Control
Button 4: High-pass On/Off
Button 5: LFO Tri Waveform
Button 6: LFO Pulse Wave
Button 7: Freq Env Invert
Buttons 8-10: No Control
Button 11: Unison

Touchpad has Filter Frequency and Resonance assigned to it throughout.

Setup

The Pro 53 uses a learn facility to remember controllers. The controller values assigned to the Pro-53 template can either be learn't by the Pro 53 or a preference file 'XioSynthPro 53.txt' can be imported from the Resources disk into the Pro-53.



Reason

Although there is no Template onboard the XioSynth for Reason 3, there are Resource files to enable the keyboard to work as a controller for each instrument and rack device in the software. Once the Resource files have been placed in the correct location, the keyboard can be set up as a Control Surface in Reason, during which process a Template will be sent to the XioSynth.

Setup
The file 'XioSynth.midicodec' should be placed in the following folder:

PC (Win XP): C:\Documents and Settings\All Users\Application Data\Propellerhead Software\Remote\Codecs\MIDI Codecs

Mac (OS X): HD/Library/Application Support/Propellerhead Software/Remote/Codecs/MIDI Codecs

The file 'XioSynth.remotemap' should be placed in the following folder:

PC (Win XP): C:\Documents and Settings\All Users\Application Data\Propellerhead Software\Remote\Maps/Novation

Mac (OS X): HD/Library/Application Support/Propellerhead Software/Remote/Maps/Novation

Next, ensure that the XioSynth is connected and switched on, then open Reason 3. Open the Preferences dialog and select the 'Control Surfaces and Keyboards' page. Select 'Add' to bring up the Control Surface dialog and select Novation from the 'Manufacturer' drop down menu and 'XioSynth' from the 'Model' drop down menu. Next select 'XioSynth' in the MIDI input drop down menu (do not select a MIDI output) and click 'OK'. A Reason 3 template will automatically be loaded into the XioSynth, which will then need to be saved to the XioSynth's memory. The setup will then be complete and the Preferences dialog can be closed.

Sonar

Layout
Group A
Knobs 1-8: Tracks 1-8 Volume
Knobs 9-11: No Control

Buttons 1-8: Tracks 1-8 Mute
Buttons Knobs 9-11: Stop, Play and Record

Group B
Knobs 1-8: Tracks 1-8 Volume
Knobs 9-11: No Control

Buttons 1-8: Tracks 1-8 Mute
Buttons Knobs 9-11: Stop, Play and Record



Sonar (continued)

Setup

The Sonar template uses the Generic Control Surface Feature found in Sonar to map incoming controller messages to specific functions within Sonar. These are primarily Console and transport functions.

Start Sonar and open or create a project. Click on Options in the top tool bar and select Control Surface from the drop down list. A connected control surface dialogue box will appear. There should be a Cakewalk Generic Surface listed under Control Surface. If not, click the button to Add new Control Surface found within this dialogue box. A new dialogue box will appear. Select Cakewalk Generic Surface from this list and click ok. The new dialogue box will close.
Double click the Cakewalk Generic Surface from the Connected
Surfaces dialogue box. Select XioSynth or USB Audio device as the MIDI input and output.
Close the dialogue box.

Click on Tools in the top tool bar. Select Cakewalk Generic Surface from the drop down list. Name the Preset 'XioSynth (Type in the empty 'Presets' box on the top left of window). Set the Number of Track Strips to 8 in the corresponding box.

In track parameters set:

Parameter 1 to Volume, 2 to Pan, 3 to Solo and 4 to Mute

Then each individual control needs to be 'Learned'. Highlight the parameter to be learned then hit Learn button, then move the corresponding knob or button on the XioSynth (using the layout guide above) to learn the control. Note 'Configure Strip Number' box 1-8, which corresponds to track 1-8, e.g. set this value to 5 to learn the controls for track 5 by clicking each parameter, then the learn box, then moving each control in turn. Repeat for all controls (including transport) then save the preset. This will then be saved for all future projects.

Vanguard

Layout

Group A
Knobs 1 and 2: Osc 1 Semi and Vol
Knobs 3 and 4: Filter Cut and Resonance
Knob 5: Envelope 2 Cut
Knob 6: LFO1 Speed
Knobs 7-10: Envelope 1 Attack, Decay, Sustain and Release
Knob 11: Delay Mix

Button 1: No Control
Button 2: Osc 1 Waveform
Buttons 3-11: No Control



Vanguard (continued)

Group B
Knobs 1 and 2: Osc 2 Semi and Vol
Knob 3: Fatness
Knob 4: Drive
Knobs 5 and 6: LFO 2 Cut and Speed
Knobs 7-10: Envelope 2 Attack, Decay, Sustain and Release
Knob 11: Reverb Mix

Button 1: No Control
Button 2: Osc 2 Waveform
Buttons 3-11: No Control

Touchpad has Filter Frequency and Resonance assigned to it throughout.

Setup
No setup is required for this Template to work.

V-Station

Layout
Group A
Knobs 1 and 2: Osc 1 Detune and Osc 1 Level
Knobs 3-5: Filter Frequency, Resonance and Mod Depth
Knob 6: LFO Speed
Knobs 7-10: Amp Attack, Decay, Sustain and Release
Knob 11: Arp Tempo

Buttons 1 and 2: Osc 1 Octave and Waveform
Button 3: Filter Slope
Button 4: No Control
Buttons 5 and 6: LFO 1 Waveform and K Sync
Butons 7 and 8: Amp Envelope Trigger and Amp Trig Multi
Button 9: No Control
Buttons 10 and 11: Arp Latch and Arp On/Off

Group B
Knobs 1 and 2: Osc 2 Detune and Level
Knobs 3-5: Filter Tracking, Overdrive and LFO Amount
Knob 6: LFO 2 Speed
Knobs 7-10: Mod Env Attack, Decay, Sustain and Release
Knob 11: A G Time



V-Station (continued)

Buttons 1 and 2: Osc 2 Octave and Waveform
Button 3: Filter 2 Slope
Button 4: No Control
Buttons 5 and 6: LFO 2 Waveform and Key Sync
Buttons 7 and 8: M T Sing and MLT
Button 9: No Control
Buttons 10 and 11: Arp Key Sync and Octave

Touchpad has Filter Frequency and Resonance assigned to it throughout.

Setup
No setup is required for the Template to work.

User
The User Template has different CC numbers assigned to each control so is ideal for creating your own Template for software with a MIDI learn facility.



Audio Recording and playback

Whilst in either Synth or MIDI controlling mode, the XioSynth can be used to output or input audio to your computer. Similarly, if using the keyboard in standalone mode (powering off batteries or an external power supply), then a microphone and line level signal can be amplified and mixed and sent to the line Outputs for recording; this way, the XioSynth acts as a miniature Mixing desk.

Audio Playback

To send audio from a sequencer to speakers, simply connect active (powered) speakers or an amplifier directly to the XioSynth Line Outputs and use the level control (Line Out Vol) on the far left of the front panel to set the level. Providing the XioSynth is now connected over USB and set up as an audio interface in the sequencer preferences, audio from your session can be played using the connected speakers.

Audio Recording

To record audio to your sequencer, a microphone (Input 1), line-level or instrument (e.g. guitar) signal (Input 2) needs to be connected to the rear panel.

Microphone Recording

If plugging a microphone into Input 1 (XLR Input), the phantom power setting in the Global Menu may need activating before a signal is heard. This normally only applies to condenser microphones and should be used carefully as ribbon mics can be damaged by phantom power. Check your microphone's User Guide for more information. To turn on phantom power, press the GLOBAL button and scroll to the following page:



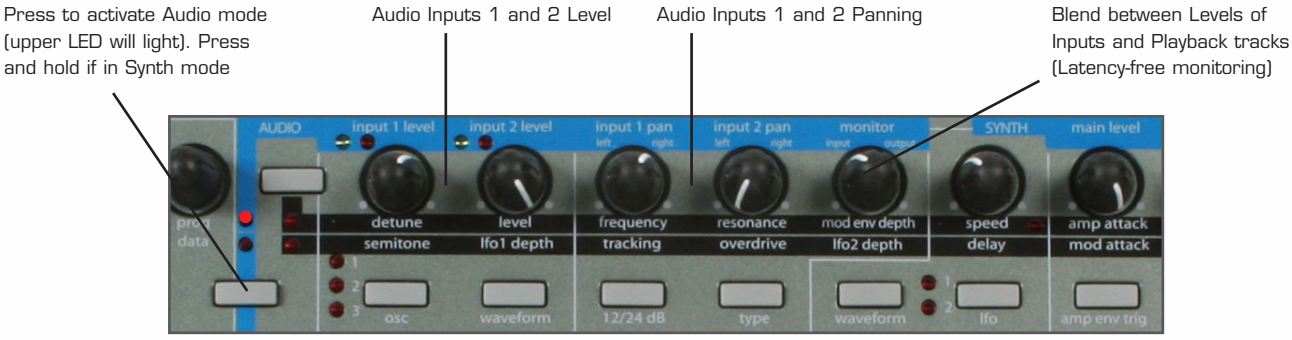
(If in Synth mode, make sure that the normal Global mode is active and not the Synth Global mode – these two modes are activated by alternate presses of the GLOBAL mode button.)

Use the data encoder to select 48V. If using a mic that accepts less power and trying to conserve energy (if running off batteries for example), then 12 or 24V can be selected as required.

Now, the row of knobs on the XioSynth must be put into Audio mode, so that the Input levels can be accessed. To do this in MIDI controlling mode, simply press the Menus/Audio button so that the top LED lights (indicating that the blue strip of AUDIO parameters running across the top of the front panel is now active). If in Synth mode, the Menus/Audio button must be pressed and held to light the top LED; pressing and releasing, so that the bottom LED lights, activates the Synth Menus mode.



Once the top Audio LED is active, the knobs can be used to adjust the Input levels accordingly, as follows:



Line-Level/Instrument Recording

To record a line-level signal (Input 2), connect a 1/4" Jack into the rear panel socket and set the level of the Input using the corresponding knob on the front panel (in AUDIO mode as detailed above). If wanting to record an instrument like a guitar, then the signal can be plugged in directly to Input 2 and recorded by exactly the same means.

GLOBAL Menu

Global Edit menu page 1 – Memory Protect



This page of the menu allows protection of the XioSynth onboard memory to be activated. Using the Data encoder to select XXX as 'On' will mean that none of the 12 onboard Templates can be overwritten. Choosing 'Off' will mean that the WRITE button procedure for saving onboard Templates or Synth patches can be carried out.

Global Menu Page 2 – Phantom Power



Use the data encoder to select OFF, 12, 24 or 48V to supply the relevant phantom power to a microphone connected to Input 1 (XLR Input).

Global Menu Page 3 –Dump Template(s)/Synth patches



This page allows an individual onboard Template, set of all 16 Templates, the Global settings, an individual Synth patch or an entire Sound Bank to be dumped (sent) to a destination, most likely the XioSynth Template Editor. Rotating the Data encoder selects between the following options:

Current Template, All Templates, Send Globals, Current Sound, Sound Bank 1 or Sound Bank 2 (The last three options will only appear when in Synth mode.)

Pressing the WRITE button once will then send the currently selected Template to the receiving device as a sysex message. To indicate completion, the screen will flash:



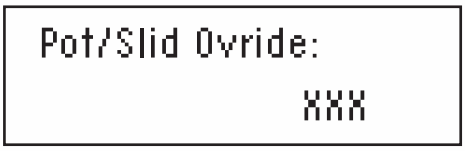


Global Menu Page 4 – MIDI data routing



This page allows the MIDI data received at the USB port to be routed directly to the MIDI Out port, for controlling external hardware with the XioSynth. Set this to On or Off, as required.

Global Menu Page 5 – Global pot action



This page allows a Global knob action (Jump or Pickup) to be set, which will override any individual control settings (set in EDIT mode). Set this to PICKUP or JUMP for the override to take effect. Set to OFF for the individual control settings to take effect.

Global Menu Page 6 –Set Display timeout



This page sets the amount of time that the LCD display shows temporary screens such as the MIDI data when an assignable control is moved. Rotating the DATA encoder sets XXX at a value between 0 and 1260 ms, and then PERMANENT.

Global Menu Page 7 – Sustain Pedal Settings



This page allows one of several Sustain Pedal actions to be activated:

AUTO	automatic pedal action (this is the default setting)
NormOPEN	close when pressed
NormCLSD	open when pressed



Global Menu Page 8 – Retain Template values



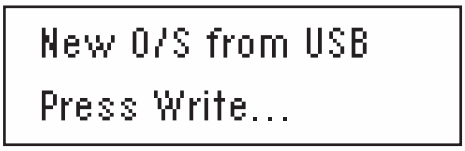
This page allows edited Template values to be remembered without the WRITE process having been done (whilst the XioSynth is powered). This means that, during a session, a Template can be used to edit a plug-in and then, if another Template is selected and edited, returning to the first Template will mean that the last edited values are remembered. Set to ON for this function to be active. Powering down the XioSynth will mean that these edited values are lost. Set to OFF for the saved Template values to always become active when a Template is selected, regardless of the last edits made.

Global Menu Page 9 – Calibrate Pitch / Mod Wheel



This page allows the pitch/mod joystick to be calibrated (set to the necessary data values for correct operation). To calibrate, simply move the joystick from extreme left to extreme right. The display should show a range of 0-255 under the word pitch. Then move the joystick from extreme top to extreme bottom. The display should show a range of 0-127 under the word mod.

Global Menu Page 10 – Operating System Update



This page allows the Operating System (OS) of the XioSynth to be updated. This should be carried out if a new OS has become available on the Novation website for download. In order for the XioSynth to receive the new OS (a .syx file from the computer), the keyboard must be in 'Listen' mode. This is done by navigating to this screen and pressing the WRITE button. The XioSynth will then be awaiting the delivery of a new OS over USB.

Note that in Synth Mode, there are two Global Menus. The first is the Main Global Menu, detailed above, and the second is the Synth Global Menu. These two Menus are accessed by alternate presses of the GLOBAL button.



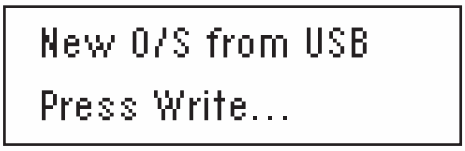
Using the WRITE button in Global edit mode

The WRITE button saves any changes that have been made to the GLOBAL settings. Once pressed, the screen will briefly display the following message before returning to PLAY mode:



Updating the Operating System

The last page of the GLOBAL Edit menu allows a new Operating System to be received by the XioSynth. To access this page, press the GLOBAL button so that the LED to the left of it illuminates, then scroll using the Page Up button to page 9 so that the screen shows:



Now press the WRITE button to put the XioSynth in 'waiting' mode. The XioSynth will then be waiting for an OS to be sent using the updating software provided with the download.

Troubleshooting

XioSynth is not powering up

- Is the keyboard connected over USB or attached to an external power supply, or have batteries been inserted?
- Is the power select switch on the rear panel in the correct position? It must be in the extreme left or right position for the keyboard to be powered.

XioSynth is not appearing as a MIDI controller/Audio Interface in the sequencer

- Is the connected computer running on Win XP or Mac OSX? These are the only supported Operating Systems.
- Is the keyboard connected over USB? With some sequencers, the keyboard will need to have been connected before the sequencer is booted up.

An onboard Template isn't working properly

- Is the receiving device (connected hardware or plug-in on a MIDI track within the sequencer) set up to receive MIDI information from the XioSynth on the correct MIDI channel?
- Has the relevant setup procedure been carried out? All sequencer Templates and some plug-ins require a setup to be carried out before they will work. (See the Templates Guide section for details.)
- Is an override MIDI channel selected in the Template Common Edit Menu?

The onboard synthesizer isn't working

- Is the XioSynth in the correct mode? Pressing the PLAY button alternates between Synth and MIDI Controlling modes.
- Is the Synth level turned up? Press and hold the Menus/Audio button and then rotate knob 7 to adjust.

XioSynth onboard synthesizer audio is not appearing on an audio track within the sequencer

- Has the XioSynth been set up as an Input Audio device in the sequencer preferences?
- Is the Synth USB Level turned up?

XioSynth onboard synthesizer is not responding to MIDI information sent from the sequencer

- Does the sequencer track have XioSynth selected as the source for the MIDI Output?
- Is the sequencer track sending on MIDI Channel 16? This is the default setting in the Synth Global Menu.
- If in Hybrid Mode, is the Synth By Midi page in the Template Common Menu (activated by pressing the EDIT button twice) set to ON?

Audio from the sequencer is not being heard at the Line Outputs

- Has the XioSynth been set up as an Output Audio device in the sequencer preferences?
- Is the Monitor knob (that blends between Inputs and Outputs) in a sufficiently clockwise position? In the extreme anticlockwise position, no Output tracks from the sequencer will be heard.

For more comprehensive technical support, visit the online Answerbase @ www.novationmusic.com



Specifications

Synthesizer
One part, 8-voice polyphonic
3 Oscillators, 17 Waveforms
2 LFOs, 32 Waveforms
Multimode resonant filter section with various filter options
Extensive modulation capabilities
Arpeggiator with latch
X-GATOR with latch
Direct streaming of synth into computer via USB

Keyboard
Type: Semi-weighted
Velocity curves: 7

Pitch and mod wheel mechanism
Pitch wheel lever: Rubberised - centre return spring loaded left to right motion
Mod/control lever: Rubberised - spring loaded front to back motion

X/Y touchpad
Touchpad: 1 x touch sensitive 45x60mm
Parameters: 2 assignable in X direction
2 assignable in Y direction

LCD display
LCD: 2 x 16 character silver
Blue LED backlit

MIDI interfacing
MIDI: 1 MIDI Out
USB MIDI: 1 In/1 Out

Other interfacing
Data ports: 1 x USB 1.1
Sustain pedal: 1 x 1/4" Jack Input



Controls
Rotary potentiometers: 11, 0-270° rotation
Rotary encoders: 1, 360° continuous DATA wheel
Buttons: 11 function switches
Group B switch
General operation: 4 Mode and Menu select buttons
Keyboard Octave Up and Down buttons
Synth Menus/Audio mode select button
Effect Select buttons (Synth Mode)
Template/Bank/Page Up/Down buttons
Line/Phones Volume pots

General
Battery operation: 6 x standard 'AA' Size
External power supply: Standard 'centre positive' 9V DC 600mA (Novation PSU6)
Size: 468 x 68 x 190 (mm) w x h x d
Weight: 1.4kg

System requirements
Operating system: Mac OSX 10.2.4 or greater or Windows XP
Computer spec: Apple G3/400 GHz or Pentium 600 MHz or better
Interfacing: USB 1.1 compatible USB connector

Templates (16 preset onboard, more available on Novation website)
1. Apple – Logic 7
2. Steinberg – Cubase SX3
3. Ableton – Live 5
4. Cakewalk – Sonar
5. Native Instruments - Absynth 3
6. Native Instruments - B4
7. Native Instruments - FM7
8. Native Instruments - Pro53
9. Gmedia - Oddity
10. Novation V-Station
11. Novation Bass Station
12. reFX – Vanguard
13. Linplug – Albino 2
14. Gmedia - Minimonsta
15. Spectrasonics - Atmosphere & Trilogy
16. User Template

