

PATCH EDITOR



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CONCEPTS

The Patch Editor is a compact hardware unit designed to communicate with various synthesizers and provide control over the synthesizer parameters that can be changed. The Patch Editor concept was arrived at because of the frustration of the parameter driven editing system adopted by many synthesizer manufacturers. This was originally done to save manufacture costs and reduce synthesizer size as fewer parts are required but this concept makes it difficult to edit parameter settings quickly, especially in a 'live' situation. The Patch Editor puts you back in control by giving you back the knobs.

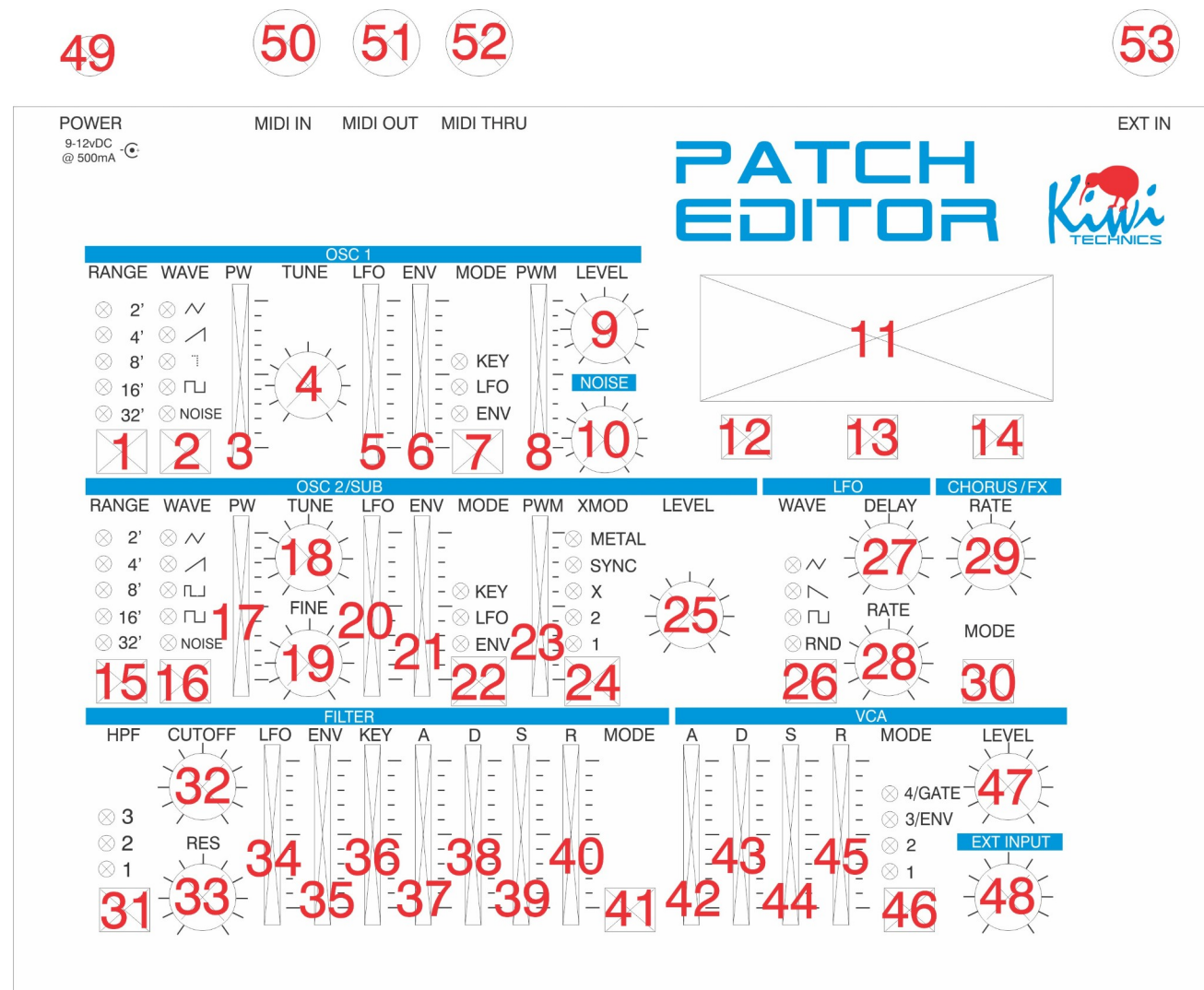
Each active controller in the Patch Editor is lit by a LED. If a control is unused it will be dark and will have no effect. This has added to the cost of making the Patch Editor but it was felt that the visual feedback was important for error free ease of use. Switches can be Red or Green. If a switch has an off state then this will be normally shown as red with active states showing green. Switches that have a normal and inverted state will show normal as green and inverted as red. Switches that have dynamic settings will flash slowly for these settings and show steady for the non dynamic settings.

The maximum value of each control is synthesizer specific and can vary from 4 (the maximum noise level on a Roland® Juno-1) to 4096 on Kiwitechnics Korg Polysix & Roland Juno-106 Upgrades. These will normally be 0-63, 0-100 or 0-127 for most synthesizers.

The display will always show the control accessed and the level set.

Power requirements are a single 9-12vDC supply at 1000mA (1A) or more. The polarity is marked on the Patch Editor and it is protected against reversed power. It was decided not to include a power unit with the Patch Editor as these are country specific and easily purchased throughout the world. A universal voltage power pack can be provided if required but it has a New Zealand plug format and will require adapter plugs for use in other countries.

Patch Editor Layout



1. Osc 1 Range Select
2. Osc 1 Waveform Select
3. Osc 1 Pulse Width
4. Osc 1 Tune
5. Osc 1 LFO Modulation
6. Osc 1 ENV Modulation
7. Osc 1 Mode
8. Osc 1 PWM
9. Osc 1 Level
10. Noise Level
11. LCD Display
12. Menu Button 1
13. Menu Button 2
14. Menu Button 3
15. Osc 2 Range Select
16. Osc 2 Waveform Select
17. Osc 2 Pulse Width
18. Osc 2 Tune

19. Osc 2 Fine Tune
20. Osc 2 LFO Modulation
21. Osc 2 ENV Modulation
22. Osc 2 Mode
23. Osc 2 PWM
24. Osc 2 XMod
25. Osc 2 Level
26. LFO Wave
27. LFO Delay
28. LFO Rate
29. Chorus/FX Rate
30. Chorus Mode
31. HPF Mode
32. Filter Cutoff
33. Filter Resonance
34. Filter LFO Modulation
35. Filter ENV Modulation
36. Filter Key Follow Amount

37. Filter/EG1 Attack
38. Filter/EG1 Decay
39. Filter/EG1 Sustain
40. Filter/EG1 Release
41. Filter Mode
42. VCA/EG2 Attack
43. VCA/EG2 Decay
44. VCA/EG2 Sustain
45. VCA/EG2 Release
46. VCA Mode
47. VCA Level
48. Ext Level
49. Power
50. MIDI Input
51. MIDI Output
52. MIDI Through
53. External Input

Patch editor Control Descriptions



Osc 1 & 2 Range Select

Depending on the synthesizer selected the ranges available with the Range select buttons (1) (15) will vary. Not all ranges are supported by all synthesizers. For synthesizers with a single oscillator the Oscillator 2 control will be disabled or used for other purposes. As an example of this the Osc 2 Range select is used to shift octaves in the Roland® MKS-80.



Osc 1 & 2 Waveform Select

The Waveform select buttons (2) (16) will cycle through the available waveforms for the synthesizer selected. Depending on the synthesizer type the waveforms available will vary. With the Korg DW-6000 & DW-8000 this button will cycle through all the available waveforms.



Osc 1 & 2 Pulse Width

These controls (3) (17) set the manual width of the Pulse Width waveform if selected. Not all synthesizer types support this. The control will remain dark if unused.



Osc 1 and 2 Tune and Fine

When available these will light and allow Osc 1 and 2 to be tuned within the range of +/- 12 notes. The fine tune control (19) on oscillator 2 only normally will allow a +/- 50 cent adjustment. The fine tune control (19) will also act as a detune control on some synthesizer types. See the individual synthesizer tables for the exact use in each synthesizer type.



LFO and ENV Mods

The LFO (5) (20) (34) and the ENV (6) (21) (35) set the amount of Low Frequency Oscillator modulation and envelope modulation to the oscillators and LP Filter. On some synthesizer types the oscillator 1 control will modulate both oscillator 1 and 2. The source for the envelope varies for each synthesizer type. Envelope Modulation is usually provided by Filter/EG1 if it is used in the synthesizer type selected or VCA/EG2 if it is not.



Mode

The Mode controls (7) (22) (41) (46) use will change with each synthesizer type selected. In the initial design concept the Oscillator Mode buttons were envisaged to select the source of the PWM control but this has changed as the Patch Editor has developed. An example of a use of this button is in the Roland Juno-1 where this button will select the PW wave form. The exact use is detailed in the supported synthesizer tables.



Osc PWM

The Oscillator PWM (8) (23) controls normally controls the Pulse Width Modulation but use can vary. The exact use is detailed in the supported synthesizer tables.



Osc 1 & 2 Level & Noise

These controls (9) (25) (10) are the mixer section of the synthesizer and normally sets the levels of Oscillator 1 & 2 and the Noise source. These can also have other uses depending on the synthesizer type selected. An example of this is the Roland MKS-80 which has no Oscillator Level controls so Oscillator Level 1 is used as the Tone 1 & 2 Balance, Oscillator Level 2 is used as the Upper/Lower Balance and the Noise Level is used for the Manual XMod control.

Menu Buttons

These three buttons (12) (13) (14) select the menu level and allow setup changes. The number at the bottom left of the display above the first menu button (12) always shows the current menu level. Menu level 0 is the normal play mode and the first menu button will show green. In all other menus this button will show red. The last menu level will cycle back to the first. The use of the second (13) and third (14) menu buttons vary and will always show on the display.

Menu Level 0

This is the normal play mode. The second menu button (13) will always act as the manual send in this menu level. The third menu button (14) will change depending on the synthesizer type selected. For the Roland MKS-70 & MKS-80 the third menu button will allow upper/lower tone select (see MKS70 bug report in the synthesizer tables regarding this feature).

Menu Level 1

This menu level selects the active synthesizer type.

Menu Level 2

This menu level sets the outgoing MIDI channel for commands to the Synthesizer selected. The second (13) and third (14) menu buttons allow any channel to be selected from 1 to 16. Each synthesizer type will store the MIDI channel separately which will allow more than one synthesizer to be controlled using the Patch Editor. Only the active synthesizer can be controlled 'live'. The synthesizer type in the Patch Editor can be quickly changed using menu level 1.

Menu Level 3

This menu level sets the incoming MIDI channel for commands to the Patch Editor. The second (13) and third (14) menu buttons allow any channel to be selected from 1 to 16.

Menu Level 4

This menu level sets the brightness of the LEDs to suit the light levels.

Menu Level 5

This menu level allows any continuous control to be 'mapped' to the external input. Moving any continuous control while in this menu level will 'map' that control. The currently 'mapped' control will be over written if another control is moved. The 'mapping' is cleared by menu button 3 (14). Once a control has been 'mapped' the External Input level control (48) will flash during mapping and stay lit in normal play mode. While in this mode the external level is displayed on the right side of the display.

**Osc 2 XMod**

The XMod button (24) will select between the various Cross Modulation options available. The types available will depend on the synthesizer type selected.

**LFO Controls**

Not all wave types are available for all synthesizer types (26). Some synthesizer types only provide a sine wave. The Korg DW-6000 and the Roland Juno-1 are examples of this. The LFO Delay (27) and LFO Rate (28) are common to all synthesizer types supported.

**Chorus Controls**

Used for synthesizers that support Chorus and FX (29) (30).

**HPF Mode**

High Pass Filter select (31). Some synthesizers have buttons select control for the HPF and some have a continuous variable control. Where a variable control is used the HPF mode button will provide 10 levels of HPF and the PW control of Oscillator 2 will give continuous variable control. Both of these controls will

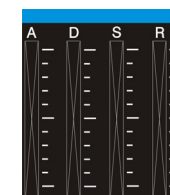
**Filter Cutoff & Res**

overwrite each other. The HPF setting will jump to which ever control is used.

Low Pass Filter Cutoff (32) and Resonance Adjust (33). This control is common to all synthesizer types.

**Filter Key Follow Amount**

This control (36) sets the amount of key follow modulation for the filter cutoff.

**EG1/EG2 ADSR**

These controls (37) (38) (39) (40) (42) (43) (44) (45) set the shape of the EG1 and EG2 Envelopes. The EG1 envelope, if used, will normally control the Filter via the ENV mod control (35). If the EG1 is not used then the EG2 will be the source of all the ENV Mod controls. For synthesizer types that have more complex ADSR controls with extra break levels etc these are controlled to make them act like a ADSR type control.

**VCA Mode and Level**

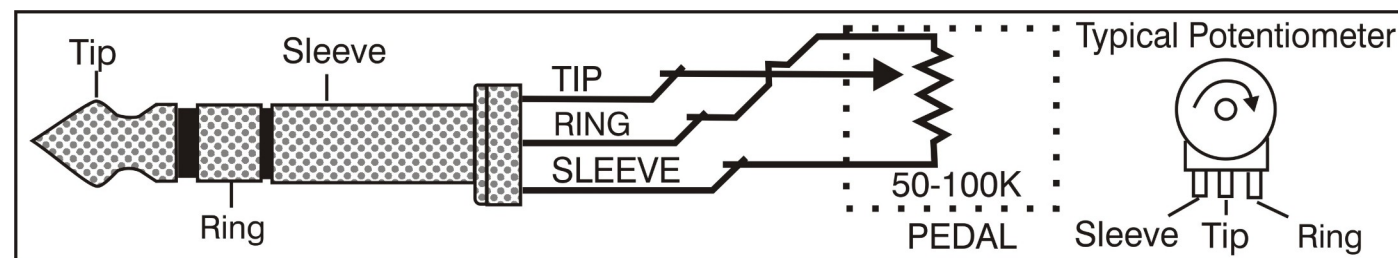
The VCA Mode control (46) sets the VCA Mode and will vary depending on the synthesizer being controlled. It will normally select between Gate and Env. The Level will set the final VCA level (47) if available for the the synthesizer type selected. If there is no VCA level available then this control will send a MIDI volume level control.

**Ext Level**

The External Level control (48) will adjust the external level input. If a continuous control has been 'mapped' to the external input then this control will set the maximum level of the External Input for that control. The external input and the 'mapped' control will overwrite each other with the output jumping to which ever is used.

External Input

The external input (53) can be assigned to any continuous control by using menu level 5. Any control that is moved while in menu level 5 will 'map' itself to the external input. This is indicated by the external input level control (48) flashing. The 'mapping' can be cleared by pressing the third menu button (14) while in menu level 5. The current External Input level is displayed live in menu level 5 to enable checking of the external control. The External Level control (48) will then set the maximum effect that the External input (53) will have on the 'mapped' control. The External Input is a 0v to 5v control signal with a 47k input impedance. The tip of the 1/4" (6.5mm) External Input socket is the input, the ring is a 5v supply out and the body is ground. The 5v supply has a 10k pullup and can source 500µA.



The External Input signal will effect the 'mapped' control in a positive fashion only. For example if the 'mapped' control is at 0% and the External input level control (48) is at 100% then the external input voltage will cover the full range of the 'mapped' control (0% to 100%). If the 'mapped' control is at 50% and the External input level control is at 50% then the external input voltage will cover the range 50% to 100% of the 'mapped' control. If the 'mapped' control is at 50% and the External input level control is at 25% then the external input voltage will cover the range 50% to 75% of the 'mapped' control. If the maximum of the 'mapped' control is exceeded then the level is capped to the control 100% level.

System Reset

The Patch Editor also has a memory erase feature built in which will put the non volatile memory back to a known state. This is accessed by pressing the XMod Button (24) as the Patch Editor is powered on. It will set all MIDI channel data to channel 1, LED brightness to 5 and all switches to the first position.

Power requirements

Power requirements are a single 9-12vDC supply at 1000mA (1A). The polarity is marked on the Patch Editor and it is protected against reversed power. The required DC plug is 2.5mm ID, 5.5mm OD and a minimum of 10mm long. It was decided not to include a power unit with the Patch Editor as these are country specific and easily purchased throughout the world. A universal voltage power pack can be provided if required but it has a New Zealand plug format and will require adapter plugs for use in other countries.

The Patch Editor can get warm near the voltage regulator on the back left corner when running on full brightness with a 12 volt DC supply. If this becomes an issue then either lower the brightness setting or run the Patch Editor on a 9 volts DC supply. No damage to the Patch Editor will result from this. 9vDC is the preferred supply.

Program Update

The KiwiTechnics Patch Editor Update Mode is entered by pressing the HPF button while the PE is powered on. The Update file is then 'played' into the PE using midiOX or similar. The update progress is displayed on the Display. Once the 'Update Successful' message is displayed the PE should be repowered.

It is important that there is no midi devices are in the chain between the PC sending the update and the PE being updated. A direct link is required.

SYNTH TABLES

Fender Chroma Polaris
Cable requirements



The Fender Chroma Polaris uses a standard MIDI cable

PE release v5.0 or higher.

Fender Chroma Polaris Controls

Osc 1 Range (1)	Not Used	LFO Wave (26)	Sweep Wave - Sine, Square
Osc 1 Wave (2)	Saw, Pulse	LFO Delay (27)	Vibrato Delay
Osc 1 PW (3)	Osc 1 Pulse Width	LFO Speed (28)	Sweep Rate
Osc 1 Tune (4)	Osc 1 Transpose	Chorus/FX Rate (29)	Glide Rate
Osc 1 LFO Mod (5)	Osc 1 Vibrato Amount	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Noise Source - Off, On
Osc 1 Mode (7)	PWM Source - Env, Sweep	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Osc 1 PWM	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	VCF LFO Sweep Depth
Noise Level (10)	Not Used	Filter ENV Modulation (35)	VCF Env Depth
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	VCF Key Track
Osc 2 Wave (16)	Saw, Pulse	Filter ADSR (37-40)	VCF Envelope
Osc 2 PW (17)	Osc 2 Pulse Width	Filter Mode (41)	VCF ENV Mode - Fixed, Touch
Osc 2 Tune (18)	Osc 2 Transpose	VCA ADSR (42-45)	VCA Envelope (no sustain)
Osc 2 Fine Tune (19)	Osc 2 Detune	VCA Mode (46)	VCA ENV Mode - Fixed, Touch
Osc 2 LFO Mod (20)	Osc 2 Vibrato Amount	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Osc 2 Env Amount		
Osc 2 Mode (22)	PWM Source - Env, Sweep		
Osc 2 PWM (23)	Osc 2 PWM		
Osc 2 XMod	Sync / Ring Mod - Off/Off, On/Off, Off/On, On/On		
Osc 2 Level (25)	Not Used		

SYNTH TABLES

Cheetah MS6

Cable and MIDI requirements



The Cheetah MS6 uses a standard MIDI cable.

Cheetah MS6 Controls

Osc 1 Range (1)	Low, Low/Med, High/Med, High	LFO1 Wave (26)	Triangle, Sawtooth, Square, Random
Osc 1 Wave (2)	Off, Pulse, Triangle, Sawtooth, Pulse+Tri, Pulse+Saw	LFO1 Delay (27)	Active
Osc 1 PW (3)	DCO A Pulse Width	LFO1 Speed (28)	Active
Osc 1 Tune (4)	DCO A Tune	Chorus/FX Rate (29)	Portamento Time
Osc 1 LFO Mod (5)	DCO A LFO Modulation	Chorus/FX Mode (30)	Portamento Off, Rate & Time Modes
Osc 1 ENV Mod (6)	DCO A ENV Modulation	HPF (31)	Mono - Poly Mode select
Osc 1 Mode (7)	DCO A Envelope Selection 1 or 2	LPF Cutoff (32)	Active
Osc 1 PWM (8)	DCO A PWM Modulation	LPF Resonance (33)	Active
Osc 1 Level (9)	Oscillator A <-> B Mix	Filter LFO Modulation (34)	Active
Noise Level (10)	DCO Mix Envelope Depth	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Low, Low/Med, High/Med, High	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Off, Pulse, Triangle, Saw, Pulse+Tri, Pulse+Saw, Noise	Filter ADSR EG1 (37-40)	Active
Osc 2 PW (17)	DCO B Pulse Width	Filter Mode (41)	Filter Envelope Select 1 or 2
Osc 2 Tune (18)	DCO B Coarse Tune	VCA ADSR EG2 (42-45)	Active
Osc 2 Fine Tune (19)	DCO B Fine Tune	VCA Mode (46)	DCO A & B PWM On/Off
Osc 2 LFO Mod (20)	DCO B LFO Modulation	VCA Level (47)	Active
Osc 2 ENV Mod (21)	DCO B ENV Modulation		
Osc 2 Mode (22)	DCO B Envelope Selection 1 or 2		
Osc 2 PWM (23)	DCO B PWM Modulation		
Osc 2 XMod (24)	Sync On/Off		
Osc 2 Level (25)	DCO A & B PWM Level		

SYNTH TABLES

Kawai K3m

Cable requirements



The Kawai K3m uses a standard MIDI cable

PE release v4.5 or higher.

Kawai K3m Controls

Osc 1 Range (1)	Not Used	LFO Wave (26)	Triangle, Saw, R. Saw, Square, Random
Osc 1 Wave (2)	Portamento On/Off	LFO Delay (27)	Active
Osc 1 PW (3)	Portamento Speed	LFO Speed (28)	Active
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	VCA LFO Amount
Osc 1 LFO Mod (5)	Auto Bend Amount	Chorus/FX Mode (30)	Chorus Mode (Off and 7 types)
Osc 1 ENV Mod (6)	Velocity VCF Level	HPF (31)	Not Used
Osc 1 Mode (7)	Pitch Bend Range	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Velocity VCA Level	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Active
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	16', 8', 4'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Not Used	Filter ADSR (37-40)	VCF Envelope
Osc 2 PW (17)	Low Cut Filter Tune	Filter Mode (41)	Not Used
Osc 2 Tune (18)	Active	VCA ADSR (42-45)	VCA Envelope
Osc 2 Fine Tune (19)	Active	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	LFO Mod Level	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Wave 1 Shape		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Wave 2 Shape		
Osc 2 XMod	Not Used		
Osc 2 Level (25)	Wave Balance Mix		

SYNTH TABLES

KiwiTechnics Kiwi-3P Upgrade
Cable requirements



The Roland 3P KiwiTechnics Upgrade uses a standard MIDI cable

The KiwiTechnics 3P upgrade is a complete rewrite of the operating system in the Roland JX-3P synthesizer. Many enhancements have been made and to enable control of them all the KiwiTechnics 3P Upgrade has been split over two control pages.

Roland© JX-3P KiwiTechnics Upgrade Controls Page 1

Osc 1 Range (1)	16', 8', 4'	LFO1 Wave (26)	Sine,Tri, Saw, Rev Saw, Sqr, Random
Osc 1 Wave (2)	Sawtooth, Pulse, Square	LFO1 Delay (27)	Active
Osc 1 PW (3)	Not Used	LFO1 Speed (28)	Active
Osc 1 Tune (4)	DCO1 Tune +-12 Semitones	Chorus/FX Rate (29)	Chorus Auto Speed or Manual Position
Osc 1 LFO Mod (5)	DCO 1 LFO Level - See page 2 for LFO Source	Chorus/FX Mode (30)	Chorus Auto, Chorus Manual, Chorus Off
Osc 1 ENV Mod (6)	DCO 1 ENV Level - note split ± 63 control	HPF (31)	Off, 10% to 100% in 11 steps
Osc 1 Mode (7)	Select DCO 1 EG Source - EG1 or EG2	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Osc 1 & 2 Mix	Filter LFO Mod (34)	Filter LFO Level - See page 2 for LFO Source
Noise Level (10)	Portamento Rate	Filter ENV Mod (35)	VCF ENV Level - note split ± 63 control
Osc 2 Range (15)	16', 8', 4'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Sawtooth, Pulse, Square, Noise	EG1 ADSR (37-40)	Active
Osc 2 PW (17)	Not Used	Filter Mode (41)	Select Filter EG - EG1 or EG2
Osc 2 Tune (18)	DCO2 Tune ±12 Semitones	EG2 ADSR (42-45)	Active
Osc 2 Fine Tune (19)	DCO2 Fine Tune ±50 Cents	VCA Mode (46)	Select VCA - Gate, EG1 or EG2
Osc 2 LFO Mod (20)	DCO 2 LFO Level - See page 2 for LFO Source	VCA Level (47)	Active
Osc 2 ENV Mod (21)	DCO 2 ENV Level - note split ± 63 control		
Osc 2 Mode (22)	Select DCO 2 EG Source - EG1 or EG2		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod	Sync Off, Sync On, Metal		
Osc 2 Level (25)	Not Used		

Roland© JX-3P KiwiTechnics Upgrade Controls Page 2

Osc 1 Range (1)	Arpeggiator Mode - Up, Down, U&D, Random	LFO 2 Wave (26)	Sine,Tri, Saw, Rev Saw, Sqr, Random
Osc 1 Wave (2)	Arpeggiator Range - 0, 1 or 2 Octaves	LFO 2 Delay (27)	Active
Osc 1 PW (3)	Not Used	LFO 2 Speed (28)	Active
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Key Assign Detune
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Key Mode - Poly 1,2 Mono 1,2 Unison 1,2
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Bend Level Dest - DCO, VCF, VCA
Osc 1 Mode (7)	Select DCO 1 LFO Source - LFO1, LFO2	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Active
Noise Level (10)	Portamento Rate	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Seq Clock Source	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Arp Clock Source	EG1 ADSR (37-40)	Not Used
Osc 2 PW (17)	Aftertouch Level - note split ± 63 control	Filter Mode (41)	Select Filter LFO Source - LFO1, LFO2
Osc 2 Tune (18)	Modulation Level - note split ± 63 control	EG2 ADSR (42-45)	VCA LFO Mod Level on Release
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Select VCA LFO Source - LFO1, LFO2
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Select DCO 2 LFO Source - LFO1, LFO2		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod	Pattern Clock Source		
Osc 2 Level (25)	Pattern Level		

Roland© KiwiTechnics JX-3P Upgrade Notes

The oscillator design in the JX-3P is a digital system and the filter uses the custom Roland chip the IR3109 for each of the six voices. The KiwiTechnics Upgrade has realized the full potential of the 3P and provides full midi control for all parameters.

More details can be found in the KiwiTechnics 3P Upgrade manual.

SYNTH TABLES

KiwiTechnics KiwiSix Upgrade

Cable requirements



The KiwiTechnics Korg PolySix Upgrade uses a standard MIDI cable

The KiwiTechnics Korg PolySix upgrade is a complete rewrite of the operating system in the Korg PolySix synthesizer. Parameter Control via midi is now possible.

Korg® PolySix KiwiTechnics Upgrade Controls Page 1

Osc 1 Range (1)	16', 8', 4'	LFO1 Wave (26)	MG Wave Select - 5 types
Osc 1 Wave (2)	Sawtooth, Pulse, PWM	LFO1 Delay (27)	MG Delay
Osc 1 PW (3)	Pulse Width Shape	LFO1 Speed (28)	MG Rate
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	FX Rate
Osc 1 LFO Mod (5)	Not Used - Use MG Destination	Chorus/FX Mode (30)	FX Type - Off, Chorus, Phase, Ensemble
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	PWM Wave - 5 types	LPF Cutoff (32)	Active
Osc 1 PWM (8)	PWM Rate	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Mod (34)	Not Used - Use MG Destination
Noise Level (10)	Not Used	Filter ENV Mod (35)	VCF ENV Level - split ± 63 control
Osc 2 Range (15)	Sub Osc Mode - Off, -1 Octave, -2 Octaves	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Not Used	EG1 ADSR (37-40)	Not Used
Osc 2 PW (17)	Not Used	Filter Mode (41)	Key Mode - Poly 1, Poly 2, Unison
Osc 2 Tune (18)	Not Used	EG2 ADSR (42-45)	Active
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Select VCA - Gate or EG
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod	MG Destination - VCO, VCF or VCA		
Osc 2 Level (25)	MG Osc Level		

Roland® KiwiTechnics Kiwisix Upgrade Notes

- Random mode on the Arp is only available via midi control
- MG & PWM Wave select is only available via midi control
- Full details can be found in the KiwiTechnics Korg PolySix Upgrade manual.

Korg® PolySix KiwiTechnics Upgrade Controls Page 2

Osc 1 Range (1)	Arp Range - 1,2 or 3 Octaves	LFO1 Wave (26)	Not Used
Osc 1 Wave (2)	Arp Mode - Up, Down, U&D, Random	LFO1 Delay (27)	Not Used
Osc 1 PW (3)	Not Used	LFO1 Speed (28)	Not Used
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Arp Clock Division	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Mod (34)	Not Used
Noise Level (10)	Not Used	Filter ENV Mod (35)	VCF ENV Level - split ± 63 control
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Not Used	EG1 ADSR (37-40)	Not Used
Osc 2 PW (17)	Not Used	Filter Mode (41)	Not Used
Osc 2 Tune (18)	Not Used	EG2 ADSR (42-45)	Not Used
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)Not Used	Not Used
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Sequencer Clock Division		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod	Not Used		
Osc 2 Level (25)	Not Used		

SYNTH TABLES

KiwiTechnics Kiwi-106 Upgrade
Cable requirements



The Roland Kiwi-106 KiwiTechnics Upgrade uses a standard MIDI cable

The KiwiTechnics Kiwi-106 upgrade is a complete rewrite of the operating system in the Roland Juno-106 synthesizer. Many enhancements have been made and to enable control of them all the KiwiTechnics Kiwi-106 Upgrade has been split over two control pages. For more comprehensive control the bundled Kiwi-106 Editor software can be used.

KiwiTechnics Kiwi-106 Upgrade Controls Page 1

Osc 1 Range (1)	16', 8', 4'	LFO1 Wave (26)	Sine,Tri, Saw, Rev Saw, Sqr, Random
Osc 1 Wave (2)	Sawtooth, Pulse, Both, None	LFO1 Delay (27)	Active
Osc 1 PW (3)	PW Shape / Depth	LFO1 Speed (28)	Active
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Key Assign Detune
Osc 1 LFO Mod (5)	DCO LFO Level - See page 2 for LFO Source	Chorus/FX Mode (30)	Chorus Off, Chorus On 1, Chorus On 2
Osc 1 ENV Mod (6)	DCO ENV Level - Use DCO Mode for Polarity	HPF (31)	Off, 1, 2, or 3
Osc 1 Mode (7)	PWM Manual/LFO	VCF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	VCF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Mod (34)	Filter LFO Level - See page 2 for LFO Source
Noise Level (10)	Noise Level	Filter ENV Mod (35)	VCF ENV Level – Use Filter Mode for Polarity
Osc 2 Range (15)	DCO ENV Source - ENV1 Norm/Inv or ENV2 Norm/Inv	Filter Key Follow (36)	Active
Osc 2 Wave (16)	DCO LFO Source - LFO1 Norm/Inv or LFO2 Norm/Inv	ENV1 ADSR (37-40)	Active
Osc 2 PW (17)	Not Used	Filter Mode (41)	Filter ENV - ENV1 Norm/Inv or ENV2 Norm/Inv
Osc 2 Tune (18)	DCO Bend Mod Amount	ENV2 ADSR (42-45)	Active
Osc 2 Fine Tune (19)	VCF Bend Mod Amount	VCA Mode (46)	VCA Gate, ENV1 Norm/Inv or ENV2 Norm/Inv
Osc 2 LFO Mod (20)	DCO LFO Mod Wheel Amount	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Portamento Rate (0=Off)		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod	LFO Mode- Normal/Plus		
Osc 2 Level (25)	Sub Level		

KiwiTechnics Kiwi-106 Upgrade Controls Page 2

Osc 1 Range (1)	Arpeggiator Mode - Up, Down, U&D, Random, As Played	LFO 2 Wave (26)	Sine,Tri, Saw, Rev Saw, Sqr, Random, Rnd 2
Osc 1 Wave (2)	Arpeggiator Range - 0, 1 or 2 Octaves	LFO 2 Delay (27)	Active
Osc 1 PW (3)	Not Used	LFO 2 Speed (28)	Active
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Key Assign Detune
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Key Mode - Poly 1,2 Unison
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Seq Clock Source
Osc 1 Mode (7)	Select DCO LFO Source - LFO1, LFO2	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	GLOBAL – Internal Note Velocity (50%-100% only)	Filter LFO Modulation (34)	Active
Noise Level (10)	Noise Level	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Internal Clock Source	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Internal/Ext/Midi Clock Divide Type	ENV1 ADSR (37-40)	Not Used
Osc 2 PW (17)	Not Used	Filter Mode (41)	Select Filter LFO Source - LFO1, LFO2
Osc 2 Tune (18)	Internal Clock Rate	ENV2 ADSR (42-45)	VCA LFO Mod Level (VCA Release Slider)
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Select VCA LFO Source - LFO1, LFO2
Osc 2 LFO Mod (20)	Aftertouch Level - note split ± 63 control	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Modulation Level - note split ± 63 control		
Osc 2 Mode (22)	Arp Clock Source		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod	Pattern Clock Source		
Osc 2 Level (25)	Pattern Level		

Roland® KiwiTechnics Kiwi-106 Upgrade Notes

The oscillator design in the Juno-106 is a digital system and the filter uses the custom Roland hybrid called the 80017a for each of the six voices. The 80017a consists of two BA662 VCAs and one IR3109 Filter IC. The KiwiTechnics Kiwi-106 Upgrade has realized the full potential of the Juno-106 and provides full midi control for all parameters and many new features.

More details can be found in the KiwiTechnics Kiwi-106 Upgrade manual.

SYNTH TABLES

Kiwitechnics Kiwi-8P

Cable requirements
The Roland JX-8P uses a standard MIDI cable



Kiwitechnics Kiwi8P Controls Pg1

Osc 1 Range (1)	16', 8', 4', 2'	LFO 1 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random
Osc 1 Wave (2)	Saw, Pulse, Square, Noise	LFO Delay (27)	LFO 1 Delay
Osc 1 PW (3)	Not Used	LFO Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	DCO 1 Tune	Chorus/FX Rate (29)	DCO Detune
Osc 1 LFO Mod (5)	DCO 1 LFO Mod	Chorus/FX Mode (30)	Chorus Off, 1, 2
Osc 1 ENV Mod (6)	DCO 1 ENV Mod	HPF (31)	Off, 1, 2, 3
Osc 1 Mode (7)	DCO 1 & 2 Envelope Mode	LPF Cutoff (32)	Active
Osc 1 PWM (8)	DCO 1 Env Source	LPF Resonance (33)	Active
Osc 1 Level (9)	DCO 1 Level	Filter LFO Modulation (34)	Active
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	16', 8', 4', 2'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Saw, Pulse, Square, Noise	Filter ADSR (37-40)	Active
Osc 2 PW (17)	Not Used	Filter Mode (41)	Filter Envelope Source
Osc 2 Tune (18)	DCO 2 Tune	VCA ADSR (42-45)	Active
Osc 2 Fine Tune (19)	DCO 2 Fine Tune	VCA Mode (46)	Envelope 1-3, Gate
Osc 2 LFO Mod (20)	DCO 2 LFO Mod	VCA Level (47)	Patch Level
Osc 2 ENV Mod (21)	DCO 2 ENV Mod		
Osc 2 Mode (22)	DCO 2 Env Source		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Off, 1, 2, Cross Mod		
Osc 2 Level (25)	DCO 2 Level		

Kiwitechnics Kiwi8P Controls Pg2

Osc 1 Range (1)	Arp Clock Divide (13 options)	LFO 2 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random
Osc 1 Wave (2)	Seq Clock Divide (13 options)	LFO Delay (27)	LFO 2 Delay
Osc 1 PW (3)	Tone MW Output Level	LFO Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Analog Feel Level
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Master Clock Source (Int, Midi)
Osc 1 ENV Mod (6)	Not Used	HPF (31)	VCF LFO Source
Osc 1 Mode (7)	DCO 1&2 LFO Source	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Mix 2 Dynamics Level	LPF Resonance (33)	Active
Osc 1 Level (9)	DCO 1 Dynamics Level	Filter LFO Modulation (34)	Active
Noise Level (10)	DCO 2 Dynamics Level	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Arp Mode (Up, Down, U&D, Random, As played)	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Arp Range (1-4 Octaves)	Filter Decay	Not Used
Osc 2 PW (17)	Not Used	Filter Sustain	Not Used
Osc 2 Tune (18)	Internal Master Clock Rate	Filter Release	Not Used
Osc 2 Fine Tune (19)	Patch Clock Rate	Filter Mode	Bend Range
Osc 2 LFO Mod (20)	VCF Dynamics Level	VCA Attack	Env 3 Attack
Osc 2 ENV Mod (21)	VCA Dynamics Level	VCA Decay	Env 3 Decay
Osc 2 Mode (22)	Not Used	VCA Sustain	Env 3 Sustain
Osc 2 PWM (23)	Not Used	VCA Release	Env 3 Release
Osc 2 XMod (24)	Key Mode (Poly, Poly Dual, Poly Trip, Unison, Solo)	VCA Mode (46)	VCA LFO Source
Osc 2 Level (25)	Mixer 2 Env Mod Level	VCA Level (47)	Synth Output Level

Kiwitechnics Kiwi-8P Notes

The JX-8P has two separate oscillators. The oscillator design in the JX-8P is a digital system and the filter and the VCA use the custom Roland chip the IR3R05 for each of the six voices.

Full upgrade details can be found in the Kiwi-8P user guide.

SYNTH TABLES

Kiwitechnics Kiwi-30

Cable requirements
The Kiwi K-30 uses a standard MIDI cable



Kiwitechnics Kiwi30 Controls Pg1

Osc 1 Range (1)	16', 8', 4'	LFO 1 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random, Fast Random
Osc 1 Wave (2)	Saw, Pulse, Square	LFO Delay (27)	LFO 1 Delay
Osc 1 PW (3)	Not Used	LFO Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	DCO 1 Tune	Chorus/FX Rate (29)	DCO Detune
Osc 1 LFO Mod (5)	DCO 1 LFO Mod	Chorus/FX Mode (30)	Chorus On/Off
Osc 1 ENV Mod (6)	DCO 1 ENV Mod	HPF (31)	HPF Level
Osc 1 Mode (7)	DCO 1 Envelope Source and Mode	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	DCO 1/2 Mix - Minimum is All DCO1	Filter LFO Modulation (34)	Active
Noise Level (10)	DCO Mix Env Level. The more Env Level the more the balance is moved toward DCO2	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	16', 8', 4'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Saw, Pulse, Square, Noise	Filter ADSR (37-40)	VCF ENV 1 Controls
Osc 2 PW (17)	Not Used	Filter Mode (41)	Filter Envelope Source and Mode
Osc 2 Tune (18)	DCO 2 Tune	VCA ADSR (42-45)	ENV 2 Controls
Osc 2 Fine Tune (19)	DCO 2 Fine Tune	VCA Mode (46)	Envelope 1-3, Gate
Osc 2 LFO Mod (20)	DCO 1 LFO Mod	VCA Level (47)	VC Amplifier Level
Osc 2 ENV Mod (21)	DCO 2 ENV Mod		
Osc 2 Mode (22)	DCO 2 Envelope Source and Mode		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Off, Sync 1, Sync 2, Metal		
Osc 2 Level (25)	Portamento Rate		

Kiwitechnics Kiwi30 Controls Pg2

Osc 1 Range (1)	Arp Clock Divide (13 options)	LFO 2 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random, Fast Random
Osc 1 Wave (2)	Seq Clock Divide (13 options)	LFO Delay (27)	LFO 2 Delay
Osc 1 PW (3)	Not Used	LFO Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	Master Tune	Chorus/FX Rate (29)	Analog Feel Level
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Key Down Env Source (Staccatto,Legato)
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Master Clock Source
Osc 1 Mode (7)	DCO 1 LFO Source	LPF Cutoff (32)	Active
Osc 1 PWM (8)	DCO 1 Dynamics Level	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Active
Noise Level (10)	Mix ENV Dynamics Level. The louder notes will increase the ENV Level with this level up.	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Arp Mode (Up, Down, U&D, Random, As played)	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Arp Range (1-4 Octaves)	Filter Attack	Not Used
Osc 2 PW (17)	Not Used	Filter Decay	Not Used
Osc 2 Tune (18)	Internal Master Clock Rate	Filter Sustain	VCF Dynamics Level
Osc 2 Fine Tune (19)	Patch Clock Rate	Filter Release	VCA Dynamics Level
Osc 2 LFO Mod (20)	Not Used	Filter Mode	VCF LFO Source
Osc 2 ENV Mod (21)	Not Used	VCA Attack	Env 3 Attack
Osc 2 Mode (22)	DCO 2 LFO Source	VCA Decay	Env 3 Decay
Osc 2 PWM (23)	DCO 2 Dynamics Level	VCA Sustain	Env 3 Sustain
Osc 2 XMod (24)	Key Mode (Poly, Poly Dual, Poly Trip, Unison, Solo)	VCA Release	Env 3 Release
Osc 2 Level (25)	Bender Range (Max= ±1 Oct)	VCA Mode (46)	VCA LFO Source
		VCA Level (47)	VCA LFO Level

Kiwitechnics Kiwi30 Controls Pg3 (v7+ only)

Osc 1 Range (1)	Matrix 0 Source (23 options)	LFO 3 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random, Fast Random
Osc 1 Wave (2)	Matrix 0 Destination(26 options)	LFO 3 Delay (27)	LFO 3 Delay
Osc 1 PW (3)	Not Used	LFO 3 Speed (28)	LFO 3 Rate
Osc 1 Tune (4)	Matrix 0 Level	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Not Used
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Not Used
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Matrix CC 1
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Matrix CC 2
Osc 2 Range (15)	Matrix 1 Source (23 options)	Filter Key Follow (36)	Matrix CC 3
Osc 2 Wave (16)	Matrix 1 Destination(26 options)	Filter Attack	Matrix CC 4
Osc 2 PW (17)	Not Used	Filter Decay	Matrix CC 5
Osc 2 Tune (18)	Matrix 1 Level	Filter Sustain	Matrix CC 6
Osc 2 Fine Tune (19)	Not Used	Filter Release	Matrix Level 3
Osc 2 LFO Mod (20)	Not Used	Filter Mode	Not Used
Osc 2 ENV Mod (21)	Not Used	VCA Attack	Matrix Level 4
Osc 2 Mode (22)	Matrix 2 Source (23 options)	VCA Decay	Matrix Level 5
Osc 2 PWM (23)	Not Used	VCA Sustain	Matrix Level 6
Osc 2 XMod (24)	Matrix 2 Destination(26 options)	VCA Release	Matrix Level 7
Osc 2 Level (25)	Matrix 2 Level	VCA Mode (46)	Not Used
		VCA Level (47)	VCA Level (Overall Volume)

SYNTH TABLES

Kiwitechnics Kiwi-SJX

Cable requirements
The Kiwi SJX uses a standard MIDI cable



Kiwitechnics Kiwi-SJX Controls Pg1

Osc 1 Range (1)	16', 8', 4', 2'	LFO 1 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random
Osc 1 Wave (2)	Saw, Pulse, Square, Noise	LFO Delay (27)	LFO 1 Delay
Osc 1 PW (3)	Not Used	LFO Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	DCO 1 Tune	Chorus/FX Rate (29)	DCO Detune
Osc 1 LFO Mod (5)	DCO 1 LFO Mod	Chorus/FX Mode (30)	Chorus Off, 1, 2
Osc 1 ENV Mod (6)	DCO 1 ENV Mod	HPF (31)	Off, 1, 2, 3
Osc 1 Mode (7)	DCO 1 & 2 Envelope Mode	LPF Cutoff (32)	Active
Osc 1 PWM (8)	DCO 1 Env Source	LPF Resonance (33)	Active
Osc 1 Level (9)	DCO 1 Level	Filter LFO Modulation (34)	Active
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	16', 8', 4', 2'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Saw, Pulse, Square, Noise	Filter ADSR (37-40)	Active
Osc 2 PW (17)	Not Used	Filter Mode (41)	Filter Envelope Source
Osc 2 Tune (18)	DCO 2 Tune	VCA ADSR (42-45)	Active
Osc 2 Fine Tune (19)	DCO 2 Fine Tune	VCA Mode (46)	Envelope 1-3, Gate
Osc 2 LFO Mod (20)	DCO 2 LFO Mod	VCA Level (47)	Patch Level
Osc 2 ENV Mod (21)	DCO 2 ENV Mod		
Osc 2 Mode (22)	DCO 2 Env Source		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Off, 1, 2, Cross Mod		
Osc 2 Level (25)	DCO 2 Level		

Kiwitechnics Kiwi-SJX Controls Pg2

Osc 1 Range (1)	Arp Clock Divide (13 options)	LFO 2 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random, Fast Random
Osc 1 Wave (2)	Seq Clock Divide (13 options)	LFO Delay (27)	LFO 2 Delay
Osc 1 PW (3)	Not Used	LFO Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	Master Tune	Chorus/FX Rate (29)	Analog Feel Level
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Key Down Env Source (Staccatto,Legato)
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Master Clock Source
Osc 1 Mode (7)	DCO 1 LFO Source	LPF Cutoff (32)	Active
Osc 1 PWM (8)	DCO 1 Dynamics Level	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Active
Noise Level (10)	Mix ENV Dynamics Level. The louder notes will increase the ENV Level with this level up.	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Arp Mode (Up, Down, U&D, Random, As played)	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Arp Range (1-4 Octaves)	Filter Attack	Not Used
Osc 2 PW (17)	Not Used	Filter Decay	Not Used
Osc 2 Tune (18)	Internal Master Clock Rate	Filter Sustain	VCF Dynamics Level
Osc 2 Fine Tune (19)	Patch Clock Rate	Filter Release	VCA Dynamics Level
Osc 2 LFO Mod (20)	Not Used	Filter Mode	VCF LFO Source
Osc 2 ENV Mod (21)	Not Used	VCA Attack	Env 3 Attack
Osc 2 Mode (22)	DCO 2 LFO Source	VCA Decay	Env 3 Decay
Osc 2 PWM (23)	DCO 2 Dynamics Level	VCA Sustain	Env 3 Sustain
Osc 2 XMod (24)	Key Mode (Poly, Poly Dual, Poly Trip, Unison, Solo)	VCA Release	Env 3 Release
Osc 2 Level (25)	Bender Range (Max= ±1 Oct)	VCA Mode (46)	VCA LFO Source
		VCA Level (47)	VCA LFO Level

Kiwitechnics Kiwi-SJX Controls Pg3

Osc 1 Range (1)	Matrix 0 Source (23 options)	LFO 3 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random, Fast Random
Osc 1 Wave (2)	Matrix 0 Destination(26 options)	LFO 3 Delay (27)	LFO 3 Delay
Osc 1 PW (3)	Not Used	LFO 3 Speed (28)	LFO 3 Rate
Osc 1 Tune (4)	Matrix 0 Level	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Not Used
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Not Used
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Matrix CC 1
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Matrix CC 2
Osc 2 Range (15)	Matrix 1 Source (23 options)	Filter Key Follow (36)	Matrix CC 3
Osc 2 Wave (16)	Matrix 1 Destination(26 options)	Filter Attack	Matrix CC 4
Osc 2 PW (17)	Not Used	Filter Decay	Matrix CC 5
Osc 2 Tune (18)	Matrix 1 Level	Filter Sustain	Matrix CC 6
Osc 2 Fine Tune (19)	Not Used	Filter Release	Matrix Level 3
Osc 2 LFO Mod (20)	Not Used	Filter Mode	Not Used
Osc 2 ENV Mod (21)	Not Used	VCA Attack	Matrix Level 4
Osc 2 Mode (22)	Matrix 2 Source (23 options)	VCA Decay	Matrix Level 5
Osc 2 PWM (23)	Not Used	VCA Sustain	Matrix Level 6
Osc 2 XMod (24)	Matrix 2 Destination(26 options)	VCA Release	Matrix Level 7
Osc 2 Level (25)	Matrix 2 Level	VCA Mode (46)	Not Used
		VCA Level (47)	VCA Level (Overall Volume)

SYNTH TABLES

Kiwitechnics Kiwi-1000

Cable requirements
The Kiwi K-1000 uses a standard MIDI cable



Kiwitechnics Kiwi1000 Controls Pg1

Osc 1 Range (1)	64', 32',16', 8', 4', 2'	LFO 1 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random, Fast Random
Osc 1 Wave (2)	Off, Tri, Saw, Pulse, Saw+Pulse, Tri+Pulse	LFO Delay (27)	LFO 1 Delay
Osc 1 PW (3)	DCO 1 Pulse Width	LFO Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	DCO 1 Tune	Chorus/FX Rate (29)	DCO Detune
Osc 1 LFO Mod (5)	DCO 1 Wave Shape	Chorus/FX Mode (30)	DCO 1&2 PWM Source
Osc 1 ENV Mod (6)	DCO 1 ENV Mod	HPF (31)	VCF LFO Source
Osc 1 Mode (7)	DCO 1 Envelope Source and Mode	LPF Cutoff (32)	Active
Osc 1 PWM (8)	DCO 1 Pulse Width Modulation Level	LPF Resonance (33)	Active
Osc 1 Level (9)	DCO 1/2 Mix - Minimum is All DCO1	Filter LFO Modulation (34)	Active
Noise Level (10)	DCO Mix Env Level. The more Env Level the more the balance is moved toward DCO2	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	64', 32',16', 8', 4', 2'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Off, Tri, Saw, Pulse, Saw+Pulse, Tri+Pulse, Noise	Filter ADSR (37-40)	VCF ENV 1 Controls
Osc 2 PW (17)	DCO 2 Pulse Width	Filter Mode (41)	Filter Envelope Source
Osc 2 Tune (18)	DCO 2 Tune	VCA ADSR (42-45)	ENV 2 Controls
Osc 2 Fine Tune (19)	DCO 2 Fine Tune	VCA Mode (46)	Envelope 1-3, Gate
Osc 2 LFO Mod (20)	DCO 1 Wave Shape	VCA Level (47)	Total Synth Volume
Osc 2 ENV Mod (21)	DCO 2 ENV Mod		
Osc 2 Mode (22)	DCO 2 Envelope Source and Mode		
Osc 2 PWM (23)	DCO 2 Pulse Width Modulation Level		
Osc 2 XMod (24)	Off, Sync 1, Sync 2, Cross Mod		
Osc 2 Level (25)	Portamento Rate		

Kiwitechnics Kiwi1000 Controls Pg2

Osc 1 Range (1)	Arp Clock Divide (13 options)	LFO 2 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random
Osc 1 Wave (2)	Seq Clock Divide (13 options)	LFO Delay (27)	LFO 2 Delay
Osc 1 PW (3)	Not Used	LFO Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Analog Feel Level
Osc 1 LFO Mod (5)	DCO 1 LFO Mod	Chorus/FX Mode (30)	Key Down Env Source (Staccatto,Legato)
Osc 1 ENV Mod (6)	Not Used	HPF (31)	VCF LFO Source
Osc 1 Mode (7)	DCO 1 LFO Source	LPF Cutoff (32)	Active
Osc 1 PWM (8)	DCO 1 Dynamics Level	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Active
Noise Level (10)	Mix ENV Dynamics Level. The louder notes will increase the ENV Level with this level up.	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Arp Mode (Up, Down, U&D, Random, As played)	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Arp Range (1-4 Octaves)	Filter Attack	VCF FM Level
Osc 2 PW (17)	DCO 2 Wave Shape	Filter Decay	VCF FM Modulation Level
Osc 2 Tune (18)	Internal Master Clock Rate	Filter Sustain	VCF Dynamics Level
Osc 2 Fine Tune (19)	Patch Clock Rate	Filter Release	VCA Dynamics Level
Osc 2 LFO Mod (20)	DCO 2 LFO Mod	Filter Mode	VCF FM Mod Source (Env2-3, LFO2-3)
Osc 2 ENV Mod (21)	Not Used	VCA Attack	Env 3 Attack
Osc 2 Mode (22)	DCO 2 LFO Source	VCA Decay	Env 3 Decay
Osc 2 PWM (23)	DCO 2 Dynamics Level	VCA Sustain	Env 3 Sustain
Osc 2 XMod (24)	Key Mode (Poly, Poly Dual, Poly Trip, Unison, Solo)	VCA Release	Env 3 Release
Osc 2 Level (25)	Bender Range (Max= ±1 Oct)	VCA Mode (46)	VCA LFO Source
		VCA Level (47)	VCA LFO Level

Kiwitechnics Kiwi1000 Controls Pg3 (v7+ only)

Osc 1 Range (1)	Matrix 0 Source (22 options)	LFO 3 Wave (26)	Sine, Tri, Saw, Rev Saw, Square, Random
Osc 1 Wave (2)	Matrix 0 Destination(34 options)	LFO 3 Delay (27)	LFO 3 Delay
Osc 1 PW (3)	Not Used	LFO 3 Speed (28)	LFO 3 Rate
Osc 1 Tune (4)	Matrix 0 Level	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Not Used
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Not Used
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Matrix CC 1
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Matrix CC 2
Osc 2 Range (15)	Matrix 1 Source (22 options)	Filter Key Follow (36)	Matrix CC 3
Osc 2 Wave (16)	Matrix 1 Destination(34 options)	Filter Attack	Matrix CC 4
Osc 2 PW (17)	Not Used	Filter Decay	Matrix CC 5
Osc 2 Tune (18)	Matrix 1 Level	Filter Sustain	Matrix CC 6
Osc 2 Fine Tune (19)	Not Used	Filter Release	Matrix Level 3
Osc 2 LFO Mod (20)	Not Used	Filter Mode	Not Used
Osc 2 ENV Mod (21)	Not Used	VCA Attack	Matrix Level 4
Osc 2 Mode (22)	Matrix 2 Source (22 options)	VCA Decay	Matrix Level 5
Osc 2 PWM (23)	Not Used	VCA Sustain	Matrix Level 6
Osc 2 XMod (24)	Matrix 2 Destination(34 options)	VCA Release	Matrix Level 7
Osc 2 Level (25)	Matrix 2 Level	VCA Mode (46)	Not Used
		VCA Level (47)	VCA Lin Level (Overall Volume)

SYNTH TABLES

Organix Midi 3P Upgrade

Cable requirements



The Organix midi 3P Upgrade uses a standard MIDI cable

PE release v4.6 or higher.

Organix JX-3P Controls

Osc 1 Range (1)	16', 8', 4'	LFO Wave (26)	Triangle, Square, Random
Osc 1 Wave (2)	Sawtooth, Pulse, Square	LFO Delay (27)	Active
Osc 1 PW (3)	Not Used	LFO Speed (28)	Active
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Chorus On, Chorus Off
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Off, 10% to 100% - For continuous control use (17)
Osc 1 Mode (7)	Used to enable Osc 1 LFO & Env modulation	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Osc 1 & 2 Mix	Filter LFO Modulation (34)	Active
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	16', 8', 4'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Sawtooth, Pulse, Square, Noise	Filter ADSR (37-40)	Not Used
Osc 2 PW (17)	HPF Continuous control	Filter Mode (41)	EG Normal, EG Inv
Osc 2 Tune (18)	Active	VCA ADSR (42-45)	Active
Osc 2 Fine Tune (19)	Active	VCA Mode (46)	Envelope, Gate
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Used to enable Osc 2 LFO & Env modulation		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod	Sync Off, Sync On, Metal		
Osc 2 Level (25)	Not Used		

Moog Slim Phatty

Cable requirements



The Moog Slim Phatty uses a standard MIDI cable

Moog Slim Phatty Controls

Osc 1 Range (1)	16', 8', 4', 2'	LFO Wave (26)	Modulation Wave Type
Osc 1 Wave (2)	Not used	LFO Delay (27)	Modulation Amount
Osc 1 PW (3)	Ocs 1 Wave Shape	LFO Speed (28)	LFO Rate
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Portamento Glide Rate
Osc 1 LFO Mod (5)	Arp Clock Course Rate	Chorus/FX Mode (30)	Modulation Destination 1
Osc 1 ENV Mod (6)	Arp Clock Fine Rate	HPF (31)	Filter Poles Number 1-4
Osc 1 Mode (7)	Arp Enable	LPF Cutoff (32)	VCF Cutoff
Osc 1 PWM (8)	Arp Clock Source	LPF Resonance (33)	VCF Resonance
Osc 1 Level (9)	Osc 1 Level	Filter LFO Modulation (34)	VCF Overload
Noise Level (10)	Arp Clock Divisions	Filter ENV Modulation (35)	VCF ENV Depth
Osc 2 Range (15)	16', 8', 4', 2'	Filter Key Follow (36)	VCF Key Follow
Osc 2 Wave (16)	Not Used	Filter ADSR (37-40)	Filter Envelope
Osc 2 PW (17)	Osc 2 Wave Shape	Filter Mode (41)	Modulation Destination 2
Osc 2 Tune (18)	Osc 2 Frequency	VCA ADSR (42-45)	VCA Envelope
Osc 2 Fine Tune (19)	Not used	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Arp Range Octaves	VCA Level (47)	Output Volume
Osc 2 ENV Mod (21)	Arp Pattern		
Osc 2 Mode (22)	Arp Run/Stop		
Osc 2 PWM (23)	Arp Mode		
Osc 2 XMod	DCO 1&2 Sync		
Osc 2 Level (25)	Osc 2 Level		

SYNTH TABLES

Korg DW-6000

Cable and MIDI requirements



The Korg DW6000 uses a standard MIDI cable, Parameter 81 needs to be set to the same channel number that is programmed into the Patch Editor for the DW-6000 or Parameter 83 can be set to Omni. Parameter 82 needs to be set to 2 to enable SysEx control.

KORG® DW-6000 Controls

Korg DW-6000 Notes

The DW-6000 uses two separate voice generators which are not VCOs but rather are preprogrammed wave form generators which change their frequency depending on the note played. The waveforms are generated from ROM (Read Only Memory) look up tables and the frequencies are calculated in real time by very fast hardware multipliers and a DAC (Digital to Analog Converter) to produce the final waveform. When you think that this system is calculating complex waveforms for 12 separate waveforms simultaneously (up to 6 notes with 2 oscillators each) all in real time it is fairly impressive. A more conventional filter and VCA is used which uses the NJM2069 combo chip for each of the 6 voices.

The Korg DW-6000 uses a complex system of combining controls as there is a limited memory available within the DW-6000. This makes it a difficult synthesizer to control using standard SysEx controllers. The Patch Editor handles the combining of controls invisibly. Because of this combining, changing one control in a combination will also set the other part to the current Patch Editor setting. This is unavoidable due to the way the DW-6000 is controlled. Combinations are

- 1) Oscillator 1 Range & VCA Env Release
- 2) Oscillator 2 Range & LFO Rate
- 3) Filter Key Modulation & LFO Delay
- 4) Filter LFO Modulation & Chorus Mode
- 5) Oscillator 1 & Oscillator 2 Waveforms
- 6) Oscillator 2 Tune & Fine Tune
- 7) Filter Bend (not used) & VCA Env Sustain
- 8) Oscillator 1 LFO Mod & Polarity

The oscillators 1 and 2 Range buttons are used to step through all possible octaves. These are 16', 8' and 4'. The oscillators 1 and 2 Wave buttons are used to step though all possible programmed wave types. These are Brass, Violin, Acoustic Piano, Electric Piano, Synth Bass, Saxophone, Clavicord and Bell.

The Oscillator 2 tune will change the oscillator 1 and 2 interval. Possible interval options are unison (same as Oscillator 1) , minor 3rd, major 3rd, perfect 4th and perfect 5th. The Fine Tune control on the Patch Editor will provide Oscillator 2 Detune.

The Oscillator 1 LFO modulation control will effect both oscillators 1 and 2.

The Filter Keyboard Track has three possible levels, Off, 50% and 100% and the Filter Mode button will invert the filter envelope. Green is a normal envelope and red is inverted.

The Envelopes in the DW-6000 use extra controls. In addition to Attack, Decay, Sustain and Release there are break level and slope controls. The Patch Editor sets the slope equal to the decay and the break level equal to the sustain which has the effect of changing the envelope generators to the four control system.

Osc 1 Range (1)	16', 8', 4'	LFO1 Wave (26)	Not Used - LFO is sine wave only
Osc 1 Wave (2)	8 Preprogrammed Wave types	LFO1 Delay (27)	Active
Osc 1 PW (3)	Not Used	LFO1 Speed (28)	Active
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Active - effects both Oscillators	Chorus/FX Mode (30)	Chorus Off, Chorus On
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Active	Filter LFO Modulation (34)	Active
Noise Level (10)	Active	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	16', 8', 4'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	8 Preprogrammed Wave types	Filter ADSR EG1 (37-40)	Active
Osc 2 PW (17)	Not Used	Filter Mode (41)	Filter Envelope Polarity
Osc 2 Tune (18)	Osc 2 Interval (unison, minor 3rd, major 3rd, perfect 4th and perfect 5th)	VCA ADSR EG2 (42-45)	Active
Osc 2 Fine Tune (19)	Osc 2 Detune	VCA Mode (46)	Envelope (EG2 only), Gate
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	DCO 2 Mixer Control		

SYNTH TABLES

Korg DW-8000

Cable and MIDI requirements



The Korg DW8000 uses a standard MIDI cable, Parameter 84 needs to be set to the same channel number that is programmed into the Patch Editor (or set to Omni using Parameter 86). Parameter 85 needs to be set to 2 to enable SysEx control.

KORG® DW-8000 Controls Pg1

Osc 1 Range (1)	16', 8', 4'	LFO1 Wave (26)	Triangle, Sawtooth, Square, Random
Osc 1 Wave (2)	16 Preprogrammed Wave types	LFO1 Delay (27)	Active
Osc 1 PW (3)	Not Used	LFO1 Speed (28)	Active
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	FX Delay Rate
Osc 1 LFO Mod (5)	Active - Effects both Osc 1 & 2	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Key Assign Mode, Poly 1 & 2, Unison 1 & 2	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	DCO 1 Level	Filter LFO Modulation (34)	Active
Noise Level (10)	Active	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	16', 8', 4'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	16 Preprogrammed Wave types	Filter ADSR EG1 (37-40)	Active
Osc 2 PW (17)	Not Active	Filter Mode (41)	Filter Envelope Polarity
Osc 2 Tune (18)	Osc 2 Interval (unison, minor 3rd, major 3rd, perfect 4th and perfect 5th)	VCA ADSR EG2 (42-45)	Active
Osc 2 Fine Tune (19)	Osc 2 Detune	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	FX Delay Feedback	VCA Level (47)	FX Delay Level
Osc 2 ENV Mod (21)	FX Delay Intensity		
Osc 2 Mode (22)	FX Delay time (Eight Settings)		
Osc 2 PWM (23)	FX Delay Factor - adjusts Delay time by a small amount		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	DCO 2 Level		

KORG® DW-8000 Controls Pg2

Osc 1 Range (1)	Auto Bend Select - Off, Osc 1, Osc 2, Both	LFO1 Wave (26)	Not Used
Osc 1 Wave (2)	Auto Bend Mode - Up, Down	LFO1 Delay (27)	Not Used
Osc 1 PW (3)	Auto Bend Time	LFO1 Speed (28)	Not Used
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Auto Bend Intensity	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Filter Env Attack
Noise Level (10)	Portamento Amount	Filter ENV Modulation (35)	Filter Env Decay
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Filter Env Break Point
Osc 2 Wave (16)	Not Used	Filter Attack	Filter Env Slope
Osc 2 PW (17)	Not Used	Filter Decay	Filter Env Sustain
Osc 2 Tune (18)	Osc Bend Amount	Filter Sustain	Filter Env Release
Osc 2 Fine Tune (19)	Not Used	VCF Mode	VCF Bend Mode - Off, On
Osc 2 LFO Mod (20)	Aftertouch Osc MG	Filter Release	VCA Env Attack
Osc 2 ENV Mod (21)	Aftertouch VCF	VCA Attack	VCA Env Decay
Osc 2 Mode (22)	Not Used	VCA Decay	VCA Env Break Point
Osc 2 PWM (23)	Aftertouch VCA	VCA Sustain	VCA Env Slope
Osc 2 XMod (24)	Not Used	VCA Release	VCA Env Sustain
Osc 2 Level (25)	Not Used	VCA Mode (46)	Not Used
		VCA Level (47)	VCA Env Release

Korg DW-8000 Notes

The DW-8000 uses two separate voice generators which are not VCOs but rather are preprogrammed wave form generators which change their frequency depending on the note played. The waveforms are generated from ROM (Read Only Memory) look up tables and the frequencies are calculated in real time by very fast hardware multipliers and a DAC (Digital to Analog Converter) to produce the final waveform. A more conventional filter and VCA is used which uses the NJM2069 combo chip for each of the 8 voices.

The oscillators 1 and 2 Range buttons are used to step through all possible octaves. These are 16', 8' and 4'. The oscillators 1 and 2 Wave buttons are used to step though all possible programmed wave types. These are Brass & Strings, Clarinet, Acoustic Piano, Electric Piano, Electric Piano Hard, Clavicord ,Organ, Brass, Saxophone, Violin, Acoustic Guitar, Guitar (distorted), Electric Bass, Digital Bass, Bell and Organ/Whistle.

The Oscillator 2 tune will change the oscillator 1 and 2 interval. Possible interval options are unison (same as Oscillator 1) , minor 3rd, major 3rd, perfect 4th and perfect 5th. The Fine Tune control on the Patch Editor will provide Oscillator 2 Detune.

The Oscillator 1 LFO modulation control will effect both oscillators 1 and 2.

The Envelopes in the DW-8000 use extra controls. In addition to Attack, Decay, Sustain and Release there are break level and slope controls. On page 1 the Patch Editor sets the slope equal to the decay and the break level to maximum and break time to minimum which has the effect of changing the envelope generators to the four control system. On page two full control is provided.

The DW8000 has a comprehensive delay section. This has been placed in the unused Oscillator 2 modulation area, the FX/Chorus rate control & the VCA Level control is used to set the Delay level.

SYNTH TABLES

Korg DSS-1

Cable and MIDI requirements



The Korg DSS-1 uses a standard MIDI cable.

Korg DSS-1 Page 1 Controls

Osc 1 Range (1)	OSC 1 Range	LFO1 Wave (26)	OSC MG Destination Select
Osc 1 Wave (2)	OSC 1 Multi Sound Number (16 types)	LFO1 Delay (27)	OSC MG Delay
Osc 1 PW (3)	OSC Auto Bend Intensity	LFO1 Speed (28)	OSC MG Rate
Osc 1 Tune (4)	OSC Auto Bend Time	Chorus/FX Rate (29)	Unison Detune
Osc 1 LFO Mod (5)	OSC 1 & 2 MG Intensity	Chorus/FX Mode (30)	Key Assign (Poly 1&2, Unison 2-8 voices)
Osc 1 ENV Mod (6)	Not Used	HPF (31)	VCF Mode (12/24dB)
Osc 1 Mode (7)	OSC Auto Bend Destination Select	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Oscillator 1 < > 2 Mix	Filter LFO Modulation (34)	Active
Noise Level (10)	Active	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	OSC 2 Range	Filter Key Follow (36)	Active
Osc 2 Wave (16)	OSC 2 Multi Sound Number (16 types)	Filter ADSR EG1 (37-40)	Active
Osc 2 PW (17)	Not Used	Filter Mode (41)	VCF EG Polarity
Osc 2 Tune (18)	OSC 2 Interval	VCA ADSR EG2 (42-45)	Active
Osc 2 Fine Tune (19)	OSC 2 Detune	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	OSC Auto Bend Polarity		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Sync On/Off		
Osc 2 Level (25)	Not Used		

Korg DSS-1 Page 2 Controls

Osc 1 Range (1)	Not Used	LFO1 Wave (26)	Not Used
Osc 1 Wave (2)	Not Used	LFO1 Delay (27)	Equalizer Treble
Osc 1 PW (3)	DDL MG-A Frequency	LFO1 Speed (28)	Equalizer Bass
Osc 1 Tune (4)	DDL-1 Time	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	DDL-1 MG A Intensity	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	DDL-1 MG B Intensity	HPF (31)	Joystick VCF Sweep Select
Osc 1 Mode (7)	DCO 1 Envelope Source EG1, EG1 inv, EG2, EG2 inv	LPF Cutoff (32)	Not Used
Osc 1 PWM (8)	DDL-1 Feedback	LPF Resonance (33)	Not Used
Osc 1 Level (9)	DDL-1 Effect Level	Filter LFO Modulation (34)	VCF MG Delay
Noise Level (10)	Not Used	Filter ENV Modulation (35)	VCF MG Frequency
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Active
Osc 2 Wave (16)	DDL-2 Input Select	Filter ADSR EG1 (37-40)	Joystick Pitch Bend Range on VCF Release
Osc 2 PW (17)	DDL MG-B Frequency	Filter Mode (41)	Not Used
Osc 2 Tune (18)	DDL-2 Time	VCA ADSR EG2 (42-45)	Not Used
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	DDL-2 MG A Intensity	VCA Level (47)	Not Used
Osc 2 ENV Mod (21)	DDL-2 MG B Intensity		
Osc 2 Mode (22)	DDL-2 Mod Polarity		
Osc 2 PWM (23)	DDL-2 Feedback		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	DDL-2 Effect Level		

SYNTH TABLES

Korg DSM-1

Cable and MIDI requirements



The Korg DSM-1 uses a standard MIDI cable.

Korg DSM-1 Page 1 Controls

Osc 1 Range (1)	Not Used	LFO Wave (26)	OSC MG Wave (Sine, Tri, Square)
Osc 1 Wave (2)	Not Used	LFO Delay (27)	OSC MG Delay
Osc 1 PW (3)	Multi Sound Number	LFO Speed (28)	OSC MG Rate
Osc 1 Tune (4)	Tune (+-)	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	OSC MG Intensity	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Pitch Bend Range	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Not Used
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	VCF MG Intensity
Noise Level (10)	Not Used	Filter ENV Modulation (35)	VCF EG Intensity
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Not Used	Filter ADSR EG1 (37-40)	Active (ADSR only)
Osc 2 PW (17)	Auto Bend Direction (Up/Down)	Filter Mode (41)	VCF EG Polarity
Osc 2 Tune (18)	Auto Bend Time	VCA ADSR EG2 (42-45)	Active (ADSR only)
Osc 2 Fine Tune (19)	Auto Bend Intensity	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	OSC Auto Bend Polarity		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	Not Used		

Korg DSM-1 Page 2 Controls

Osc 1 Range (1)	Not Used	LFO Wave (26)	VCF MG Wave (Sine, Tri, Square)
Osc 1 Wave (2)	Not Used	LFO Delay (27)	VCF MG Delay
Osc 1 PW (3)	Not Used	LFO Speed (28)	VCF MG Rate
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	VCF Cutoff Aftertouch
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Bender VCF Sweep Intensity
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	VCF MG Init After Touch
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Not Used
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Not Used
Osc 2 Wave (16)	Not Used	Filter ADSR EG (37-40)	VCF Attack, Decay, Slope Aftertouch Sense
Osc 2 PW (17)	Not Used	Filter Mode (41)	Not Used
Osc 2 Tune (18)	Not Used	VCA ADSR EG2 (42-45)	VCA Attack, Decay, Slope Aftertouch Sense EG Release Keytrack
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Auto Bend Touch Sens Intensity	VCA Level (47)	Total Level Aftertouch Sense
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	Not Used		

Note: The DSM-1 that we used for testing had a bad audio glitch everytime parameter change midi was sent to it.

SYNTH TABLES

Korg M1

Cable and MIDI requirements



The Korg M1 uses a standard MIDI cable, The M1 must be placed in Edit Mode on the front panel.

KORG® M1 Controls Pg1 - Single Mode

Osc 1 Range (1)	16', 8', 4'	LFO1 Wave (26)	VDF MG Wave Tri/Up Saw/Dn Saw/Sqr
Osc 1 Wave (2)	Not Used - Wave selected using the PW slider	LFO1 Delay (27)	VDF MG Delay
Osc 1 PW (3)	Wave types internal & cartridge	LFO1 Speed (28)	VDF MG Rate
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Effect 2 Type
Osc 1 LFO Mod (5)	Pitch MG Intensity	Chorus/FX Mode (30)	Effect 1 On/Off
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Voice Mode Single/Double/Drum	VDF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Not Used
Osc 1 Level (9)	DCO Level	Filter LFO Modulation (34)	VDF MG Intensity
Noise Level (10)	Not Used	Filter ENV Modulation (35)	VDF EG Intensity
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	VDF Key Follow Amount
Osc 2 Wave (16)	DCO MG Wave Tri/Up Saw/Dn Saw/Sqr	Filter ADSR EG1 (37-40)	A/D/S/R Only
Osc 2 PW (17)	DCO MG Delay	Filter Mode (41)	Not Used
Osc 2 Tune (18)	Not Used	VDA ADSR EG2 (42-45)	A/D/S/R Only
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	DCO MG Rate	VCA Level (47)	Not Used
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	DCO Hold On/Off		
Osc 2 PWM (23)	Effect 1 Type		
Osc 2 XMod (24)	DCO Mono/Poly		
Osc 2 Level (25)	Not Used		

KORG® M1 Controls Pg2 - Double Mode

Osc 1 Range (1)	DCO 1 16', 8', 4'	LFO1 Wave (26)	VDF MG Wave Tri/Up Saw/Dn Saw/Sqr
Osc 1 Wave (2)	Not Used - DCO 1 Wave selected using the PW slider	LFO1 Delay (27)	VDF MG Delay
Osc 1 PW (3)	Wave types internal & cartridge	LFO1 Speed (28)	VDF MG Rate
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Effect 2 Type
Osc 1 LFO Mod (5)	Pitch MG Intensity	Chorus/FX Mode (30)	Effect 2 On/Off
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Voice Mode Single/Double/Drum	VDF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Not Used
Osc 1 Level (9)	DCO 1 Level	Filter LFO Modulation (34)	VDF MG Intensity
Noise Level (10)	Not Used	Filter ENV Modulation (35)	VDF EG Intensity
Osc 2 Range (15)	DCO 1 16', 8', 4'	Filter Key Follow (36)	VDF Key Follow Amount
Osc 2 Wave (16)	Not Used - DCO 2 Wave selected using the PW slider	Filter ADSR EG1 (37-40)	A/D/S/R Only
Osc 2 PW (17)	Wave types internal & cartridge	Filter Mode (41)	Not Used
Osc 2 Tune (18)	DCO 2 Tune	VDA ADSR EG2 (42-45)	A/D/S/R Only
Osc 2 Fine Tune (19)	DCO 2 Detune	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Not Used
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	DCO Hold On/Off		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	DCO Mono/Poly		
Osc 2 Level (25)	DCO 2 Level		

Korg M1 Notes

The M1 uses an unusual menu system which alters depending on the mode the M1 is in. The same command sent to the M1 in Single Mode will have a completely different action in Double Mode or Drum Mode. The PE will needs to be matched to the mode of the M1 to get useful results. The M1 also need to be placed into edit mode on the front panel before editing is possible.

There are a large number of parameters that are not practical to edit from the PE and these must be done from the M1. The PE tries to cover the most useful.

The oscillator wave forms are to numerous to be placed on the waveform button so these have been placed on the PW slider. The lowest numbers select internal waves and the higher numbers select cartridge waves if a cartridge is present.

The Envelopes in the M1 use extra controls. In addition to Attack, Decay, Sustain and Release there are break level and slope controls. The Patch Editor only controls the A/D/S/R sections.

SYNTH TABLES

Oberheim Matrix 6

Cable and MIDI requirements



The Oberheim Matrix 6 uses a standard MIDI cable.

Oberheim Matrix 6 Page 1 Controls

Osc 1 Range (1)	Not Used	LFO1 Wave (26)	Tri, Up Saw, Down Saw, Sqr, Random, Noise, Sample Mod
Osc 1 Wave (2)	Osc 1 Wave (Off Pulse, Wave, Both)	LFO1 Delay (27)	LFO 1 Initial Amplitude
Osc 1 PW (3)	DCO 1 Initial Pulse Width Amount	LFO1 Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	DCO 1 Initial Frequency Semitones	Chorus/FX Rate (29)	Portamento Initial Rate
Osc 1 LFO Mod (5)	DCO 1 Freq by LFO 1 Modulation Amount	Chorus/FX Mode (30)	Legato Portamento Enable
Osc 1 ENV Mod (6)	OSC 1 Initial Wave Shape	HPF (31)	VCF Fixed Mods (Off, Level 1, Vibrato, Both)
Osc 1 Mode (7)	OSC 1 Fixed Mods (Off, Level 1, Vibrato, Both)	LPF Cutoff (32)	Active
Osc 1 PWM (8)	DCO 1 PW by LFO2 Modulation Amount	LPF Resonance (33)	Active
Osc 1 Level (9)	Oscillator 1 <> 2 Mix	Filter LFO Modulation (34)	VCF FM Amount
Noise Level (10)	Not Used	Filter ENV Modulation (35)	VCF Env 1 Amount
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	VCF Pressure Mod Amount
Osc 2 Wave (16)	Osc 2 Wave (Off Pulse, Wave, Both)	Filter ADSR EG1 (37-40)	Env 1
Osc 2 PW (17)	DCO 2 Initial Pulse Width Amount	Filter Mode (41)	Env 1 Trigger Mode
Osc 2 Tune (18)	DCO 2 Tune Semitones	VCA ADSR EG2 (42-45)	Env 2
Osc 2 Fine Tune (19)	DCO 2 Detune Cents	VCA Mode (46)	Env 2 Trigger Mode
Osc 2 LFO Mod (20)	DCO 2 Freq by LFO 2 Modulation Amount	VCA Level (47)	VCA Initial Level
Osc 2 ENV Mod (21)	OSC 2 Initial Wave Shape		
Osc 2 Mode (22)	OSC 1 Fixed Mods (Off, Level 1, Vibrato, Both)		
Osc 2 PWM (23)	DCO 2 PW by LFO2 Modulation Amount		
Osc 2 XMod (24)	Sync On/Off		
Osc 2 Level (25)	Not Used		

Oberheim Matrix 6 Page 2 Controls

Osc 1 Range (1)	OSC 1 Click (On/Off)	LFO Wave (26)	LFO 2 Tri, Up Saw, Down Saw, Sqr, Random, Noise, Sample Mod
Osc 1 Wave (2)	Tracking Input Select (20 types)	LFO Delay (27)	LFO 2 Initial Amplitude
Osc 1 PW (3)	Tracking Point 1	LFO Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	Tracking Point 2	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Tracking Point 3	Chorus/FX Mode (30)	Key Assign Mode (4 types)
Osc 1 ENV Mod (6)	Tracking Point 4	HPF (31)	VCF Keyboard Mod (Key, Portamento)
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Tracking Point 5	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Not Used
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Env 1 Initial Delay
Osc 2 Range (15)	OSC 2 Click (On/Off)	Filter Key Follow (36)	Env 2 Initial Delay
Osc 2 Wave (16)	Not Used	Filter ADSR EG1 (37-40)	Env 3 Initial Delay (on VCF Release Slider)
Osc 2 PW (17)	Not Used	Filter Mode (41)	Env 1 Mode (DADR/Free run)
Osc 2 Tune (18)	Not Used	VCA ADSR EG2 (42-45)	Env 3 ADSR
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Env 2 Mode (DADR/Free run)
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	Not Used		

Oberheim Matrix 6 Notes

Some Sysex commands on the Oberheim Matrix 6 are very slow responding to sysex and it does not respond well to large numbers of commands in rapid succession. With some commands to the Matrix 6 the synth will stop responding for 1-2 seconds and hang notes or have other random problems until it catches up. This makes it unsuitable to control parameters in a live situation but a patch has been provided to help set up the Matrix 6.

SYNTH TABLES

Oberheim Matrix 1000

Cable and MIDI requirements



The Oberheim Matrix 1000 uses a standard MIDI cable.

Oberheim Matrix 1000 Controls

Osc 1 Range (1)	Not Used	LFO1 Wave (26)	Tri, Up Saw, Down Saw, Sqr, Random, Noise, Sample Mod
Osc 1 Wave (2)	Saw, Tri, Pulse, Pulse+ Saw, Pulse+ Tri	LFO1 Delay (27)	LFO 1 Rate
Osc 1 PW (3)	DCO 1 Initial Pulse Width Amount	LFO1 Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	DCO 1 Tune Semitones	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	DCO 1 LFO Modulation	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	DCO 1 Envelope Source EG1, EG1 inv, EG2, EG2 inv	LPF Cutoff (32)	Active
Osc 1 PWM (8)	DCO 1 LFO2 PWM Modulation Amount	LPF Resonance (33)	Active
Osc 1 Level (9)	Oscillator 1 < > 2 Mix	Filter LFO Modulation (34)	Active
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Saw, Tri, Pulse, Pulse+ Saw, Pulse+ Tri	Filter ADSR EG1 (37-40)	Active
Osc 2 PW (17)	DCO 2 Initial Pulse Width Amount	Filter Mode (41)	Not Used
Osc 2 Tune (18)	DCO 2 Tune Semitones	VCA ADSR EG2 (42-45)	Active
Osc 2 Fine Tune (19)	DCO 2 Detune Cents	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	DCO 2 LFO Modulation	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	DCO 2 Envelope Source EG1, EG1 inv, EG2, EG2 inv		
Osc 2 PWM (23)	DCO 2 LFO2 PWM Modulation Amount		
Osc 2 XMod (24)	Sync On/Off		
Osc 2 Level (25)	Not Used		

Oberheim Matrix 1000 Notes

Some Sysex commands on the Oberheim Matrix 1000 are very slow responding to sysex and it does not respond well to large numbers of commands in rapid succession. This is especially so for the filter cutoff. When a series of Sysex commands are sent to the M1000 the synth will stop responding and hang notes or have other random problems until it catches up. This makes it unsuitable to control parameters in a live situation but a patch has been provided to help set up the M1000. The parameter for Filter sustain control does not work in the M1000 and has been disabled in this patch.

SYNTH TABLES

Roland Juno-1 Juno-2 and HS-10

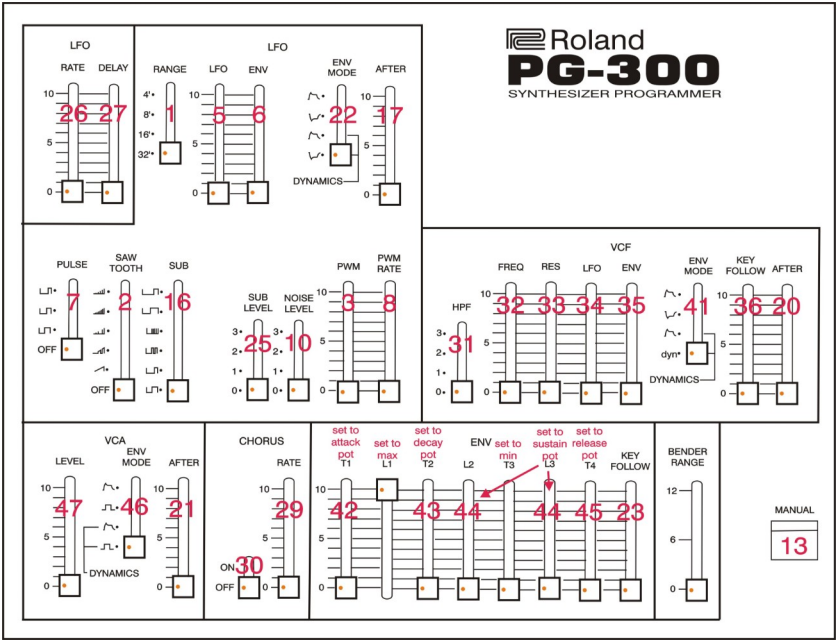
Cable requirements



The Roland Juno-1/HS-10 uses a standard MIDI cable

EQUIVALENT CONTROLS

Roland® Juno-1/HS-10 Controls Pg1



Roland® Juno-1/HS-10 Controls Pg2

Osc 1 Range (1)	Not Used	LFO Wave (26)	Not Used
Osc 1 Wave (2)	Not Used	LFO Delay (27)	Not Used
Osc 1 PW (3)	Not Used	LFO Speed (28)	Not Used
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Active
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Not Used	Filter Decay	T1 Time
Osc 2 PW (17)	Not Used	Filter Sustain	L1 Level
Osc 2 Tune (18)	Not Used	Filter Release	T2 Time
Osc 2 Fine Tune (19)	Not Used	Filter Mode	Not Used
Osc 2 LFO Mod (20)	Not Used	VCA Attack	L2 Level
Osc 2 ENV Mod (21)	Not Used	VCA Decay	T3 Time
Osc 2 Mode (22)	Not Used	VCA Sustain	L3 Level
Osc 2 PWM (23)	Not Used	VCA Release	T4 Time
Osc 2 XMod (24)	Not Used	VCA Mode (46)	Not Used
Osc 2 Level (25)	Not Used	VCA Level (47)	Not Used

Roland Juno 1, Juno 2 & HS-10 Notes

The Juno 1, Juno 2 & HS-10 synthesizers have one oscillator and a sub oscillator for each of the six voices. The oscillator design is a digital system and the filter and the VCA is the custom Roland chip the IR3R05 for each of the six voices. The HS-10 is the same as the Juno-1 apart from the panel sticker on the front.

The oscillator 1 Wave switch (1) is used to step through all possible Sawtooth wave types. These are Off, Sawtooth type 1, Sawtooth type 2, Sawtooth type 3+PW, Sawtooth type 4 and Sawtooth type 5. For the Sawtooth type 3+PW waveform the PW level control (3) is used to adjust the PW and the PWM Speed control (8) is used to give a PWM LFO effect. Fully off on the PWM Speed (8) stops the LFO and PW control is manual only using the PW control (3). These controls will have no effect for the other Sawtooth wave types.

The oscillator 1 Mode switch is used to step through all the possible pulse wave types. Valid types are Off, Pulse type 1, Pulse type 2 and Pulse type 3+PW. For the Pulse type 3+PW waveform the PW level control is used to adjust the PW and the PWM Speed control is used to give a PWM LFO effect. Fully off on the PWM Speed stops the LFO and PW control is manual only using the PW control. These controls will have no effect for the other Pulse wave types.

Oscillator 2 on the Patch Editor is used to control the sub oscillator. The oscillator 2 wave switch (16) is used to step through all the possible sub oscillator wave forms and octaves. These are -1 octave Square Wave, minus one octave Pulse wave type 1, 2 and 3, minus 2 octaves Square wave and minus 2 octaves pulse wave. This and the level control (25) are the only valid controls for the sub oscillator.

Oscillator 2 Mode Button (22) is used to select the envelope mode for the Osc ENV mod (6). Valid options are Normal, Inverted, Normal with Dynamics, Inverted with Dynamics. The Filter Mode Button (41) has the same options for the Filter ENV control (35).

There is no separate EG controls for the filter and the VCA EG controls (42-45) are used for Oscillator, Filter and VCA modulation. The VCA Mode Button (46) has 4 valid options. Envelope, Gate, Envelope with Dynamics and Gate with Dynamics

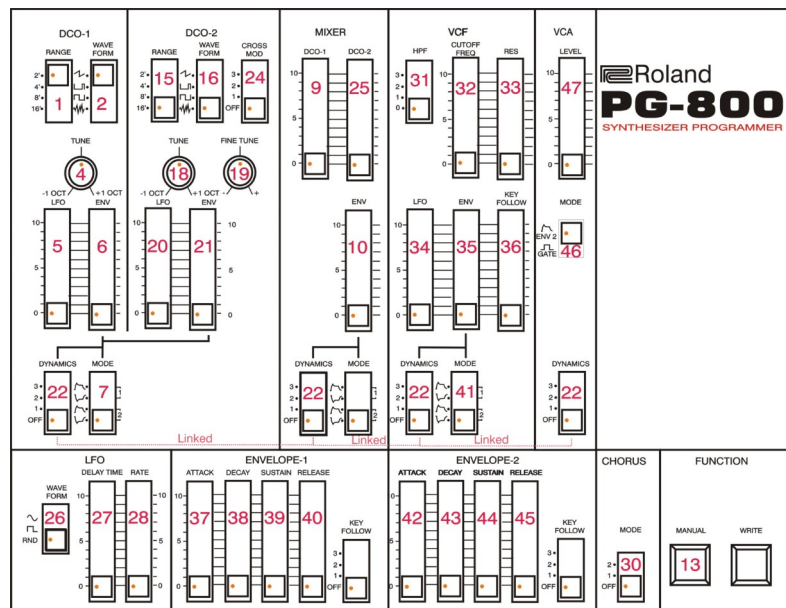
SYNTH TABLES

Roland JX-8P

Cable requirements

The Roland JX-8P uses a standard MIDI cable

EQUIVALENT CONTROLS



Roland® JX-8P Controls Pg1

Osc 1 Range (1)	16', 8', 4', 2'	LFO Wave (26)	Sine, Square, Random
Osc 1 Wave (2)	Saw, Pulse, Square, Noise	LFO Delay (27)	LFO Delay
Osc 1 PW (3)	Not Used	LFO Speed (28)	LFO Rate
Osc 1 Tune (4)	DCO 1 Tune	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	DCO 1 LFO Mod	Chorus/FX Mode (30)	Chorus Off, 1, 2
Osc 1 ENV Mod (6)	DCO 1 ENV Mod	HPF (31)	Off, 1, 2, 3
Osc 1 Mode (7)	DCO 1 & 2 Envelope Mode	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	DCO 1 Level	Filter LFO Modulation (34)	Active
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	16', 8', 4', 2'	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Saw, Pulse, Square, Noise	Filter ADSR (37-40)	Active
Osc 2 PW (17)	Not Used	Filter Mode (41)	Filter Envelope Source
Osc 2 Tune (18)	DCO 2 Tune	VCA ADSR (42-45)	Active
Osc 2 Fine Tune (19)	DCO 2 Fine Tune	VCA Mode (46)	Envelope 2, Gate
Osc 2 LFO Mod (20)	DCO 2 LFO Mod	VCA Level (47)	Active
Osc 2 ENV Mod (21)	DCO 2 ENV Mod		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Off, 1, 2, Cross Mod		
Osc 2 Level (25)	DCO 2 Level		

Roland® JX-8P Controls Pg2

Osc 1 Range (1)	Not Used	LFO Wave (26)	Key Follow Env 1 Off,1 ,2 ,3
Osc 1 Wave (2)	Not Used	LFO Delay (27)	Not Used
Osc 1 PW (3)	Not Used	LFO Speed (28)	Not Used
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Key Follow Env 2 Off,1 ,2 ,3
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	DCO 1&2 Dynamics Mode Off,1 ,2 ,3	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Active
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Not Used	Filter Decay	Not Used
Osc 2 PW (17)	Not Used	Filter Sustain	Not Used
Osc 2 Tune (18)	Not Used	Filter Release	Not Used
Osc 2 Fine Tune (19)	Not Used	Filter Mode	VCF Dynamics Mode Off,1 ,2 ,3
Osc 2 LFO Mod (20)	Not Used	VCA Attack	Not Used
Osc 2 ENV Mod (21)	Not Used	VCA Decay	Not Used
Osc 2 Mode (22)	Mixer Envelope Mode	VCA Sustain	Not Used
Osc 2 PWM (23)	Not Used	VCA Release	Not Used
Osc 2 XMod (24)	Mixer Dynamics Mode Off,1 ,2 ,3	VCA Mode (46)	VCA Dynamics Mode Off,1 ,2 ,3
Osc 2 Level (25)	Mixer Env Mod Level	VCA Level (47)	Not Used

Roland JX-8P Notes

The JX-8P has two separate oscillators. The oscillator design in the JX-8P is a digital system and the filter and the VCA use the custom Roland chip the IR3R05 for each of the six voices.

Oscillator 1 & 2 share a common envelope type for the ENV Modulation controls (6) (21). The Oscillator 1 Mode Button (7) selects the envelope type and source for both Oscillators and the Filter Mode Button (41) selects the envelope type and source for the Filter. Valid options are EG1 (37-40) Normal, EG1 Inverted, EG2 (42-45) Normal and EG2 Inverted.

Oscillator 2 Mode switch (22) is used to set the Dynamics for both Oscillators, the Mixer, VCF & VCA. These are all set to the same value. Valid options are 0 (off), 1, 2 and 3.

SYNTH TABLES

Roland Juno-106 / MKS-7

Cable requirements



The Roland Juno-106 uses a standard MIDI cable

EQUIVALENT CONTROLS

The Roland Juno-106 did not have a dedicated controller available.

Roland® Juno-106 Controls

Osc 1 Range (1)	16', 8', 4'	LFO Wave (26)	Not Used (sine only)
Osc 1 Wave (2)	Sawtooth / Pulse Only	LFO Delay (27)	Active
Osc 1 PW (3)	Not Used	LFO Speed (28)	Active
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Active	Chorus/FX Mode (30)	Chorus Off, Mode 1, Mode2
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Active
Osc 1 Mode (7)	PWM Source Select - LFO or Manual	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Active	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Active
Noise Level (10)	Active	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Not Used	Filter ADSR (37-40)	Not Used
Osc 2 PW (17)	Not Used	Filter Mode (41)	Envelope Polarity
Osc 2 Tune (18)	Not Used	VCA ADSR (42-45)	Active
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Envelope, Gate
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	Sub Osc Level		

Roland Juno 106 Notes

The Juno 106 synthesizers have one oscillator which is divided by two to give a sub oscillator for each of the six voices. The oscillator design is a digital system and the filter and the VCA is the custom Roland chip the 80017a filter hybrid for each of the six voices.

The oscillator 1 Wave switch (1) is used to step though the possible wave types. These are Sawtooth and Pulse or combination only.

There is no separate EG controls for the filter and the VCA EG controls (42-45) are used for Oscillator, Filter and VCA modulation.

Note: Because the switch settings are combined into two commands changing one switch will cause the others in the same command to be sent also with whatever settings are on the Patch Editor. This is unavoidable due to the way the Juno-106 is controlled.

Switch combinations are

- 1) Chorus, Wave and Range selections.
- 2) HP Filter, VCA Env, Envelope Polarity & PWM selections.

The MKS-7 can be controlled using the Juno-106 Patch

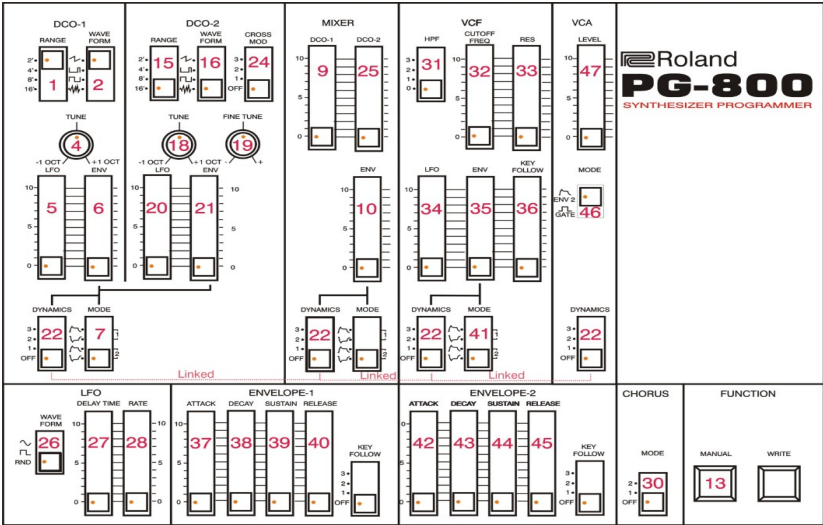
SYNTH TABLES

Roland MKS-70 / JX-10SE

Cable requirements



The Roland MKS-70 uses a standard MIDI cable. The JX-10 can also be used on this patch but must have the Colin Fraser upgrade fitted (JX-10SE). The JX-10SE does not support Upper/Lower Board changing so only limited control is possible.



EQUIVALENT CONTROLS

Roland® MKS-70 Controls - Page A

Roland® MKS-70 Controls - Page B

Osc 1 Range (1)	Upper / Lower Voice Key Assign **	LFO Wave (26)	Key Follow Env 1
Osc 1 Wave (2)	Up/Low Hold Mode ** Both Voices Key Mode *	LFO Delay (27)	Not Used
Osc 1 PW (3)	Not Used	LFO Speed (28)	Not Used
Osc 1 Tune (4)	Upper / Lower Chromatic Shift **	Chorus/FX Rate (29)	Upper / Lower Unison Detune ** Dual Detune *
Osc 1 LFO Mod (5)	Upper / Lower LFO Mod Depth **	Chorus/FX Mode (30)	Key Follow Env 2
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Bender Mode Off/On ** Bend Range 2,3,4,7,12 semi tones *
Osc 1 Mode (7)	Selects DCO1&2 Dynamics	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Upper / Lower Voice Balance *	Filter LFO Mod (34)	Active
Noise Level (10)	Used for Mixer Modulation	Filter ENV Mod (35)	Active
Osc 2 Range (15)	Upper / Lower Portamento On / Off **	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Upper / Lower Bender On / Off **	Filter Release (40)	Envelope 1 Key Follow
Osc 2 PW (17)	Both Voices Portamento Time *	Filter Mode (41)	Select VCF Dynamics
Osc 2 Tune (18)	Upper / Lower Split Point **	VCA Release (45)	Envelope 2 Key Follow
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Select VCA Dynamics
Osc 2 LFO Mod (20)	Aftertouch Vibrato *	VCA Level (47)	Total Volume *
Osc 2 ENV Mod (21)	Aftertouch Brilliance *		
Osc 2 Mode (22)	Selects Mixer Envelope Mode		
Osc 2 PWM (23)	Aftertouch Volume *		
Osc 2 XMod (24)	Selects Mixer Dynamics		
Osc 2 Level (25)	Not Used		

* = These controls apply to both voices boards and are only found on the 'Both' B page
** = These controls are found only on the Upper or Lower B page

Roland MKS-70 Notes

The MKS-70 has two separate oscillators. The oscillator design in the MKS-70 is a digital system and the filter and the VCA is the custom Roland chip the IR3R05 for each of the six voices. The circuitry is very similar to the JX-8P and the JX-10. The MKS-70 is basically two JX-10 voice boards fitted into a rack mount case. The two boards are called Tone A and Tone B and can have completely independent settings. The Patch Editor can address these separately on the MKS-70 or simultaneously via the Tone Select Button. This feature will not work on the JX-10 with the Colin Fraser Upgrade and the boards must be swapped on the JX-10 using the synthesizer buttons.

All controls will only effect the selected Tone Board (A or B) and the non selected Tone Board will remain unchanged.

Oscillator 1 & 2 share a common envelope type for the ENV Modulation controls (6) (21). The Oscillator 1 Mode Button (7) selects the envelope type and source for both Oscillators and the Filter Mode Button (41) selects the envelope type and source for the Filter. Valid options are EG1 (37-40) Normal, EG1 Inverted, EG2 (42-45) Normal and EG2 Inverted.

Roland® MKS-70 Bug Report

Program releases v1.03 and v1.04 in the MKS-70 only allow access to Tone Board A via the MIDI port. Commands sent to Tone Board B will only change Tone Board A settings. To correct this the MKS-70 needs to have the latest program v1.08 fitted. v1.05,1.06 & 1.07 have not been tested and may or may not work. For v1.03 you will require A,B&C Roms. For v1.04 only the A Rom is required. The 'A,B&C' Roms can be purchased from Kiwitechnics, Vintage Planet (<http://www.vintageplanet.nl>) or possibly Roland but we have had issues getting support for the older equipment from Roland. Pressing and holding the Value Switch at power on will display the version number of the A ROM on the MKS-70.

SYNTH TABLES

Roland JD-990 FX

Cable requirements
The Roland MKS-70 uses a standard MIDI cable.



Roland® JD990 FX Controls – Page 1

Osc 1 Range (1)	Not Used	LFO Wave (26)	Portamento Mode
Osc 1 Wave (2)	Not Used	LFO Delay (27)	Bend Range Up
Osc 1 PW (3)	Chorus Depth	LFO Speed (28)	Bend Range Down
Osc 1 Tune (4)	Chorus Rate	Chorus/FX Rate (29)	Portamento Time
Osc 1 LFO Mod (5)	Chorus Delay Time	Chorus/FX Mode (30)	Portamento On/Off
Osc 1 ENV Mod (6)	Chorus Feedback	HPF (31)	Solo Sync Master (Off, 4 types)
Osc 1 Mode (7)	Distortion Type (7 types)	LPF Cutoff (32)	Phaser Depth
Osc 1 PWM (8)	Chorus Level	LPF Resonance (33)	Phaser Resonance
Osc 1 Level (9)	Distortion Drive	Filter LFO Mod (34)	Phaser Manual
Noise Level (10)	Distortion Level	Filter ENV Mod (35)	Phaser Rate
Osc 2 Range (15)	Solo On/Off	Filter Key Follow (36)	Phaser Mix
Osc 2 Wave (16)	Solo Legato On/Off	Filter Attack (37)	Delay Tap Left
Osc 2 PW (17)	Reverb Time	Filter Decay (38)	Delay Left Level
Osc 2 Tune (18)	Reverb Early Ref	Filter Sustain (39)	Delay Tap Centre
Osc 2 Fine Tune (19)	Reverb HF Damp	Filter Release(40)	Delay Center Level
Osc 2 LFO Mod (20)	Reverb Pre Delay	Filter Mode (41)	Delay Mode
Osc 2 ENV Mod (21)	Reverb Level	VCA Attack (42)	Delay Tap Right
Osc 2 Mode (22)	Reverb Type (10 types)	VCA Decay (43)	Delay Right Level
Osc 2 PWM (23)	Analog Feel	VCA Sustain (44)	Delay Feedback
Osc 2 XMod (24)	Not Used	VCA Release (45)	Not Used
Osc 2 Level (25)	Not Used	VCA Mode (46)	Not Used
		VCA Level (47)	Active

Roland® JD-990 FX Page 2

Osc 1 Range (1)	Group A Effect Sequence (24 types)	LFO Wave (26)	Not Used
Osc 1 Wave (2)	Group B Effect Sequence (6 types)	LFO Delay (27)	Not Used
Osc 1 PW (3)	Not Used	LFO Speed (28)	Not Used
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Group B Block 1 On/Off
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Not Used
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Not Used
Osc 1 Level (9)	Not Used	Filter LFO Mod (34)	Spectrum Band 1
Noise Level (10)	Not Used	Filter ENV Mod (35)	Spectrum Band 2
Osc 2 Range (15)	Group A Block 1 On/Off	Filter Key Follow (36)	Spectrum Band 3
Osc 2 Wave (16)	Group A Block 2 On/Off	Filter Attack (37)	Spectrum Band 4
Osc 2 PW (17)	Not Used	Filter Decay (38)	Spectrum Band 5
Osc 2 Tune (18)	Not Used	Filter Sustain (39)	Spectrum Band 6
Osc 2 Fine Tune (19)	Not Used	Filter Release(40)	Spectrum Band Width
Osc 2 LFO Mod (20)	Not Used	Filter Mode (41)	Group B Block 2 On/Off
Osc 2 ENV Mod (21)	Not Used	VCA Attack (42)	Not Used
Osc 2 Mode (22)	Group A Block 3 On/Off	VCA Decay (43)	Not Used
Osc 2 PWM (23)	Not Used	VCA Sustain (44)	Not Used
Osc 2 XMod (24)	Group A Block 4 On/Off	VCA Release (45)	Not Used
Osc 2 Level (25)	Not Used	VCA Mode (46)	Group B Block 3 On/Off
		VCA Level (47)	Not Used

Roland® JD990 Notes

The Roland JD-990 is a complex synth with more controls than it is possible to fit on the PE. The JD-990 has been split up into two separate patches. One does much of the FX controls and the other the Patch Tone Controls for Tone A-D. Each patch is made up of four separate Tones (A,B,C & D) and each of these has two pages of controls.

It is not possible to fit all parameters into the PE layout so only those deemed the most useful for Patch editing have been included.

SYNTH TABLES

Roland JD-990 Tone

Cable requirements
The Roland JD-990 uses a standard MIDI cable.



Roland® JD990 Tone Controls – Page 1

Osc 1 Range (1)	Wave Source (3 types)	LFO Wave (26)	LFO 1 Wave (8 Types)
Osc 1 Wave (2)	Tone Delay Mode (5 types)	LFO Delay (27)	LFO 1 Delay
Osc 1 PW (3)	Wave Form Low 0-127	LFO Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	Pitch Random	Chorus/FX Rate (29)	LFO 1 Fade
Osc 1 LFO Mod (5)	Tone Delay Time	Chorus/FX Mode (30)	LFO 1 Offset (3 types)
Osc 1 ENV Mod (6)	FXM Depth	HPF (31)	Not Used
Osc 1 Mode (7)	Pitch Key Follow (17 types)	LPF Cutoff (32)	Not Used
Osc 1 PWM (8)	FXM Color	LPF Resonance (33)	Not Used
Osc 1 Level (9)	Not Used	Filter LFO Mod (34)	Not Used
Noise Level (10)	Not Used	Filter ENV Mod (35)	Not Used
Osc 2 Range (15)	Tones Octave – Note works for all tones 1-4	Filter Key Follow (36)	Not Used
Osc 2 Wave (16)	Not Used	Filter Attack (37)	Pitch Envelope Time 1
Osc 2 PW (17)	Not Used	Filter Decay (38)	Pitch Envelope Time 2
Osc 2 Tune (18)	WG Pitch Course	Filter Sustain (39)	Pitch Envelope Sustain Level
Osc 2 Fine Tune (19)	WG Pitch Fine	Filter Release(40)	Pitch Envelope Time 3
Osc 2 LFO Mod (20)	LFO 1 Mod	Filter Mode (41)	Not Used
Osc 2 ENV Mod (21)	Envelope Depth	VCA Attack (42)	Not Used
Osc 2 Mode (22)	Selects Mixer Envelope Mode	VCA Decay (43)	Not Used
Osc 2 PWM (23)	Not Used	VCA Sustain (44)	TVA LFO 1 Mod Level
Osc 2 XMod (24)	Sync Slave Mode On/Off	VCA Release (45)	TVA LFO 2 Mod Level
Osc 2 Level (25)	Not Used	VCA Mode (46)	Not Used
		VCA Level (47)	TVA Level

Roland® JD-990 Tone Page 2

Osc 1 Range (1)	Not Used	LFO Wave (26)	LFO 2 Wave (8 Types)
Osc 1 Wave (2)	Not Used	LFO Delay (27)	LFO 2 Delay
Osc 1 PW (3)	Wave Form High 128-255	LFO Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	LFO 2 Fade
Osc 1 LFO Mod (5)	Pitch LFO 2 Mod	Chorus/FX Mode (30)	LFO 2 Offset (3 types)
Osc 1 ENV Mod (6)	Not Used	HPF (31)	TVF Mode (3 types)
Osc 1 Mode (7)	Pan Key Follow (15 types)	LPF Cutoff (32)	Filter Cutoff
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Filter Resonance
Osc 1 Level (9)	Tone Pan	Filter LFO Mod (34)	Filter LFO 1 Mod
Noise Level (10)	Not Used	Filter ENV Mod (35)	Filter TVF Env Level
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Filter Key Follow
Osc 2 Wave (16)	Not Used	Filter Attack (37)	TVF Envelope Time 1
Osc 2 PW (17)	Not Used	Filter Decay (38)	TVF Envelope Time 2
Osc 2 Tune (18)	Not Used	Filter Sustain (39)	TVF Envelope Sustain Level
Osc 2 Fine Tune (19)	Not Used	Filter Release(40)	TVF Envelope Time 4
Osc 2 LFO Mod (20)	Filter LFO 2 Mod	Filter Mode (41)	Not Used
Osc 2 ENV Mod (21)	Not Used	VCA Attack (42)	TVA Envelope Time 1
Osc 2 Mode (22)	Not Used	VCA Decay (43)	TVA Envelope Time 2
Osc 2 PWM (23)	Not Used	VCA Sustain (44)	TVA Envelope Sustain Level
Osc 2 XMod (24)	Not Used	VCA Release (45)	TVA Envelope Time 4
Osc 2 Level (25)	Not Used	VCA Mode (46)	Not Used
		VCA Level (47)	Not Used

Roland® JD990 Notes

The Roland JD-990 is a complex synth with more controls than it is possible to fit on the PE. The JD-990 has been split up into two separate patches. One does much of the FX controls and the other the Patch Tone Controls for Tone A-D. Each patch is made up of four separate Tones (A,B,C & D) and each of these has two pages of controls.

It is not possible to fit all parameters into the PE layout so only those deemed the most useful for Patch editing have been included.

SYNTH TABLES

Roland System-8

Roland® System 8 Controls – Page 1

Osc 1 Range (1)	64', 32', 16', 8', 4', 2',	LFO Wave (26)	LFO Wave (6 Types)
Osc 1 Wave (2)	Saw, Sqr, Tri, Saw 2, Sqr 2, Tri 2	LFO Delay (27)	LFO Fade Time
Osc 1 PW (3)	Osc 1 Color	LFO Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	Osc 1 Course Tune	Chorus/FX Rate (29)	Chorus/Delay Level
Osc 1 LFO Mod (5)	Pitch LFO Amount	Chorus/FX Mode (30)	Chorus Mode
Osc 1 ENV Mod (6)	Pitch ENV Amount	HPF (31)	High Pass Filter Level
Osc 1 Mode (7)	Osc 1 Mod Src (Man, LFO, ENV1 +/-, ENV2 +/-)	LPF Cutoff (32)	Filter Cutoff
Osc 1 PWM (8)	Osc 1 Variation	LPF Resonance (33)	Filter Resonance
Osc 1 Level (9)	Mixer Osc 1 Level	Filter LFO Mod (34)	Filter LFO Amount
Noise Level (10)	Mixer Noise Level	Filter ENV Mod (35)	Filter ENV Amount
Osc 2 Range (15)	64', 32', 16', 8', 4', 2',	Filter Key Follow (36)	Filter KEY Amount
Osc 2 Wave (16)	Saw, Sqr, Tri, Saw 2, Sqr 2, Tri 2	Filter Attack (37)	Filter ENV Attack Rate
Osc 2 PW (17)	Osc 2 Color	Filter Decay (38)	Filter ENV Decat Rate
Osc 2 Tune (18)	Not Used	Filter Sustain (39)	Filter ENV Sustain Level
Osc 2 Fine Tune (19)	Osc 2 Fine Tune	Filter Release(40)	Filter ENV Release Rate
Osc 2 LFO Mod (20)	Osc 2 Ring Mod Level	Filter Mode (41)	Not Used
Osc 2 ENV Mod (21)	Osc 2 Sync Level	VCA Attack (42)	AMP ENV Attack Rate
Osc 2 Mode (22)	Osc 2 Mod Src (Man, LFO, ENV1 +/-, ENV2 +/-)	VCA Decay (43)	AMP ENV Decat Rate
Osc 2 PWM (23)	Osc 2 Variation	VCA Sustain (44)	AMP ENV Sustain Level
Osc 2 XMod (24)	Osc 1 Cross Mod Select	VCA Release (45)	AMP ENV Release Rate
Osc 2 Level (25)	Mixer Osc 2	VCA Mode (46)	Not Used
		VCA Level (47)	AMP Level

Roland® System 8 Page 2

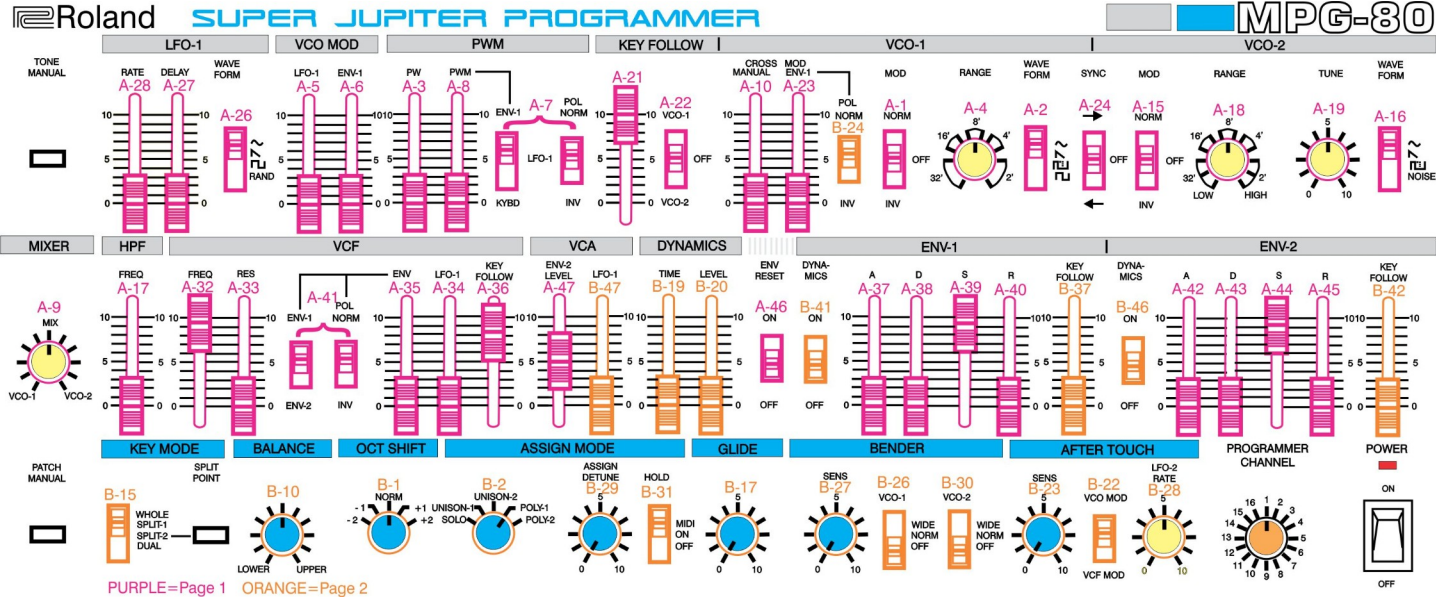
Osc 1 Range (1)	Not Used	LFO Wave (26)	Not Used
Osc 1 Wave (2)	Not Used	LFO Delay (27)	Not Used
Osc 1 PW (3)	Not Used	LFO Speed (28)	Not Used
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Filter Cutoff
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Filter Resonance
Osc 1 Level (9)	Not Used	Filter LFO Mod (34)	Filter LFO Amount
Noise Level (10)	Not Used	Filter ENV Mod (35)	Filter ENV Amount
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Filter KEY Amount
Osc 2 Wave (16)	Saw, Sqr, Tri, Saw 2, Sqr 2, Tri 2	Filter Attack (37)	Filter VEL Amount
Osc 2 PW (17)	Not Used	Filter Decay (38)	AMP VEL Amount
Osc 2 Tune (18)	Not Used	Filter Sustain (39)	Not Used
Osc 2 Fine Tune (19)	Not Used	Filter Release(40)	Not Used
Osc 2 LFO Mod (20)	Not Used	Filter Mode (41)	Not Used
Osc 2 ENV Mod (21)	Not Used	VCA Attack (42)	Not Used
Osc 2 Mode (22)	Not Used	VCA Decay (43)	Not Used
Osc 2 PWM (23)	Not Used	VCA Sustain (44)	Not Used
Osc 2 XMod (24)	Not Used	VCA Release (45)	Not Used
Osc 2 Level (25)	Osc 3/Sub Level	VCA Mode (46)	Not Used
		VCA Level (47)	AMP LFO Amount

SYNTH TABLES

Roland MKS-80

Cable requirements The Roland MKS-80 uses a standard MIDI cable,

EQUIVALENT CONTROLS



Roland® MKS-80 Controls Page A

Roland® MKS-80 Controls Page B

Osc 1 Range (1)	Octave Select (-2, -1, Norm, +1, +2)	LFO1 Wave (26)	Bend Range VCO-1 - Off, Norm, Wide
Osc 1 Wave (2)	Assign Mode Solo,Unison 1&2, Poly 1&2	LFO1 Delay (27)	Bender Sensitivity
Osc 1 PW (3)	Not Used	LFO1 Speed (28)	LFO-2 Rate
Osc 1 Tune (4)	Tone Split Point (note 21 - 108)	Chorus/FX Rate (29)	Unison Detune
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Bender Range VCO-2 - Off, Normal, Wide
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Assign Mode Hold - Off / On / Midi
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	VCF Cutoff
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	VCF Resonance
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	VCF LFO-1 Modulation Amount
Noise Level (10)	Upper/Lower Tone Balance	Filter ENV Modulation (35)	VCF ENV Mod Amount - (31) Source Select
Osc 2 Range (15)	Key Mode - Whole, Split, Dual	Filter Key Follow (36)	VCF Filter Key Follow
Osc 2 Wave (16)	Not Used	Filter Attack EG1 (37)	Env-1 Key Follow
Osc 2 PW (17)	Glide	Filter Mode (41)	Env -1 Dynamics - Off, On
Osc 2 Tune (18)	Not Used	Filter Attack EG2 (42-45)	Env-2 Key Follow
Osc 2 Fine Tune (19)	Dynamics Time	VCA Mode (46)	Env -2 Dynamics - Off, On
Osc 2 LFO Mod (20)	Dynamics Level	VCA Level (47)	VCA LFO-1 Modulation
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Aftertouch Destination - VCO , VCF		
Osc 2 PWM (23)	Aftertouch Sensitivity		
Osc 2 XMod (24)	XMod Polarity - Normal / Inverted		
Osc 2 Level (25)	Not Used		

Roland MKS-80 Notes

The two boards are called Upper and Lower and can have completely independent settings. The Patch Editor can address these separately or simultaneously via the Upper/Lower Select Button.

All controls not marked GLOBAL will only effect the selected Tone Board (Upper or Lower) and the non selected Tone Board will remain unchanged. Global commands will effect both voice boards on any page.

The VCO Range controls on the MKS-80 are variable controls. These have been placed on the Tune controls (4) (18) on the Patch Editor.

The MKS-80 does not have a separate Noise Source as the Oscillator 2 Waveform Select Control (16) is used so the Noise Level Control (10) has been used for the Manual Cross Modulation control.

On the Roland® MKS-80 the High Pass Filter is a continuous control so the HPF cutoff control has been placed on the Osc 2 PW slider (17) (which is not required for the MKS-80 synthesizer).

SYNTH TABLES

Studio Electronics ATC

Cable and MIDI requirements



The Studio Electronics ATC uses a standard MIDI cable.

Studio Electronics ATC Controls

Osc 1 Range (1)	Not Used	LFO1 Wave (26)	LFO 1 Wave (6 types)
Osc 1 Wave (2)	Wave type (3 types & 4 mixes)	LFO1 Delay (27)	Not Used
Osc 1 PW (3)	Osc 1 Pulse Width	LFO1 Speed (28)	LFO Osc 1 Rate
Osc 1 Tune (4)	Osc 1 Frequency	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Osc 1 LFO Depth	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Filter Cartridge Type (4 types)
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Oscillator 1 Level	Filter LFO Modulation (34)	Not Used
Noise Level (10)	Noise Level	Filter ENV Modulation (35)	VCF Env 1 Depth
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Wave type (3 types & 4 mixes)	Filter ADSR EG1 (37-40)	Active
Osc 2 PW (17)	Osc 2 Pulse Width	Filter Mode (41)	Envelope Mode
Osc 2 Tune (18)	Osc 2 Frequency	VCA ADSR EG2 (42-45)	Active
Osc 2 Fine Tune (19)	Osc 2 Fine Tune	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Osc 2 LFO Depth	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Cross Mod Amount		
Osc 2 XMod (24)	Osc 2 Sync Control (Normal & 3 types)		
Osc 2 Level (25)	Oscillator 2 Level		

Osc 1 Range (1)	Not Used	LFO1 Wave (26)	LFO 2 Wave (6 types)
Osc 1 Wave (2)	Not Used	LFO1 Delay (27)	Not Used
Osc 1 PW (3)	Not Used	LFO1 Speed (28)	LFO Osc 2 Rate
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Modulation (34)	Not Used
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Not Used
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Not Used
Osc 2 Wave (16)	Not Used	Filter ADSR EG1 (37-40)	Envelope 3
Osc 2 PW (17)	Not Used	Filter Mode (41)	Not Used
Osc 2 Tune (18)	Not Used	VCA ADSR EG2 (42-45)	Not Used
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	Not Used		

Studio Electronics ATC Notes

Some commands that are available on the ATC have no midi equivalent and cannot be edited using midi parameter edits. Every available command has been included in this patch.

SYNTH TABLES

Studio Electronics 1X

Cable and MIDI requirements



The Studio Electronics 1X uses a standard MIDI cable.

Studio Electronics 1X Controls

Osc 1 Range (1)	Not Used	LFO1 Wave (26)	Not Used
Osc 1 Wave (2)	Ocs 1 Wave type (3 types & 4 mixes)	LFO1 Delay (27)	LFO 1 Depth
Osc 1 PW (3)	Osc 1 Pulse Width	LFO1 Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	Osc 1 Frequency	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Envelope 1 Amount	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Filter Cutoff
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Filter Resonance
Osc 1 Level (9)	Oscillator 1 Level	Filter LFO Modulation (34)	Not Used
Noise Level (10)	Noise Level	Filter ENV Modulation (35)	Not Used
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Filter Tracking
Osc 2 Wave (16)	Osc 2 Wave type (3 types & 4 mixes)	Filter ADSR EG1 (37-40)	Envelope 1 Control
Osc 2 PW (17)	Osc 2 Pulse Width	Filter Mode (41)	Not Used
Osc 2 Tune (18)	Osc 2 Frequency	VCA ADSR EG2 (42-45)	Envelope 2 Control
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Output Volume
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	Oscillator 2 Level		

Osc 1 Range (1)	Not Used	LFO1 Wave (26)	Not Used
Osc 1 Wave (2)	Ocs 3 Wave type (3 types & 4 mixes)	LFO1 Delay (27)	LFO 2 Depth
Osc 1 PW (3)	Osc 3 Pulse Width	LFO1 Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	Osc 3 Frequency	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Envelope 3 Amount	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Filter Cutoff
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Filter Resonance
Osc 1 Level (9)	Oscillator 3 Level	Filter LFO Modulation (34)	Not Used
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Not Used
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Filter Tracking
Osc 2 Wave (16)	Not Used	Filter ADSR EG1 (37-40)	Envelope 3 Control
Osc 2 PW (17)	Not Used	Filter Mode (41)	Not Used
Osc 2 Tune (18)	LFO 3 Rate	VCA ADSR EG2 (42-45)	Envelope 4 Control
Osc 2 Fine Tune (19)	LFO 3 Depth	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Output Volume
Osc 2 ENV Mod (21)	Envelope 4 Amount		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	Ring Mod Level		

Studio Electronics 1X Notes

Some commands that are available on the 1X have no midi equivalent and cannot be edited using midi parameter edits. Every available command has been included in this patch.

SYNTH TABLES

Sequential Circuits Six-trak and Max

Cable and MIDI requirements



The SC Six-Trak uses a standard MIDI cable.

Sequential Circuits Six-Trak Controls

Osc 1 Range (1)	Not Used	LFO1 Wave (26)	Triangle, Square
Osc 1 Wave (2)	Not Used	LFO1 Delay (27)	Not Used
Osc 1 PW (3)	Oscillator Glide Rate	LFO1 Speed (28)	Active
Osc 1 Tune (4)	Not Used	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Not Used	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	Oscillator / Noise Mix	Filter LFO Modulation (34)	Active
Noise Level (10)	Not Used	Filter ENV Modulation (35)	Active
Osc 2 Range (15)	Not Used (Uses Tune control for Range)	Filter Key Follow (36)	Active (off / half / full)
Osc 2 Wave (16)	Sawtooth, Triangle & Pulse in any selection	Filter ADSR EG1 (37-40)	Active
Osc 2 PW (17)	Active	Filter Mode (41)	Filter Envelope Polarity
Osc 2 Tune (18)	Coarse Tune	VCA ADSR EG2 (42-45)	Active
Osc 2 Fine Tune (19)	Fine Tune	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	LFO Program Amount	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Env Modulation		
Osc 2 Mode (22)	Pulse LFO Modulation On/Off		
Osc 2 PWM (23)	Filter/Osc Tri Modulation		
Osc 2 XMod (24)	Oscillator Env Normal / Inverse		
Osc 2 Level (25)	Not Used		

Sequential Circuits Sixtrak Notes

The Sequential Circuits Sixtrak uses a Curtis CEM3394 “synth on a chip” for each of it's six voices. The CEM3394 IC contains the VCO, VCF & VCA.

The Oscillator Tune and Range are combined and placed on the Oscillator 2 Tune (coarse) and Fine Tune controls.

The Filter Keyboard Track has three possible levels, Off, 50% and 100% and the Filter Mode button will invert the filter envelope. Green is a normal envelope and red is inverted.

The Sixtrak needs to be placed into Parameter Edit mode by pressing Control Record then pressing 4.

This patch can also be used on the Sequential Circuits MAX. The MAX needs to be put into parameter edit mode by pressing 'Erase' and then keying in 34. The default midi channel on the MAX is 3. The MAX has no unison function and the Filter LFO has no function.

SYNTH TABLES

Waldorf Pulse

Cable and MIDI requiremets



The Waldorf Patch uses a standard MIDI cable.

This Waldorf patch uses more controls than are available on the Patch Editor so this patch has been spread over two pages. Menu button 3 will select the active page.

Waldorf Controls Page 1

Osc 1 Range (1)	Not used	LFO1 Wave (26)	Sine, Triangle, Sawtooth, Pulse
Osc 1 Wave (2)	Triangle, Saw, Pulse	LFO1 Delay (27)	Active
Osc 1 PW (3)	DCO 1 Pulse Width	LFO1 Speed (28)	Active
Osc 1 Tune (4)	DCO 1 Semitone Adjust	Chorus/FX Rate (29)	Portamento Time
Osc 1 LFO Mod (5)	DCO 1 Pitch Mod Amount	Chorus/FX Mode (30)	Portamento Mode
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Filter Mod Source (Off & 15 types)
Osc 1 Mode (7)	Pitch Mod Source (Off & 15 types)	LPF Cutoff (32)	Active
Osc 1 PWM (8)	Not Used	LPF Resonance (33)	Active
Osc 1 Level (9)	DCO 1 Level	Filter LFO Mod (34)	VCF Mod Amount
Noise Level (10)	Noise Level	Filter ENV Mod (35)	VCF ENV1 Sens
Osc 2 Range (15)	CV 2 Source (Off & 15 types)	Filter Key Follow (36)	Active
Osc 2 Wave (16)	Tri, Saw, Pulse, Cross Mod	Filter ADSR EG1 (37-40)	Active
Osc 2 PW (17)	DCO 2 Pulse Width	Filter Mode (41)	Not Used
Osc 2 Tune (18)	DCO 2 Semitone Adjust	VCA ADSR EG2 (42-45)	Active
Osc 2 Fine Tune (19)	DCO 2 Tune Adjust	VCA Mode (46)	Sustain Switch (Off, On)
Osc 2 LFO Mod (20)	CV 2 Amount	VCA Level (47)	Active
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	DCO 2 Keytrack (Off, On)		
Osc 2 PWM (23)	DCO 2 Pulse Width Mod		
Osc 2 XMod (24)	DCO 2 Sync (Off, On)		
Osc 2 Level (25)	DCO 2 Level		

Waldorf Controls Page 2

Osc 1 Range (1)	Arpeggiator Active (Off, On, Hold)	LFO2 Wave (26)	Not Used
Osc 1 Wave (2)	Arpeggiator Range (1-10 octaves)	LFO2 Delay (27)	LFO 2 Delay
Osc 1 PW (3)	Arpeggiator Tempo	LFO2 Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	DCO 1 Tune Adjust	Chorus/FX Rate (29)	Not Used
Osc 1 LFO Mod (5)	Not Used	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Env 1 Trigger Mode
Osc 1 Mode (7)	Arpeggiator Clock (32 settings)	VCF Cutoff (32)	Active
Osc 1 PWM (8)	Pitch Bend Scale	VCF Resonance (33)	Active
Osc 1 Level (9)	Not Used	Filter LFO Mod (34)	VCF Mod Amount
Noise Level (10)	External Signal Level	Filter ENV Mod (35)	VCF ENV1 Sens
Osc 3 Range (15)	Arpeggiator Mode (7 types)	Filter Key Follow (36)	Active
Osc 3 Wave (16)	Tri, Saw, Pulse	ADSR EG3 (37-40)	Release Only - Env 1 Keyfollow Amount
Osc 3 PW (17)	DCO 3 Pulse Width	Filter Mode (41)	Env 1 Trigger Mode
Osc 3 Tune (18)	DCO 3 Semitone Adjust	ADSR EG2 (42-45)	Release Only - Env 2 Keyfollow Amount
Osc 3 Fine Tune (19)	DCO 3 Fine Detune	VCA Mode (46)	Sustain Switch (Off, On)
Osc 3 LFO Mod (20)	Not Used	VCA Level (47)	VCA Panning
Osc 3 ENV Mod (21)	Not Used		
Osc 3 Mode (22)	Not Used		
Osc 3 PWM (23)	Not Used		
Osc 3 XMod (24)	Not Used		
Osc 3 Level (25)	DCO 3 Level		

SYNTH TABLES

Waldorf Q/Q Plus MicroQ

Cable and MIDI requirements



The Waldorf Patch uses a standard MIDI cable.

This Waldorf patch uses more controls than are available on the Patch Editor so this patch has been spread over two pages. Menu button 3 will select the active page.

Waldorf Q Controls Page 1

Osc 1 Range (1)	64', 32', 16', 8', 4', 2', 1'	LFO1 Wave (26)	LFO 1 Sine, Tri, Saw, Sqr, Random, S&H
Osc 1 Wave (2)	Sine, Tri, Saw, Pulse, Alt 1, Alt 2	LFO1 Delay (27)	LFO 1 Delay
Osc 1 PW (3)	DCO 1 Pulse Width	LFO1 Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	DCO 1 Semitone Adjust	Chorus/FX Rate (29)	FX 1 Mix
Osc 1 LFO Mod (5)	DCO 1 FM Level	Chorus/FX Mode (30)	Not Used
Osc 1 ENV Mod (6)	Not Used	HPF (31)	VCF 1 Type - Bypass/10 types
Osc 1 Mode (7)	DCO 1 Mod Source - Off/14 sources	LPF 1 Cutoff (32)	VCF 1 Cutoff
Osc 1 PWM (8)	DCO 1 Pulse Width Mod	LPF 1 Resonance (33)	VCF 1 Resonance
Osc 1 Level (9)	DCO 1 Level	Filter 1 LFO Mod (34)	VCF 1 FM
Noise Level (10)	Noise / Ext In Level	Filter 1 ENV Mod (35)	VCF 1 Env Depth
Osc 2 Range (15)	64', 32', 16', 8', 4', 2', 1'	Filter Key Follow (36)	VCF 1 Keytrack
Osc 2 Wave (16)	Sine, Tri, Saw, Pulse, Alt 1, Alt 2	Filter ADSR EG1 (37-40)	VCF Env A/D/S/R
Osc 2 PW (17)	DCO 2 Pulse Width	Filter Mode (41)	VCF 1 Mod Source - Off/13 sources
Osc 2 Tune (18)	DCO 2 Semitone Adjust	VCA ADSR EG2 (42-45)	VCA Env A/D/S/R
Osc 2 Fine Tune (19)	DCO 2 Fine Detune	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	DCO 1 FM Level	VCA Level (47)	Total volume
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	DCO 2 Mod Source - Off/14 sources		
Osc 2 PWM (23)	DCO 2 Pulse Width Mod		
Osc 2 XMod (24)	Sync On/Off		
Osc 2 Level (25)	DCO 2 Level		

Waldorf Q Controls Page 2

Osc 3 Range (1)	64', 32', 16', 8', 4', 2', 1'	LFO2 Wave (26)	LFO 2 Sine, Tri, Saw, Sqr, Random, S&H
Osc 3 Wave (2)	Sine, Tri, Saw, Pulse	LFO2 Delay (27)	LFO 2 Delay
Osc 3 PW (3)	DCO 3 Pulse Width	LFO2 Speed (28)	LFO 2 Rate
Osc 3 Tune (4)	DCO 3 Semitone Adjust	Chorus/FX Rate (29)	FX 2 Mix
Osc 3 LFO Mod (5)	DCO 3 FM Level	Chorus/FX Mode (30)	Not Used
Osc 3 ENV Mod (6)	Not Used	HPF (31)	VCF 2 Type - Bypass/10 types
Osc 3 Mode (7)	DCO 1 Mod Source - Off/14 sources	LPF 2 Cutoff (32)	VCF 2 Cutoff
Osc 3 PWM (8)	DCO 1 Pulse Width Mod	LPF 2 Resonance (33)	VCF 2 Resonance
Osc 3 Level (9)	DCO 1 Level	Filter 2 LFO Mod (34)	VCF 2 FM
Noise Level (10)	Not Used	Filter 2 ENV Mod (35)	VCF 2 Env Depth
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	VCF 2 Keytrack
Osc 2 Wave (16)	Not Used	Filter ADSR EG1 (37-40)	Env 3 A/D/S/R
Osc 2 PW (17)	Not Used	Filter Mode (41)	VCF 2 Mod Source - Off/13 sources
Osc 2 Tune (18)	Not Used	VCA ADSR EG2 (42-45)	Env 4 A/D/S/R
Osc 2 Fine Tune (19)	Not Used	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Not Used	VCA Level (47)	Total volume
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Not Used		
Osc 2 PWM (23)	Not Used		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	DCO Ring Mod Level		

SYNTH TABLES

Waldorf MicroWave 1

Cable and MIDI requirements



The Waldorf Patch uses a standard MIDI cable.

This Waldorf patch uses more controls than are available on the Patch Editor so this patch has been spread over two pages. Menu button 3 will select the active page.

Waldorf MicroWave 1 Controls Page 1

Osc 1 Range (1)	DCO1 Oct Shift (-2 > +2)	LFO1 Wave (26)	LFO 1 Sine, Saw, Pulse, Random
Osc 1 Wave (2)	Not Used	LFO1 Delay (27)	LFO 1 Delay
Osc 1 PW (3)	Not Used	LFO1 Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	DCO 1 Semitone Adjust	Chorus/FX Rate (29)	LFO 1 Modifier 1 Level
Osc 1 LFO Mod (5)	DCO 1 Modifier 1 Level	Chorus/FX Mode (30)	LFO 1 Modifier 1 Source Select (17 types)
Osc 1 ENV Mod (6)	DCO 1 Modifier 2 Level	HPF (31)	VCF Res Modifier 1 Source Select (17 types)
Osc 1 Mode (7)	DCO 1 Modifier 1 Source Select (17 types)	LPF 1 Cutoff (32)	VCF 1 Cutoff
Osc 1 PWM (8)	DCO 1 Modifier 2 Source Select (17 types)	LPF 1 Resonance (33)	VCF 1 Resonance
Osc 1 Level (9)	Wave 1 Level	Filter 1 LFO Mod (34)	VCF 1 Modifier 1 Level
Noise Level (10)	Noise Level	Filter 1 ENV Mod (35)	VCF 1 Envelope Level
Osc 2 Range (15)	DCO2 Oct Shift (-2 > +2)	Filter Key Follow (36)	VCF 1 Keytrack
Osc 2 Wave (16)	Not Used	Filter ADSR EG1 (37-40)	VCF Env A/D/S/R
Osc 2 PW (17)	DCO 2 Pulse Width	Filter Mode (41)	VCF Modifier 1 Source Select (17 types)
Osc 2 Tune (18)	DCO 2 Semitone Adjust	VCA ADSR EG2 (42-45)	VCA Env A/D/S/R
Osc 2 Fine Tune (19)	DCO 2 Detune	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	DCO 2 Modifier 1 Level	VCA Level (47)	Total volume
Osc 2 ENV Mod (21)	DCO 2 Modifier 2 Level		
Osc 2 Mode (22)	DCO 2 Modifier 1 Source Select (17 types)		
Osc 2 PWM (23)	DCO 2 Modifier 2 Source Select (17 types)		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	Wave 2 Level		

Waldorf MicroWave 1 Controls Page 2

Osc 1 Range (1)	Not Used	LFO Wave (26)	LFO 2 Sine, Saw, Pulse, Random
Osc 1 Wave (2)	Not Used	LFO Delay (27)	LFO 2 Delay
Osc 1 PW (3)	Wave 1 Start Position	LFO Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	Wave 1 Start Sample	Chorus/FX Rate (29)	LFO 2 Symmetry
Osc 1 LFO Mod (5)	Wave 1 Modifier 1 Amount	Chorus/FX Mode (30)	LFO 2 Humanize Type
Osc 1 ENV Mod (6)	Wave 1 Envelope Amount	HPF (31)	Not Used
Osc 1 Mode (7)	Wave 1 Modifier 1 Source Select (17 types)	LPF Cutoff (32)	VCF Cutoff
Osc 1 PWM (8)	Wave 1 Modifier 2 Amount	LPF Resonance (33)	VCF Resonance Mod 1 Amount
Osc 1 Level (9)	Wave 1 Keytrack Amount	Filter LFO Mod (34)	VCF Modifier 1 Level
Noise Level (10)	Not Used	Filter ENV Mod (35)	VCF Envelope Level
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	VCF Keytrack
Osc 2 Wave (16)	Not Used	Filter ADSR EG1 (37-40)	Not Used
Osc 2 PW (17)	Wave 2 Start Position	Filter Mode (41)	Not Used
Osc 2 Tune (18)	Wave 2 Start Sample	VCA ADSR EG2 (42-45)	Not Used
Osc 2 Fine Tune (19)	Wave 1 & 2 Wave Table	VCA Mode (46)	Not Used
Osc 2 LFO Mod (20)	Wave 2 Modifier 1 Amount	VCA Level (47)	VCA Volume Envelope Amount
Osc 2 ENV Mod (21)	Wave 2 Envelope Amount		
Osc 2 Mode (22)	Wave 2 Modifier 1 Source Select (17 types)		
Osc 2 PWM (23)	Wave 2 Modifier 2 Amount		
Osc 2 XMod (24)	Not Used		
Osc 2 Level (25)	Wave 2 Keytrack Amount		

SYNTH TABLES

Waldorf MicroWave II

Cable and MIDI requirements



The Waldorf MWII Patch uses a standard MIDI cable.

Waldorf MicroWave II Controls Page 1

Osc 1 Range (1)	DCO1 Oct Shift (-4 > +4)	LFO1 Wave (26)	LFO 1 Wave (6 types)
Osc 1 Wave (2)	Modifier 1 Source Select (32 types)	LFO1 Delay (27)	LFO 1 Delay
Osc 1 PW (3)	DCO1 Frequency Mod	LFO1 Speed (28)	LFO 1 Rate
Osc 1 Tune (4)	DCO 1 Semitone Adjust	Chorus/FX Rate (29)	LFO 1 Symmetry
Osc 1 LFO Mod (5)	DCO 1 Keytrack Adjust	Chorus/FX Mode (30)	Effect Mode (Off, Chorus, Ensemble)
Osc 1 ENV Mod (6)	Not Used	HPF (31)	Not Used
Osc 1 Mode (7)	Modifier 1 Destination Select (35 types)	LPF 1 Cutoff (32)	Filter 1 Cutoff
Osc 1 PWM (8)	Modifier 1 Level	LPF 1 Resonance (33)	Filter 1 Resonance
Osc 1 Level (9)	Panning Position	Filter 1 LFO Mod (34)	Not Used
Noise Level (10)	Mix Noise Level	Filter 1 ENV Mod (35)	VCF 1 Envelope Amount
Osc 2 Range (15)	DCO2 Oct Shift (-4 > +4)	Filter Key Follow (36)	VCF 1 Keytrack
Osc 2 Wave (16)	Modifier 2 Source Select (32 types)	Filter ADSR EG1 (37-40)	VCF Env A/D/S/R
Osc 2 PW (17)	Not used	Filter Mode (41)	VCF Mode (13 types)
Osc 2 Tune (18)	DCO 2 Semitone Adjust	VCA ADSR EG2 (42-45)	VCA Env A/D/S/R
Osc 2 Fine Tune (19)	DCO 2 Detune	VCA Mode (46)	VCA Mode (2 types)
Osc 2 LFO Mod (20)	DCO 2 Keytrack Adjust	VCA Level (47)	Total volume
Osc 2 ENV Mod (21)	Not Used		
Osc 2 Mode (22)	Modifier 2 Destination Select (35 types)		
Osc 2 PWM (23)	Modifier 2 Amount		
Osc 2 XMod (24)	Sync and Link Select		
Osc 2 Level (25)	Mix Ring Mod Volume		

Waldorf MicroWave II Controls Page 2

Osc 1 Range (1)	Not Used	LFO Wave (26)	LFO 2 Wave (6 types)
Osc 1 Wave (2)	Modifier 3 Source Select (32 types)	LFO Delay (27)	LFO 2 Delay
Osc 1 PW (3)	Wave 1 Start Position	LFO Speed (28)	LFO 2 Rate
Osc 1 Tune (4)	Wave 1 Phase	Chorus/FX Rate (29)	LFO 2 Symmetry
Osc 1 LFO Mod (5)	Wave 1 Keytrack	Chorus/FX Mode (30)	Wave 1 +2 Limit
Osc 1 ENV Mod (6)	Wave 1 Envelope Amount	HPF (31)	Not Used
Osc 1 Mode (7)	Modifier 3 Destination Select (35 types)	LPF Cutoff (32)	Filter 2 Cutoff
Osc 1 PWM (8)	Modifier 3 Level	LPF Resonance (33)	Not Used
Osc 1 Level (9)	Wave 1 Mix Amount	Filter LFO Mod (34)	Not Used
Noise Level (10)	Not Used	Filter ENV Mod (35)	Not Used
Osc 2 Range (15)	Not Used	Filter Key Follow (36)	Filter 2 Keytrack
Osc 2 Wave (16)	Modifier 4 Source Select (32 types)	Filter ADSR EG1 (37-40)	Wave Envelope Levels 1-4
Osc 2 PW (17)	Wave 2 Start Position	Filter Mode (41)	Not Used
Osc 2 Tune (18)	Wave 2 Phase	VCA ADSR EG2 (42-45)	Wave Envelope Levels 5-8
Osc 2 Fine Tune (19)	Wave 1 & 2 Wave Shape	VCA Mode (46)	Glide On/Off
Osc 2 LFO Mod (20)	Wave 2 Keytrack Amount	VCA Level (47)	Glide Time
Osc 2 ENV Mod (21)	Wave 2 Envelope Amount		
Osc 2 Mode (22)	Modifier 4 Destination Select (35 types)		
Osc 2 PWM (23)	Modifier 4 Level		
Osc 2 XMod (24)	Wave Link On/Off		
Osc 2 Level (25)	Wave 2 Mix Amount		

SYNTH TABLES

Generic Midi CC

Generic Midi CC Controls Page 1

Format
Bn xx yy Midi Command Code (\$Bn) n=midi channel-1 \$0-\$f (0-15)
 xx = parameter number (see table below)
 yy = parameter data

Note: Parameters not active for the selected synthesizer or contain invalid data will be ignored
Note: The Roland JX-3P uses \$00-\$ff as a control range. As this cannot be sent via SysEx the parameter value byte is doubled within the Patch Editor.

Parameter Name	Parameter Number	Data	Notes
Osc 1 Range	\$41 (65)	0	
32'		1	
16'		2	
8'		3	
4'		4	
2'			
Osc 1 Wave	\$42 (66)	0	DW-6000 uses 8 wave forms (valid data 0-7) DW-8000 uses 16 wave forms (valid data 0-f)
Noise		1	
Square		2	
Pulse		3	
Triangle		4	
Sawtooth			
Osc 1 Pulse Width	\$10 (16)	nn	nn=\$00-\$7f (0-127)
Osc 1 Tune	\$11 (17)	nn	nn=\$00-\$7f (0-127)
Osc 1 LFO Mod	\$12 (18)	nn	nn=\$00-\$7f (0-127)
Osc 1 ENV Mod	\$13 (19)	nn	nn=\$00-\$7f (0-127)
Osc 1 PWM Mode	\$43 (67)	0	
Env		1	
LFO		2	
Key			
Osc 1 PWM Adjust	\$14 (20)	nn	nn=\$00-\$7f (0-127)
Osc 1 Level	\$15 (21)	nn	nn=\$00-\$7f (0-127)
Noise Level	\$16 (22)	nn	nn=\$00-\$7f (0-127)
Osc 2 Range	\$44 (68)	0	
32'		1	
16'		2	
8'		3	
4'		4	
2'			
Osc 2 Wave	\$45 (69)	0	DW-6000 uses 8 wave forms (valid data 0-7) DW-8000 uses 16 wave forms (valid data 0-f)
Noise		1	
Square		2	
Pulse		3	
Triangle		4	
Sawtooth			
Osc 2 Pulse Width	\$17 (23)	nn	nn=\$00-\$7f (0-127)
Osc 2 Tune	\$18 (24)	nn	nn=\$00-\$7f (0-127)
Osc 2 Fine Tune	\$19 (25)	nn	nn=\$00-\$7f (0-127)
Osc 2 LFO Mod	\$1a (26)	nn	nn=\$00-\$7f (0-127)
Osc 2 ENV Mod	\$1b (27)	nn	nn=\$00-\$7f (0-127)

Parameter Name	Parameter Number	Data	Notes
Osc 2 PWM Mode	\$46 (70)	0	
Env		1	
LFO		2	
Key			
Osc 2 PWM Adjust	\$1c (28)	nn	nn=\$00-\$7f (0-127)
Osc 2 Sync	\$47 (72)	0	
X		1	
2		2	
1		3	
0		4	
Sync		5	
Metal			
Osc 2 Level	\$1d (29)	nn	nn=\$00-\$7f (0-127)
LFO Wave	\$48 (73)	0	
Random		1	
Square		2	
Triangle		3	
Sawtooth			
LFO Delay	\$1e (30)	nn	nn=\$00-\$7f (0-127)
LFO Rate	\$1f (31)	nn	nn=\$00-\$7f (0-127)
Chorus Mode	\$49 (74)	0	
Off		1	
On/1		2	
2			
Chorus Rate	\$20 (32)	nn	nn=\$00-\$7f (0-127)
High Pass Filter	\$4a (75)	0	Roland JX-3P and MKS-80 have 11 steps
		1	
		2	
		3	
Filter Cutoff	\$21 (33)	nn	nn=\$00-\$7f (0-127)
Filter Resonance	\$22 (34)	nn	nn=\$00-\$7f (0-127)
Filter LFO Mod	\$23 (35)	nn	nn=\$00-\$7f (0-127)
Filter Env Mod	\$24 (36)	nn	nn=\$00-\$7f (0-127)
Filter Key Mod	\$25 (37)	nn	nn=\$00-\$7f (0-127)
Filter EG Attack	\$27 (39)	nn	nn=\$00-\$7f (0-127)
Filter EG Decay	\$28 (40)	nn	nn=\$00-\$7f (0-127)
Filter EG Sustain	\$29 (41)	nn	nn=\$00-\$7f (0-127)
Filter EG Release	\$30 (42)	nn	nn=\$00-\$7f (0-127)
Filter Mode	\$4b (76)	0	
		1	
VCA EG Attack	\$2b (43)	nn	nn=\$00-\$7f (0-127)
VCA EG Decay	\$2c (44)	nn	nn=\$00-\$7f (0-127)
VCA EG Sustain	\$2d (45)	nn	nn=\$00-\$7f (0-127)
VCA EG Release	\$2e (46)	nn	nn=\$00-\$7f (0-127)
VCA Mode	\$4c (77)	0	
		1	
		2	
		3	
1			
2			
3/Env			
4/Gate			
VCA Level	\$2f (47)	nn	nn=\$00-\$7f (0-127)

Unsupported synthesizers

The following synthesizer types have been tested and found to be not suitable for controlling with the Patch Editor.

Yamaha DX7 The Yamaha DX7 synthesizer is FM based and few of the Patch Editor controls are suitable. This is what is required.



Roland D-50 & D-550 Similar to the Yamaha DX7 this is an FM based synth with few of the Patch Editor controls being suitable.

Ensoniq ESQ-1 The Ensoniq ESQ-1 synthesizer does not support midi control well. The ESQ-1 requires simulated button presses via midi to make changes which is very slow and not suitable for real time control. Some controllers get around this by sending a patch dump each time a control is moved. This system is not suitable for the Patch Editor as every setting on a patch will be overwritten each time any control is changed.

Midi CC Commands

To switch between synth tables remotely the Patch Editor supports the following midiCC command

Continuous Controllers			
Continuous Controllers	Second	Third	Notes
Change Synth Table	\$6f (111)	\$00-\$23 (0-35)	\$yy = \$00 (0) Cheetah MS6
			\$01 (1) Fender Rhodes Chroma
			\$02 (2) Kawai K3m
			\$03 (3) Kiwi-106
			\$04 (4) Kiwi-3P
			\$04 (5) KiwiSix
			\$04 (6) Kiwi-8P
			\$07 (7) Kiwi-1000
			\$08 (8) Kiwi-30
			\$09 (9) Kiwi-SJX
			\$0a (10) Korg DSS-1
			\$0b (11) Korg DSM-1
			\$0c (12) Korg DW-6000
			\$0d (13) Korg DW-8000
			\$0e (14) Korg M1
			\$0f (15) Moog Slim Phatty
			\$10 (16) Oberheim Matrix 6
			\$11 (17) Oberheim Matrix 1000
			\$12 (18) Organix Midi3P
			\$13 (19) Roland Juno-2
			\$14 (20) Roland Juno-106
			\$15 (21) Roland JX-8P
			\$16 (22) Roland MKS-30
			\$17 (23) Roland MKS-70
			\$18 (24) Roland MKS-80
			\$19 (25) Roland JD-990 FX
			\$1a (26) Roland JD-990 Tone
			\$1b (27) Roland System 8
			\$1c (28) SC SixTrak
			\$1d (29) Studio Electronics ATCX
			\$1e (30) Studio Electronics SE1X
			\$1f (31) Waldorf MicroWave I
			\$20 (32) Waldorf MicroWave II
			\$21 (33) Waldorf Pulse
			\$22 (34) Waldorf MicroQ
			\$23 (35) Generic MidiCC