Prophet '08

Operation Manual

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FC Tested To Comply
With FCC Standards
FOR OFFICE USE $C\mkern-6mu\epsilon$

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference and
(2) this device must accept any interference received,
including interference that may cause undesired
operation.

This Class B digital apparatus meets all requirements of
the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe B respecte toutes
les exigences du Reglement sur le materiel brouilleur du
Canada.

For Technical Support, email: support@davesmithinstruments.com

Contents

Quick Start

Thanks for purchasing the Prophet '08! Listen to the sounds, twiddle some knobs, have some fun!

Please Register!

Please go to www.davesmithinstruments.com and register your synth. If you purchased directly from us, there is no need to register – we already have your contact information.

So, plug in the power supply, connect (in stereo!!) to your mixer/sound system, switch on the power, and start playing!

Try applying keyboard pressure (aftertouch) and the mod wheel. Many sounds are fairly simple at first, then come alive when you use the controllers. With other sounds, you may need to hold the notes a while to let the sound unfold. Playing in different ways has a big effect on the programs.

Selecting and Editing Programs and Global Settings

You can use the +/- switches to step through the Programs. Also, the PARAM 1 knob changes the Program and PARAM 2 changes the Bank.

If you want to edit a Program, just turn any knob. The new value will be displayed in the bottom line of the LCD (the top line displays the programmed value for handy reference). Once a parameter has been selected, the PARAM 2 knob will also change the value, and the +/- switches will increment or decrement the value. Hit the + and - switches at the same time to set the parameter to zero.

That's the whole idea with this instrument – grabbing knobs and changing the sound! After turning knobs, just hit the Program switch so the LCD goes back to the Program / Bank screen, allowing you to change Programs again.

Press the GLOBAL switch to change higher level parameters, such as MIDI channel number, Transpose/Detune, and so on. These are remembered when the synth is turned off. Note that in Global Mode, the screen displays two parameters at a time. The top parameter is changed by the PARAM 1 knob and the lower parameter is edited by the PARAM 2 knob. The +/- switches select new pages.

Summary

You should be up and running now; for more operation information, read on. Or, just look up specific parameters for detailed notes. Pages 35 through 38 contain a handy reference for mod destinations and sources. At some point you should

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read through the manual to discover all the little features that you might not notice at first.

I should mention that this manual does not include explanations of basic analog synthesizer functions. It assumes you already know what an oscillator is, how a low-pass filter affects the sound, what an ADSR envelope looks like, and so on.

Fortunately, these days it is quite easy to find such resources on the Internet. If you want to learn the lingo and the basics, just try a search in Google (or the search engine of your choice), something like "analog synthesizer tutorial." You'll find plenty of good reading material.

Have fun!

Dave Smith

Special thanks to:

Tim Ande, David Bryce, Andrew McGowan, Dave Polich, Ravi Ivan Sharma, and Stefan Trippler.

Prophet '08 FAQ and Troubleshooting Notes

Voices 1 through 4 are not making any sound.
Check to make sure you're using the Main Output and not Output B.

The arpeggiator/sequencer has stopped working.
Check the Clock setting under the Global menu. If it is set to MIDI In or MIDI In/Out and the Prophet '08 is not receiving MIDI clock, neither the sequencer nor the arpeggiator will play.

How do I reset the Prophet '08?
The Prophet does not have a full (programs, parameters, everything) reset, but you can reset the Global parameters to their factory defaults by holding the GLOBAL switch and pressing LFO 3. The factory program banks are available in SysEx format on our Web site.

How can I "zero out" a program to start creating a sound from scratch?
Hold the PROGRAM switch and press + / YES to set the current program's parameters to a basic sawtooth program with most of the parameters set to zero. Please note that this does not write the sound into memory; it temporarily changes the parameters of the current program.

Some voices are noticeably louder than others.
Are you using both (left and right) outputs? The Prophet does not have a summed mono output. Many of the factory programs use the PAN SPREAD parameter or have some modulation affecting the pan position. The Audio Out parameter in the Global menu can globally switch both outputs to mono.

Why am I hearing some distortion in my programs?
The Prophet has an extensive and very deep modulation matrix. If you turn everything up to 11 (figuratively speaking), the sum may be a bit more than the Prophet can handle without distorting. Just back off the levels a bit. Rather than clamping everything internally so that distortion never occurs, we leave it up to you. Besides, sometimes things "break" in interesting ways!

Why doesn't my expression pedal work with the Prophet?
The Prophet should work with most expression pedals. However, the factory programs are not preconfigured to use an expression pedal. For (almost) instant gratification, set the Pedal parameter in Global to control volume or the filter. To select program-specific destinations, set the Pedal parameter to FootCtrl. Then, using the MISC switch in the Modulators section, set the MOD SOURCE to Foot and set the MOD DESTINATION and MOD AMOUNT to the desired values.

Getting Connected

The Prophet '08 has several inputs and outputs on its back panel.

Power Input – Connect the power supply included with your Prophet '08. The power supply comes with different AC adaptor prongs that allow it to work anywhere in the world. If for whatever reason you need to use a different supply, it must match the specifications on the rear panel near the input jack. **Note**: The supply label says "Evolver" on it for reference.

MIDI In – To receive MIDI data from another device, connect this to the other device's MIDI Out.

MIDI Out – To send MIDI data to another device, connect this to the other device's MIDI In.

MIDI Thru – Received MIDI data is passed through to MIDI Thru so that multiple MIDI devices can be chained on the same MIDI buss.

Poly Chain Out – A special MIDI output that enables you to chain another Prophet or up to two Tetras for increased polyphony. See *Using Poly Chain* on page 33 for details. When Poly Chain is turned off, this jack acts as a second MIDI Out.

Pedal/CV – This input can be connected to two types of controllers: a standard expression pedal that has a variable resistor on a TRS (tip-ring-sleeve) 1/4" phone plug, or a synthesizer or other device capable of producing a control voltage. The control voltage range is 0 to 5 volts DC, and the input is protected against higher and negative voltages. Note that this input is heavily filtered for clean operation, so there is a limit to the speed it will respond.

Sustain – Works with any standard, normally open or normally closed momentary footswitch. See "Sustain" in *Global Parameters* on page 9 for information about changing the polarity to work with your type of footswitch.

Main Output – The Prophet '08's unbalanced, stereo outputs.

Output B – Each of the Prophet '08's 256 programs contains two layers, A and B. Each layer can be a completely different sound and the layers can be combined as splits and stacks. If you just use the Main Output, layers A and B are both output there. If you plug two additional cables into Output B, however, the sound of B layer will be removed from the Main Output and sent to Output B. This enables you to process the two layers separately.

Headphones – A 1/4 inch stereo phone jack.

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Basic Operation

When you first turn the power on, the keyboard will be in Program Mode with the PROGRAM switch lit and the following screen active:

```
Programxxx Bankx
xxxxxxxxxxxxxxxx
```

The top line shows the Program (1…128) and Bank (1…2) number of the currently selected Program, and the bottom line shows the 16-character name of the Program. The PARAM 1 knob changes the Program, and the PARAM 2 knob changes the Bank. The Program can also be incremented or decremented by pressing the +/YES or -/NO switches, respectively.

Each Program has two layers, A and B. Each layer can contain a completely different patch. The layers are typically used to create stacked and split Programs, though you can also switch quickly between the layers using the EDIT LAYER B switch. When EDIT LAYER B is lit, the front panel controls will edit the layer B patch.

> **Note:** When playing in a live performance, EDIT LAYER B provides a handy way to toggle quickly between two completely different sounds with a single switch. This applies only in normal eight-voice mode, not in Stack or Split modes.

To edit a Program, simply turn any knob. See *Program Parameters* on page 13 for a detailed list of all parameters and their functions. After editing parameters, hit the Program switch to enable program changes again.

Compare Feature – While editing a Program, you can press the COMPARE switch to listen to the original version. If you press the switch again, the Prophet '08 returns to the edited version.

Saving a Program

To save a Program, press the WRITE switch and the following screen appears:

```
Write? P:xxx B:x
Hit:  Yes or No
```

Press the +/YES switch to save the current Program, or -/NO (or the WRITE switch again) to cancel. To store in a different location, use PARAM 1 to select a new destination, and PARAM 2 for a different bank.

Note: If your Prophet '08 is poly chained to a second Prophet '08, the program will also be saved in the chained unit.

Audition Destination Feature – While there is a write pending (see previous screen), you can press the COMPARE switch to hear the target Program destination before saving. Just be sure to turn COMPARE off again before you actually hit the +/YES switch to save.

Transposing the Keyboard Range (keyboard only)

Use the UP and DOWN Transpose switches to transpose the keyboard up or down in octaves. The LED indicates the current keyboard transposition state. The transposition changes the MIDI note number of the keys, so MIDI notes sent will also be transposed.

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Global Parameters

To edit the Global parameters, press the GLOBAL switch and Global page 1 is displayed. The PARAM 1 knob changes the parameter on the upper LCD line, and the PARAM 2 knob changes the lower parameter. The +/YES and -/NO switches select the other pages.

> **Note**: If you hold the -/NO switch while you hit the +/YES switch, it will jump to the last page. Similarly, if you hold the +/YES switch when you hit the -/NO switch, it will jump to the first page.

Page 1:

```
Transpose:         xx
Fine Tune:         xx
```

Transpose: -12…+12 – Master Transpose control, 0 is centered. Steps in semitones.

Fine Tune: -50…+50 – Master Fine Tune control; 0 centered. Steps in cents (50 cents = 1/2 semitone).

Page 2:

```
MIDI Channel:      xx
Poly Chain:        xxx
```

MIDI Channel: ALL, 1…16 – Selects which MIDI channel to send and receive data, 1 to 16. All receives on all 16 channels.

Poly Chain: Off, Out 4, Out 8, In – Use this to increase polyphony by intelligently processing the keys hit and passing MIDI data through to the Poly Chain MIDI out jack, where it can be routed to a second Prophet '08 or one or two Tetras. See *Using Poly Chain* on page 33 for details.

> **Note**: If Poly Chain is set to Off, the Poly Chain MIDI out jack simply duplicates the MIDI out jack.

Page 3:

```
Clock:        xxxxxxx
LocalControl:    xxx
```

Clock: see table – Selects the MIDI clock status.

Display	MIDI Clock Setting
Internal	MIDI clock is neither sent nor received
MIDI Out	MIDI clock is sent
MIDI In	MIDI clock is received
MidiIn/Out	MIDI clock is received and transmitted (use with Poly Chain)

Local Control: Off, On – Enables or disables the internal connection between the keyboard and panel controls and the synth electronics. This is useful with external sequencer operation.

Page 4:

```
MParam Send:    xxxx
M Param Rec:    xxxx
```

MIDI Parameter Send: NRPN, CC, Off – Changes to the values of the Prophet '08's front panel controls are transmitted via MIDI as Non-registered Parameter Number (NRPN) controllers or as Continuous Controllers (CC). Transmission of parameters can also be turned off. See *MIDI Implementation* on page 39 for details.

> **Note:** NRPNs are the preferred method of parameter transmission, since they cover the complete range of all parameters, while CCs only handle the main parameters.

MIDI Parameter Receive: All, NRPN, CC, Off – Sets the method by which the Prophet '08 receives parameter changes via MIDI. As with transmission, NRPNs are the preferred method, though some controllers may only be able to send CCs.

Page 5:

```
MIDI Program:    xxx
MIDI Pressre:    xxx
```

MIDI Program: Off, On – When On, the synth will respond to MIDI program changes received, and will transmit Program changes to MIDI Out.

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MIDI Pressure: Off, On – When On, the synth will respond to MIDI pressure (aftertouch) received, and will transmit Keyboard Pressure to MIDI Out.

Page 6:

```
MIDI Control:     xxx
MIDI SysEx:       xxx
```

MIDI Control: Off, On – When On, the synth will respond to MIDI controllers, and will transmit controllers from the keyboard to the MIDI Out. Controllers include Pitch Wheel, Mod Wheel, Pedal, Breath, Volume, and Expression.

MIDI SysEx: Off, On – When On, the synth will respond to received MIDI SysEx messages, and will transmit them, when prompted, to the MIDI Out. See *Sysex Messages* on page 51 for details.

Page 7:

```
Pedal:        xxxxxxx
Sustain:            x
```

Pedal: see table – Sets the destination for the Pedal/CV input. Note that this input is heavily filtered for clean operation, so there is a limit to the speed it will respond to changes.

Display	Pedal Routing
FootCtrl	Routed to the Foot Control Modulation
Breath	Routed to the Breath Control Modulation
Expressn	Routed to the Expression Modulation
Volume	Controls Master Volume
LpFilter	Routed to the low pass filter
LpF Half	Routed to the low pass filter, but with half the range

Sustain: Norm +, Norm -, Arp +, Arp - – A momentary footswitch connected to the Prophet '08's Sustain input can be used either as a sustain pedal or to latch the arpeggiator. The Prophet '08 can be configured for use with either normally open (+) or normally closed (-) footswitches. When set to Arp+ or Arp-, the footswitch will act as a sustain pedal when the Arpeggiator is off.

Page 8:

```
Velocity Curve:     x
Pressure Curve:     x
```

Velocity Curve: 1…4 – Sets one of the four velocity curves for the keyboard; this gives you the ability to adjust the keyboard to your playing style.

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Pressure Curve: 1…4 – Sets one of the four pressure curves for the keyboard; this gives you the ability to adjust the keyboard to your playing style.

Page 9:

```
Audio Out:    xxxxxx
MIDIParamLCD:    xxx
```

Audio Out: Stereo (default), Mono – Switching from Stereo to Mono globally defeats all of the parameters that affect panning (pan spread, modulation, etc.) and makes both the left and right outputs mono outputs.

MIDIParamLCD: On (default), Off – In edit mode, the display normally shows any received controller changes. When MIDIParamLCD is Off, only local edits are displayed.

Page 10:

```
CntrolReset:    xxxx
BalanceTweak:     xx
```

CntrolReset: Norm (default), PgCh – When set to Norm, the settings of MIDI controllers such as volume, brightness, or modulation will be carried over with program changes. When set to PgCh, MIDI controllers will be reset when programs are changed locally or via MIDI. The reset is equivalent to sending the Prophet the Reset All Controllers message (CC 121) via MIDI.

BalanceTweak: -7…7 – Adjusts the left/right balance of the audio outputs by approximately +/- 4 dB.

Page 11:

```
PotMode:    xxxxxxxx
EncMode:      xxxxxx
```

PotMode: Relative (default), Passthru, Jump – On the Prophet '08, 38 of the 52 front panel controls are potentiometers or "pots." (The pots have about 300° of travel; the encoders are "endless.") There are three pot modes to determine how the synth reacts when the related parameters are edited.

When set to Relative, changes are relative to the stored setting. In Relative mode, the full value range is not available until either the minimum or maximum value and the respective lower or upper limit of the pot's travel is reached.

For example, the Oscillator Mix parameter has a value range of 0 to 127. Let's say the physical position of the Oscillator Mix pot is the equivalent of a value of 100. If you switch to a program that has a stored Oscillator Mix setting of 63

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and turn the pot all the way up, it will only go to 90. To get to the maximum value of 127, you first have to turn down until the value is at the other extreme and the pot is at the limit of its travel (in this case, 0 and fully counter-clockwise, respectively).

In Passthru mode, turning the pot has no effect until after the edited value equals the preset value (that is, until the edited value "passes through" the stored value).

Jump mode uses an absolute value based upon the position of the pot when edited: turn a pot and the value jumps immediately from the stored value to the edited value.

Encoder Mode: Detent, Non-Det – Optimizes behavior for the type of rotary encoders (detented or non-detented) on your Prophet '08. If you're reading this in a printed manual that came with a new instrument, you should have a Prophet '08 PE with detented encoders. Just leave it set to Detent.

If you have updated the OS from an earlier version that did not include this parameter, you'll need to determine which hardware version of the Prophet you have in order to choose the optimum setting. Early standard Prophet '08s and all Special Editions originally shipped with non-detented rotary encoders. That is, all the controls rotate smoothly and without detents or obvious steps. On these Prophets, this parameter should be set to Non-Det.

If you have a Potentiometer Edition (PE) Prophet, whether purchased that way or converted from the earlier hardware version, set the parameter to Detent. This is true even for those PEs that have a mixture of detented and non-detented encoders. How do you know for certain if your Prophet is a PE? If the filter's Frequency control has definite minimum and maximum settings (that is, it doesn't just turn endlessly), it is a PE.

Page 12:

```
LCD Contrast:    xxx
MultiMode:       xxx
```

LCD Contrast: 1…100 – This sets the contrast level for the LCD.

MultiMode: Off, On – MultiMode allows separate MIDI control of voices 1 through 4 and 5 through 8. The implementation is fairly simple and enables independent, bi-timbral control of the Prophet.

MultiMode is intended for use with an external sequencer or other MIDI controller controlling the Prophet '08. It is meant to be a one-way interface (that is, from your sequencer to the Prophet).

When MultiMode is On, the Prophet '08 responds to MIDI data on two consecutive MIDI channels, the base channel (selected in the Gobal menu) and the next highest channel. The base channel controls voices 1 through 4 and the other channel controls voices 5 through 8. Notes, program changes, and other MIDI data received on the specified channels provide independent control of the two parts.

Note that a program change needs to be sent to each of the two channels when setting up MultiMode. Only Layer A of the selected program is loaded. There are no stacks or splits in MultiMode. Use CCs or Layer A NRPNs for automation of parameters. Program Layer B data is completely ignored in MultiMode.

Page 13:

```
Copy Bkx P:      xxx x
To Bkx P:        xxx x
```

Program Copy Utility – Enables Layer A or B of a Program to be copied to Layer A or B of the same or a different Program. The top line displays the current Bank and Program. Use PARAM 1 to choose the Layer (A or B) to be copied. Use PARAM 2 to choose the destination Bank, Program, and Layer. Press WRITE to execute.

Page 14:

```
Dump (Hit Write)
xxxxxxxxxxxxxx
```

MIDI Dumps: see table **–** Allows dumping of Programs in SysEx format via MIDI. Use PARAM 2 to select from the following options.

Display	MIDI Transmit Operation
Current Program	Send current program
Current Bank	Send all 128 programs in current bank
All Banks	Send all programs in both banks

When this page is active, the WRITE switch will blink. Press the switch to start transmission. This feature is handy for saving Programs on a computer in SysEx format, or for sending them to another Prophet '08 via a direct MIDI connection. The dumps include Program and Bank numbers, so when received, the programs will be stored in the same location.

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Program Parameters

All Program parameters can be edited using the front panel controls. To edit a program, simply turn the desired parameter knob or hit the switch. The selected parameter and value appear in the LCD display. The top line of the LCD displays the programmed value for reference; the bottom line displays the edited value.

After a parameter is selected by turning its knob, you can also use the PARAM 2 knob to change the value of the selected parameter. Use the +/YES or -/NO switches to incrementally adjust parameter values.

Hit both +/YES or -/NO at the same time to set the parameter to zero.

Note: Hold the PROGRAM switch and hit the +/YES switch to set the Program to a basic patch, with most parameters set to zero. It does not save the sound in the current program; it only changes all the parameters.

Following are descriptions of each Prophet '08 Program parameter.

Oscillators

Each of the Prophet '08's eight voices has two analog oscillators. The basic controls for each oscillator are the same and are arranged in two horizontal rows, one for Oscillator 1 and another for Oscillator 2.

> **Note**: There are additional modulation controls that can affect the pitch of Oscillators 1 and 2. These are covered in other sections of the Parameter definitions.

Osc Freq: C 0…C 10 – Sets the base oscillator frequency over a 10 octave range, from 8 Hz to 8KHz, stepping in semitones. C3 is middle C, the first octave is 0 (C0, C#0, etc.), the second octave is 1 (C1, C#1, etc.), and so on.

Fine: -50…+50 – Fine Tune control; 0 centered. Steps in cents (50 cents = 1/2 semitone).

Shape/PW: see table – Selects the analog waveshape as follows:

Display	Waveshape
Off	No output
Sawtooth	Sawtooth
Triangle	Triangle
Saw-Tri	Sawtooth – Triangle mix
Pulse xx	Pulse Wave, with pulse width ranging from minimum (0) to maximum (99). The pulse width will turn off at the two extremes – this allows some interesting modulation possibilities. A square wave will be at Pulse 50.

Glide: 0…127 – Sets the Oscillator Glide (portamento) rate. Glide can be set independently for each oscillator. Low settings are faster.

> **Note**: See "Glide Mode" in *Miscellaneous Parameters* on page 18 for additional Glide settings.

Sync 2-> 1 – When enabled (lit), turns oscillator hard sync on. With sync on, whenever oscillator 2 resets, it will force oscillator 1 to reset for the classic hard sync sound.

Mix: 0...127 – Enables the outputs of Oscillators 1 and 2 to be mixed in varying amounts. A setting of 0 is equivalent to 100% Oscillator 1 and 0% Oscillator 2. A setting of 127 is just the opposite. A setting of 64 is essentially a 50-50 mix of both oscillators.

Noise

Level: 0…127 – Controls the volume of white noise mixed into the filter.

Low-pass Filter

Each of the Prophet '08's voices utilizes an analog low-pass filter coupled with a 4-stage (plus delay) ADSR envelope generator.

4 Pole – Selects either 2- or 4-pole operation for the filter. (The filter is in 4-pole mode when the 4 POLE switch is lit.)

Frequency: 0…164 – Sets the base filter cutoff frequency over more than 13 octaves.

Resonance: 0…127 – Sets the Resonance level of the filter. At high settings the filter will self-oscillate in 4-pole mode. If the filter does not oscillate, make sure the 4 POLE switch is on.

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Env Amount: -127…+127 – Sets the amount of filter envelope routed to the cutoff frequency. This can be positive or negative, allowing inverted envelope control of the filter.

Velocity: 0…127 – Amount of key velocity controlling the level of the filter envelope.

Key Amount: 0…127 – Sets the amount of keyboard (MIDI note) to the filter cutoff. A setting of 64 will step the filter one semitone for each note, 32 would be half-semitones, and so on.

Audio Mod: 0...127 – Controls the amount of audio from Oscillator 1 used to modulate the filter cutoff frequency. For filter-only audio, set OSCILLATOR MIX to 127, OSCILLATOR 2 SHAPE to Off, and OSCILLATOR 1 SHAPE to the desired waveshape. This is useful for bell-like FM sounds. A wide range of sounds can also be made using AUDIO MOD with the oscillators routed normally through the filter.

Delay: 0...127 – Sets a delay between the time the filter envelope is triggered and when the Attack portion actually begins.

Attack: 0…127 – Sets the Attack time of the filter ADSR envelope generator.

Decay: 0…127 – Sets the Decay time.

Sustain: 0…127 – Sets the Sustain level.

Release: 0…127 – Sets the Release time.

Amplifier

VCA Level: 0…127 – Sets a base level for the VCA (Voltage Controlled Amplifier). This allows the VCA to be essentially bypassed for programs that drone.

> **Note:** If VCA LEVEL is on full, Envelope Amount has no effect. For typical keyboard playing, VCA LEVEL is set to zero.

Env Amount: 0…127 – Sets the amount of VCA envelope to the VCA level.

Velocity: 0…127 – Sets the amount of keyboard velocity controlling the level of the VCA envelope.

Pan Spread: 0...127 – There is a pan circuit after the VCA that pans the audio in the stereo field individually per voice. With a PAN SPREAD of zero, all eight voices are panned in the middle (monophonic). As you turn up PAN SPREAD, the

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audio in each voice is gradually moved away from the center by different amounts. Every other voice goes in a different direction. This provides a wide stereo field as you play. Any modulation to Pan will individually move each voice from its static position as set by the Pan Spread setting.

> **Note:** Use the Audio Out parameter in the Global menu to globally switch the audio outputs from stereo to mono (and vice versa).

Delay: 0...127 – Sets a delay between the time the amplifier envelope is triggered and when the Attack portion actually begins.

Attack: 0…127 – Sets the Attack time of the VCA ADSR envelope generator.

Decay: 0…127 – Sets the Decay time.

Sustain: 0…127 – Sets the Sustain level.

Release: 0…127 – Sets the Release time.

Envelope 3

Destination: see table – Sets the Envelope 3 destination. See *Modulation Destinations* on page 35 for a list of possible destinations.

Amount: -127…+127 – Sets the amount of Envelope 3.

Velocity: 0…127 – Sets the amount of key velocity controlling the level of envelope 3.

Delay: 0…127 – Sets a delay between the time Envelope 3 is triggered and when the Attack portion actually begins.

Attack: 0…127 – Sets the Attack time of Envelope 3.

Decay: 0…127 – Sets the Decay time.

Sustain: 0…127 – Sets the Sustain level.

Release: 0…127 – Sets the Release time.

LFOs

The Prophet '08 has four Low Frequency Oscillators (LFOs) per voice. To select a specific LFO for editing, press the appropriate switch, 1–4. Turning a knob will then adjust the parameters of the selected LFO.

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Frequency: 0…150, sync – Sets the LFO frequency. Range 0–150 for un-synced LFO; speed ranges from slow (30 seconds) to very fast – at 90 (8 HZ, C-2) and above the speed steps in semitones, up to 150 (261 Hz, middle C).

> **Note**: Some of the analog functions may not respond well to the fastest LFO speeds, due to speed limitations of the control voltages; but they will certainly generate some interesting sounds.

Above 150, the sync speeds are as follows:

Display	Timing Sync
32 Steps	Sequence speed divided by 32; that is, one LFO cycle takes 32 steps
16 Steps	Sequence speed divided by 16
8 Steps	Sequence speed divided by 8
6 Steps	Sequence speed divided by 6
4 Steps	Sequence speed divided by 4
3 Steps	Sequence speed divided by 3
2 Steps	Sequence speed divided by 2
1.5 Step	Sequence speed divided by 1.5
1 Step	One cycle per step
2/3 Step	Two cycles every three steps
1/2 Step	Two cycles per step
1/3 Step	Three cycles per step
1/4 Step	Four cycles per step
1/6 Step	Six cycles per step
1/8 Step	Eight cycles per step
1/16Step	Sixteen cycles per step

Shape: see table – Selects the LFO waveshape:

Display	LFO Shape
Triangle	Triangle
Rev Saw	Reverse Sawtooth
Sawtooth	Sawtooth
Square	Square Wave
Random	Random – changes once per cycle for sample-and-hold effects

Amount: 0…100 – Sets the amount of LFO routed to the destination.

Key Sync – When this switch is enabled (lit) the LFO is re-started each time a new note is played. Key Sync is set independently on each LFO .

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Destination: see table – See *Modulation Destinations* on page 36 for a list of possible destinations.

Modulators

The Modulators section lets you configure the modulation routing and amount for the Prophet '08's four general-purpose modulation slots as well as for MIDI controllers (Mod Wheel, Key Pressure, Breath Control, Velocity, and Foot Controller).

Since each Prophet '08 mod source has a single destination, the four general purpose Mods provide a way to send a mod source (such as a sequence or LFO) to additional destinations, with a different amount. There are also additional mod sources available here, such as Noise, allowing a wide variety of possibilities.

To configure a general-purpose modulation slot, press the appropriate switch, 1 through 4, and use the SOURCE, DESTINATION and AMOUNT knobs to set the modulation as desired.

To configure modulation for a controller, press the MISC switch, select the desired controller with the SOURCE knob, then use the DESTINATION and AMOUNT knobs to set its modulation.

The Breath and Foot Controller parameters can be controlled by the Pedal/CV input on the rear panel. This gives you the ability to route them to different parameters on each Program for more flexible control. These are set in the Global section.

Source: see table – Selects a modulation source. See *Modulation Sources* on page 38 for possible sources.

Amount: -127…+127 – Sets the amount of modulation.

Destination: see table – Selects a modulation destination. See *Modulation Destinations* on page 36 for a list of possible destinations.

> **Note:** The Modulators can not be edited when the EDIT SEQUENCER switch is on.

Misc Parameters

The Miscellaneous Parameters module lets you configure a variety of parameters not found elsewhere. The parameter list is printed on the panel for easy reference. Use the SELECT knob to choose the desired parameter, and the VALUE knob, PARAM 2 knob, or the +/YES or -/NO switches to adjust the value.

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Voice Volume: 0…127 – Sets the voice volume; usually used for matching volumes between Programs.

> **Note:** There is enough gain in the synth voice that with some settings, some mild clipping distortion may be heard. If this happens, try lowering the VOICE VOLUME, and/or the VCA ENVELOPE AMOUNT (or VCA VELOCITY AMOUNT).

Name – The lower LCD line will display the name of the Program. The PARAM 1 knob selects characters for editing. (The active character blinks.) To change the character, use the PARAM 2 knob, the VALUE knob or the +/YES or -/NO switches.

Osc 1 Key: On, Off – Turns keyboard tracking on or off for Oscillator 1.

Osc 2 Key: On, Off – Turns keyboard tracking on or off for Oscillator 2.

Osc Slop: 0…5 – The amount of random oscillator frequency slop. The analog oscillators in the Prophet '08 are very accurate, and will not drift. This works great for accurate sounds, and allows precise de-tuning. Oscillator Slop allows subtle amounts of frequency drift. For larger amounts, use a random LFO or white noise mod.

Glide Mode: see table – Sets the way the oscillators respond to Glide settings.

Display	Glide mode
FixRate	The Glide rate is fixed. The time to transition from one note to another varies depending upon the interval between the notes.
FixRate A	The same, but Glide is only applied when played legato; that is, when a new note is hit while another note is still held. This only applies in Unison mode.
FixTime	The Glide time is fixed. The time to transition from one note to another is the same, regardless of the interval.
FixTime A	The same, but Glide is only applied when playing legato; that is, when a new note is hit while another note is still held. This only applies in Unison mode.

Pitch Wheel Range: 0…12 – Sets the bend range, in semitones, of the pitch wheel. The setting is the range in the positive or negative direction. For example, a setting of 7 lets you bend a note up or down by a fifth.

Unison Mode: see table – Determines how the voices are allocated and detuned when Unison is turned on.

Display	Unison mode
1 Voice	Classic, two oscillator, monophonic mode. Sleek.
All Voices	All available voices are stacked in unison. Portly.
AllDetune1-3	All available voices are stacked in unison with three different levels of detuning. From fat to morbidly obese.

Unison Assign: see table – Determines how the Prophet '08 responds to the keyboard while in Unison mode.

Display	Keyboard mode
Low Note	Low note priority
LowRetrig	Low note priority, re-trigger envelopes
HighNote	High note priority
HighRetrg	High note priority, re-trigger envelopes
LastNote	Last note hit priority
LastRetrg	Last note hit priority, re-trigger envelopes

Seq Trigger: see table – Sets the triggering mode for the Gated Sequencer.

Display	Trigger mode
Normal	Sequence plays from the first step when a key is held, and resets to step 1 each time a new note is played. Each sequence step retriggers the envelopes.
No Reset	The same, but does not reset to step 1 on every note.
No Gate	The keyboard triggers the envelopes; the sequence steps do not.
NoGateNR	Same, but does not reset with subsequent notes.
Key Step	Striking a key advances the sequencer one step.

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Arp Mode: see table – Sets the order in which the arpeggiator plays notes.

Mode	Behavior
Up	Plays from lowest to highest note.
Down	Plays from highest to lowest note.
Up Down	Plays from lowest to highest and back to lowest.
Assign	Plays notes in the order keys were pressed.
Random	Randomly plays notes.
2 Octaves Up	Plays keyed notes and the same notes one octave higher, from lowest to highest.
2 Octaves Down	Plays keyed notes and the same notes one octave higher, from highest to lowest.
2 Octaves Up Down	Plays keyed notes and the same notes one octave higher, from lowest to highest and back to lowest.
2 Octaves Assign	Plays a keyed note, then the same note one octave higher, in the order keys were pressed.
2 Octaves Random	Randomly plays keyed notes and the same notes one octave higher.
3 Octaves Up	Plays keyed notes and the same notes one and two octaves higher, from lowest to highest.
3 Octaves Down	Plays keyed notes and the same notes one and two octaves higher, from highest to lowest.
3 Octaves Up Down	Plays keyed notes and the same notes one and two octaves higher, from lowest to highest and back to lowest.
3 Octaves Assign	Plays a keyed note, then the same note one and two octaves higher, in the order keys were pressed.
3 Octaves Random	Randomly plays keyed notes and the same notes one and two octaves higher.

Env 3 Repeat: On, Off – When on, loops the Delay, Attack, and Decay stages of Envelope 3 while a note is gated on.

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Keyboard Modes

The Prophet '08 has three main keyboard modes, Normal, Stack, and Split. While playing in the different modes, if you look at the eight voice assignment LEDs on the right side of the front panel, you can easily see how the different voice assignment modes work.

Normal Mode – When the STACK A/B and SPLIT A/B switches are both off, the synth is in Normal mode, and will play all eight voices with the same sound. EDIT LAYER B switches between the program in layer A (when off) and the program in layer B (when on).

While in Normal mode, other switches like UNISON, ARPEGGIATOR, and GATED SEQUENCER will affect all eight voices the same.

Stack Mode – When the STACK A/B switch is on, hitting a single key will play two voices at the same time. One (on voices 1-4) will play the Layer A sound, and the second (on voices 5-8) will play the Layer B sound. This allows extra fat programs to be made, since you have four oscillators to work with, and twice the sound per key!

Use the EDIT LAYER B switch to alternate between the A and B layers as you adjust the parameters of a program. You never have to worry about any other program when using Stack and Split, since each program saves both the A and B layers, and they are not shared with other programs.

You can use the Copy utility (see "Program Copy Utility" in *Global Parameters* on page 12) to quickly copy layers between programs or from Layer A to Layer B (or vice versa).

Note that each Layer can have different settings for UNISON, ARPEGGIATOR, and GATED SEQUENCER, which allows some very interesting combinations of sound control. The sequences and arpeggios can have different settings and speeds, for example, or you can combine a unison sound on one layer with a polyphonic sound on the other.

Split Mode – When the SPLIT A/B switch is on, hitting a key on the left side of the keyboard will play the Layer A sound (on voices 1-4), and hitting a key on the right side will play the Layer B sound (on voices 5-8). The specific key that starts the Layer B sound is called the Split Point, and is saved as part of the program. To change the Split Point, simply hold the desired key, and hit the SPLIT A/B switch (while Split is on).

As in Stack mode, the two layers can be completely different in Split mode.

Note: If you hold the EDIT LAYER B switch while in Stack or Split, the EDIT LAYER B switch will blink; this indicates you are now in Link Mode, which means that any parameter you change will update that parameter in both Layer A and Layer B. This can be handy while playing Stacked or Split programs in a live situation.

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Sequencer

For many musicians, the term sequencer has become synonymous with MIDI sequencer; that is, a computer-based application or dedicated hardware device for recording and playing back notes and performance gestures via MIDI. But sequencers were around long before MIDI. The Prophet '08's sequencer is much more like the original analog sequencers typically associated with modular synthesizer systems. The sequencer comprises four 16-step sequences that play in parallel. Each sequence can be routed to a chosen destination, and each step in a sequence can be set to a different value used to modulate that destination.

v = step value
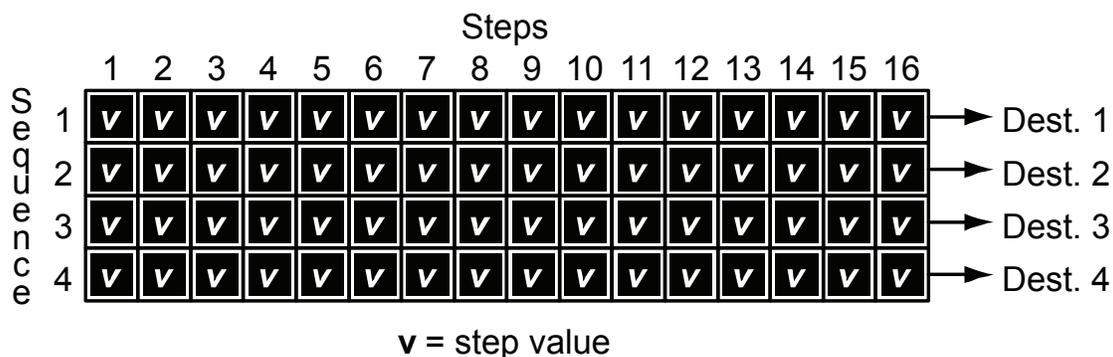
Strictly speaking, the Prophet '08's sequencer does not play notes, nor does it transmit MIDI data. If none of the sequence destinations are routed to oscillator frequency, the sequencer may not even affect the pitch. In Prophet '08 terms, a sequence is just a series of events at timed intervals that changes the value of one of the synth's parameters in discrete steps. Because the four sequences play in parallel, up to four parameters can be affected by each step, one per sequence. For the most part, the sequence destinations are the same as the modulation destinations, which is appropriate: a sequence is just another modulation source.

For each sequence step, the envelopes are gated on for half the step's duration. The duration varies according to the BPM and Clock Divide settings (or the MIDI clock, if synced to an external source). The envelope settings of the current program ultimately determine how long each step plays, though, and longer (more legato) or shorter (more staccato) effects can be achieved by editing the envelope rates.

The Prophet '08's sequencer is a gated sequencer. That means it requires a note to be gated on—that is played from the keyboard or via MIDI—in order for the sequencer to run. There is no dedicated start or play button and it does not respond to MIDI start/stop/continue messages, but it can still sync to an external clock. Simply turn on the sequencer and then play and hold a note to start.

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Reset and Rest

Sequences have a maximum of 16 steps, but they can have fewer—from 1 to 15—using Reset. (Sequences of 16 steps reset automatically.) Reset appears immediately after the highest value setting for a step. Setting a step to Reset causes the sequence to jump back to the first step and continue playing.

Reset is set separately for each of the four sequences, so it must be set at the same step in all four sequences to shorten all the sequences equally. The following illustration shows an example in which all the sequences are eight steps in length.

v = step value; R = Reset
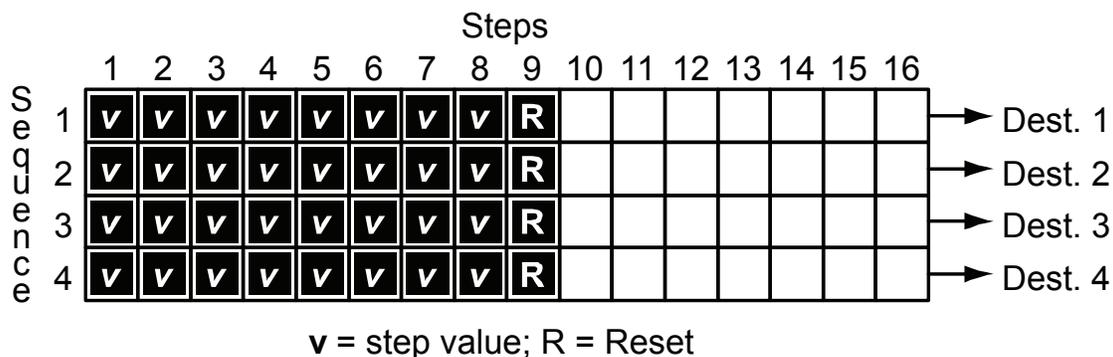
Tip: Using Reset while programming a sequence can be helpful. For example, when programming a specific melodic line, start by shortening the sequence to four or eight steps until those steps are set, and then gradually move the reset point to lengthen the loop until the desired number of steps is playing.

Sequences do not have to be the same length, however, which makes for some very interesting, less repetitive patterns, particularly when sequences are set to odd and even numbers of steps.
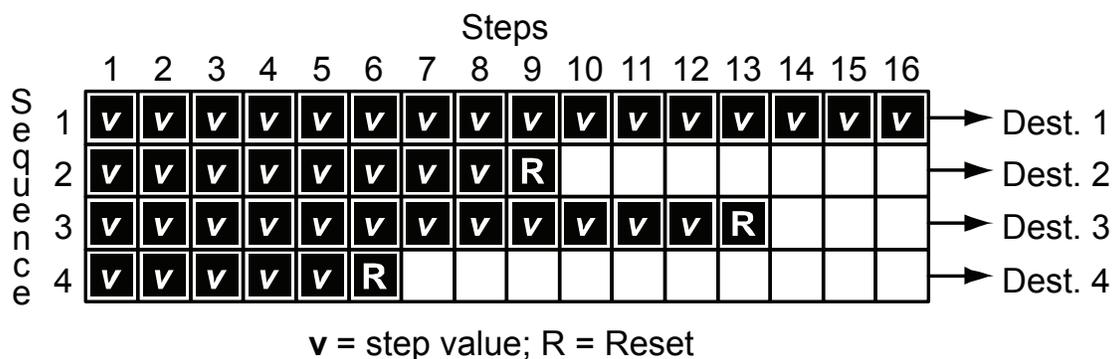
v = step value; R = Reset

Sequence one has an additional value, Rest, that appears in the list after Reset. Rest prevents the envelopes from being gated by the corresponding step, so a rest in sequence one affects all four sequences. If the sequences are the same length, rests will occur in the same place in all four sequences as they loop. If the sequences are different lengths, the rests in sequence one apply to whatever

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the current step happens to be in sequences two through four, resulting in a more random-sounding pattern (which can be really cool). In the following example, sequence one is 16 steps long and rests occur at steps 2, 6, 9, and 12. However, sequence two is only eight steps long, so rests occur at steps 2 and 6 the first time it plays through and then at steps 1 and 4—corresponding to steps 9 and 12 in sequence one—the first time it repeats. As sequence two loops, the rests will continue in the same alternating pattern.

Steps

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
S e q u e n c e 1	v	r	v	v	v	r	v	v	r	v	v	r	v	v	v	v	→ Dest. 1
2	v	v	v	v	v	v	v	v	R								→ Dest. 2
3	v	v	v	v	v	v	v	v	v	v	v	v	R				→ Dest. 3
4	v	v	v	v	v	R											→ Dest. 4

v = step value; r = rest; R = Reset
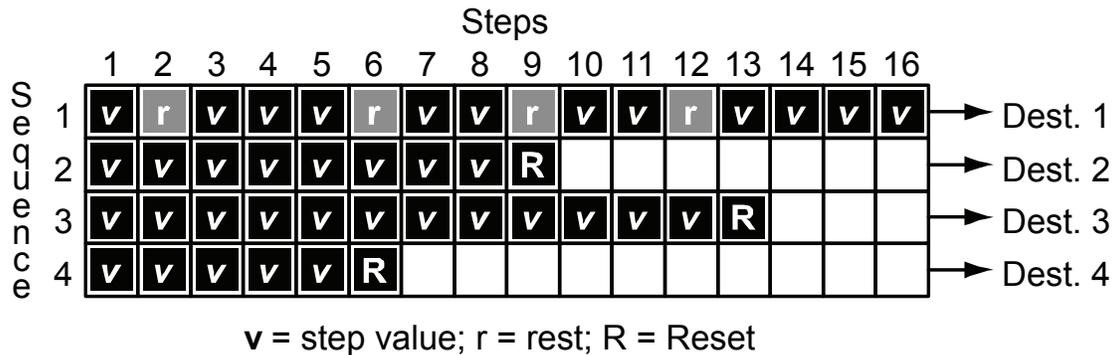
Programming the Sequencer

Programming the sequencer is easy, but there are a few things to consider before you start. Most importantly, what do you want the sequence to do and what modulation destinations will provide the results you're seeking? For example, is the sequencer going to control oscillator frequency? One sequence can control the frequency of both oscillators or one sequence can control oscillator 1 and another sequence can control oscillator 2 for harmonies or countermelodies. A typical application of the sequencer might have sequence one routed to the frequency of both oscillators, sequence two routed to filter cutoff, sequence three routed to filter resonance, and sequence four routed to amplifier envelope amount for accents. Many of the factory programs have sequences programmed, so you can refer to those to see how certain effects are being achieved.

The sequencer's controls are indicated in orange type on the Prophet '08's front panel. The GATED SEQUENCER switch activates the sequencer. (Remember: Even when GATED SEQUENCER is on, you still have to play a note to hear the sequence.) The other sequencer controls do double duty as synthesizer controls. With EDIT SEQUENCER in Modulators on (lit), the knobs labeled 1 through 16 in the Filter and Amp sections are used to set the values for each of the sequence's 16 steps. Switches 1 through 4 in Modulators select the sequence (labelled "Seq Track") to be edited. To set the destination for a sequence, choose the desired sequence and use MOD DEST to change the destination. See *Modulation Destinations* on page 36 for a list of possible destinations.

To program a sequence:

1. Press the GATED SEQUENCER switch and press a key to play the sequence. You may also want to adjust the CLOCK DIVIDE and BPM settings.

2. Press EDIT SEQUENCER to enter sequence edit mode.

3. Select the sequence you want to program by pressing the appropriate switch (1, 2, 3, or 4 in Modulators).

4. Select the destination for that sequence using the MOD DEST. For example, to generate a sequence of notes, select OscAllFreq.

   When a sequence is routed to oscillator frequency, each knob increment equals half of a semitone. The LCD display will show the relative note value, with a "+" after it to show when at a half-semitone step.

5. Turn the Step 1 knob to the desired value.

   As the sequence loops, you will hear your edits.

6. Repeat for each subsequent step in the sequence.

7. Choose another sequence and follow the same basic steps until you're happy with the results.

8. Dont forget to write your edits to memory! Sequences are saved with the related program. Just press Write and then Yes to save the program and sequences.

More Sequencer Parameters

The previous section covers the basics of sequencer programming, but there are some additional parameters that affect the sound and user interaction with the sequencer.

Slew

In modular analog synthesizers, *a lag processor* or *slew limiter* is used to create a time-varying change—a smooth transition—between successive, discrete control voltage levels. The rate of change is called the *slew rate* and one common application is to create a glide (aka *portamento*) effect between notes.

Among the possible destinations for Prophet '08 sequences two and four is a sequence-only parameter called Slew. Slew behaves a little differently from the other modulation destinations, in that it is not really a destination at all; instead, it affects the sequence above it. That is, if Slew is the chosen destination for

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sequence two, it controls sequence one, and Slew in sequence four controls sequence three.

In the Prophet '08's sequencer, Slew sets the slew rate between the previous step's value and the current step's value when the step is gated on. Confused yet? This should help: let's say sequence one is routed to oscillator frequency and sequence two to Slew. Increasing the Slew value for step four will cause the oscillator frequency to glide from the step three value when step four is gated on. The higher the Slew value, the slower the slew rate. And the slew rate can be different for each step. But its not just for oscillator glide. Slew can be applied to any of the destinations. For example, sequence three could be routed to filter cutoff with Slew in sequence four used to create a less abrupt transition from one step to the next.

> **Note:** Depending upon the BPM and Clock Divide settings, the slew rate can actually exceed the time the envelopes are gated on, causing a step in the affected sequence to not reach its set value. For example, if Slew is applied to oscillator frequency, high Slew values may cause a step to sound flat or sharp. If that's not what you want, simply reduce the Slew value.

Sequencer Trigger Modes

The Sequencer Trigger mode determines how the sequencer reacts to triggers and what constitutes a trigger. Sequencer Trigger is found in the Miscellaneous Parameters section. The different modes are:

Normal–A note on, from either the local keyboard or via MIDI, causes the sequencer to play from the first step. The sequencer resets to step one each time a new note is played. Each sequence step gates the envelopes.

No Reset–As above, but the sequencer does not reset to step one for each note played. The sequencer is effectively free running.

No Gate–The keyboard gates the envelopes, but the sequencer does not. The sequencer resets to step one each time a new note is played.

NoGateNR–As above, but the sequencer does not reset to step one for each note played. Again, the sequencer is effectively free running.

Key Step–Striking any key or playing a note via MIDI advances the sequencer one step.

Syncing an LFO to the Sequencer

One very useful way to modulate a parameter in sync with a sequence is using an LFO with Clock Sync. A setting of 16 Steps for LFO Frequency with a

triangle wave selected and routed to the filter will provide a clean filter sweep over a 16-step sequence, perfectly in sync! This is much easier (and smoother) than manually programming a sequence to sweep the filter.

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Arpeggiator

Arpeggiator—Turns Prophet '08's arpeggiator on and off. The tempo and note value are determined by the BPM and Clock Divide settings. Arpeggiator Mode is set in Miscellaneous Parameters. The different modes are:

Mode	Behavior
Up	Plays from lowest to highest note.
Down	Plays from highest to lowest note.
Up Down	Plays from lowest to highest and back to lowest.
Assign	Plays notes in the order keys were pressed.
Random	Randomly plays notes.
2 Octaves Up	Plays keyed notes and the same notes one octave higher, from lowest to highest.
2 Octaves Down	Plays keyed notes and the same notes one octave higher, from highest to lowest.
2 Octaves Up Down	Plays keyed notes and the same notes one octave higher, from lowest to highest and back to lowest.
2 Octaves Assign	Plays a keyed note, then the same note one octave higher, in the order keys were pressed.
2 Octaves Random	Randomly plays keyed notes and the same notes one octave higher.
3 Octaves Up	Plays keyed notes and the same notes one and two octaves higher, from lowest to highest.
3 Octaves Down	Plays keyed notes and the same notes one and two octaves higher, from highest to lowest.
3 Octaves Up Down	Plays keyed notes and the same notes one and two octaves higher, from lowest to highest and back to lowest.
3 Octaves Assign	Plays a keyed note, then the same note one and two octaves higher, in the order keys were pressed.
3 Octaves Random	Randomly plays keyed notes and the same notes one and two octaves higher.

Briefly hold the Arpeggiator switch down to latch arpeggiated notes. (The light will blink when latched.) Playing additional notes while latched adds them to the notes already playing.

The Arpeggiator can also be latched with a footswitch connected to the Sustain jack. See "Sustain" in *Global Parameters* on page 7.

> **Note**: You can only have any specific key play one time in the arpeggio. That is, if you are latching keys, and hit the same note twice, it will only latch the most recent hit.

The Arpeggiator (and Sequencer) can also sync to MIDI clock from an external sequencer or other device. See "Clock" in *Global Parameters* on page 7 for more information.

> **Note:** If the arpeggiator does not seem to be working, check the GLOBAL settings to make sure Clock is set to Internal. If Clock is set to use an external clock source, the Prophet '08 must be receiving MIDI clock messages in order for the arpeggiator to run.

The tempo and note value are determined by the BPM and CLOCK DIVIDE Controls.

BPM: 30…250 – Sets the programmed tempo for the sequencer in BPM (beats per minute).

Clock Divide: see table – Sets the note value for each sequence step relative to the BPM.

Display	Tempo	Timing Division
Half	BPM/2	Half note
Quartr	BPM	Quarter note
Eighth	BPM x 2	Eighth note
8 half	BPM x 2	Eighth note, half swing timing
8swing	BPM x 2	Eighth note, full swing timing
8 trip	BPM x 3	Eighth note triplets
16th	BPM x 4	Sixteenth note
16half	BPM x 4	Sixteenth note, half swing timing
16swng	BPM x 4	Sixteenth note, full swing timing
16trip	BPM x 6	Sixteenth note triplets
32nd	BPM x 8	Thirty-second note
32trip	BPM x 12	Thirty-second note triplets
64trip	BPM x 24	Sixty-fourth note triplets

Using Poly Chain

Poly Chain links two Prophet '08s or a Prophet '08 and one or two Tetras to increase polyphony by intelligently processing the keys hit and passing MIDI data through to the Poly Chain MIDI out jack.

You should have the same programs loaded into all the poly chained instruments. The easiest way to do that is to use the Dump command in the Global menu to dump the programs via MIDI from one synth to the other.

> **Note:** Tetra ships with the Prophet factory programs already loaded into banks one and two. The Prophet does not have Tetra's sub-octave generators or feedback, so for poly chaining it's best to either use Prophet programs or Tetra programs that don't use those features.

The diagram below shows the possible configurations and the Poly Chain settings for each of the instruments. Just use a standard MIDI cable to connect one instrument to another.

16 Voices:

Prophet — Poly Chain Out → Prophet — MIDI In

Out 8 — In

12 Voices:

Prophet — Poly Chain Out → Tetra — MIDI In

Out 4 — In End

16 Voices:

Prophet — Poly Chain Out → Tetra — MIDI In / Poly Chain Out → Tetra — MIDI In

Out 8 — InOut4 — In End
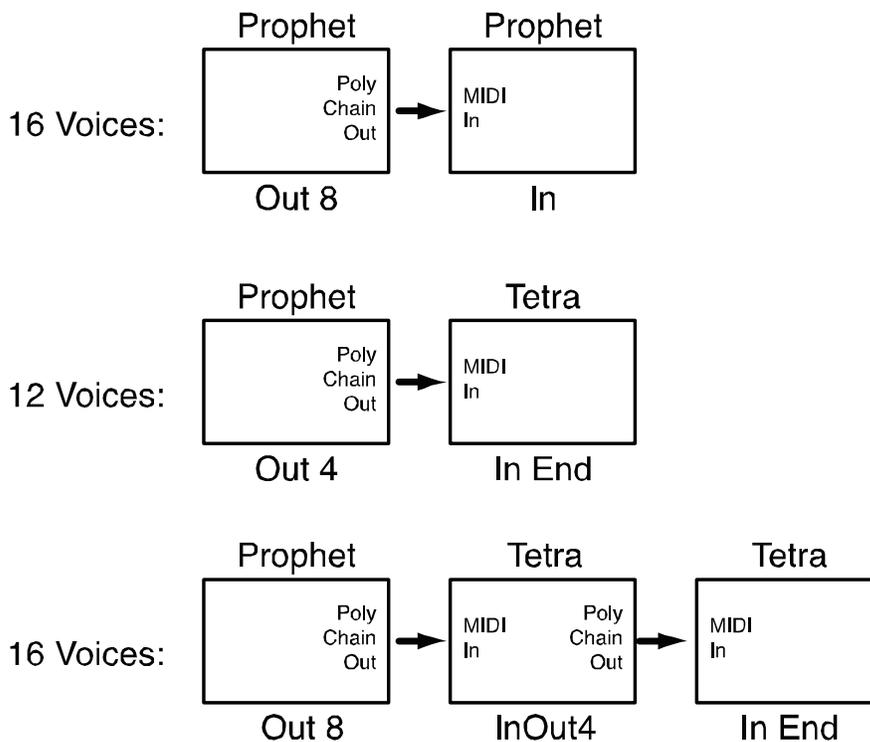
You can now virtually ignore the slave unit, since the controls on the master will control the poly chained unit(s) as if they were a single synth. This includes saving a Program; if you save an edited program on the master, it will also save the program on the slave.

> **Note**: If using an external MIDI clock, set the master MIDI clock to MIDI In/Out, and the Slave MIDI clock to MIDI In.

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If Poly Chain is set to Off, the Poly Chain MIDI out jack simply duplicates the MIDI out jack.

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Rack Mounting the Module

The Prophet '08 module includes rack ears for mounting the module in a standard, 19" equipment rack. The module itself is 4U (4 rack spaces) high. The inputs and outputs are recessed, but it may be necessary to use angled plugs for audio and MIDI to prevent the plugs and cables from interfering with a fifth space above the module.

To rack mount the module:

1. Remove the six 1" 8-32 screws from the two wood end panels. Keep the screws and end panels in a safe place, to revert back to the tabletop configuration.

2. Using the six supplied 3/8" 8-32 flat-head screws, attach the rack ears to each side of the module. Please note: It is *very* important to use the shorter screws to attach the rack ears. Longer screws may damage the internal components.

3. Connect the necessary cables (power, MIDI, audio, etc.).

4. Mount the module in the rack.

Modulation Destinations

Display	Destination
Off	No destination selected
Osc 1 Freq	Oscillator 1 Frequency
Osc 2 Freq	Oscillator 2 Frequency
OscAllFreq	Oscillator 1 and 2 Frequency
Osc Mix	Oscillator Mix
NoiseLevel	Noise Level
Osc1 PulsW	Oscillator 1 Pulse Width
Osc2 PulsW	Oscillator 2 Pulse Width
Osc All PW	All Oscillators Pulse Width
Low Pass	Low-pass Filter Frequency
Resonance	Resonance
Fil FM	Audio Mod Amount
VCA Level	VCA Amount
Output Pan	Pan
LFO 1 Freq	LFO 1 Frequency
LFO 2 Freq	LFO 2 Frequency
LFO 3 Freq	LFO 3 Frequency
LFO 4 Freq	LFO 4 Frequency
LFOAllFreq	All LFO Frequencies
LFO 1 Amt	LFO 1 Amount
LFO 2 Amt	LFO 2 Amount
LFO 3 Amt	LFO 3 Amount
LFO 4 Amt	LFO 4 Amount
LFOAll Amt	All LFO Amounts
Env 1 Amt	Envelope 1 Amount (Level)
Env 2 Amt	Envelope 2 Amount (Level)
Env 3 Amt	Envelope 3 Amount (Level)
EnvAll Amt	All Envelope Amounts (Levels)
Env1Attack	Envelope 1 Attack Rate
Env2Attack	Envelope 2 Attack Rate
Env3Attack	Envelope 3 Attack Rate
EnvAll Att	All Envelope Attack Rates
Env1 Decay	Envelope 1 Decay Rate
Env2 Decay	Envelope 2 Decay Rate
Env3 Decay	Envelope 3 Decay Rate
EnvAll Dec	All Envelope Decay Rates
Env1Releas	Envelope 1 Release Rate
Env2Releas	Envelope 2 Release Rate

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Env3Releas	Envelope 3 Release Rate
EnvAll Rel	All Envelope Release Rates
Mod 1 Amt	Modulator 1 Amount
Mod 2 Amt	Modulator 2 Amount
Mod 3 Amt	Modulator 3 Amount
Mod 4 Amt	Modulator 4 Amount
Seq Slew	Slew Amount (Sequences 2 and 4 only)

Modulation Sources

Display	Source
Off	No source selected
Sequence1	Sequence 1
Sequence2	Sequence 2
Sequence3	Sequence 3
Sequence4	Sequence 4
LFO 1	LFO 1
LFO 2	LFO 2
LFO 3	LFO 3
LFO 4	LFO 4
FilterEnv	Filter Envelope
VCA Env	Amp (VCA) Envelope
Envelope3	Envelope 3
PitchBend	Pitch Bend
Mod Wheel	Mod Wheel
Pressure	Pressure (Aftertouch)
MidBreath	MIDI – Breath Controller
Midi Foot	MIDI – Foot Controller
Midi Exp	MIDI – Expression
Velocity	Keyboard Note Velocity
KeyNumber	Keyboard Note Number
Noise	Noise

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MIDI Implementation

The Prophet '08 receives MIDI data according to the mode controls under GLOBAL. In addition, there is interaction between some of the Program parameters that determine the overall response of Prophet '08 to MIDI data.

Note: The Poly Chain output has a number of additional MIDI messages that are sent when Poly Chain is enabled. These are not included in the MIDI summary below, since they are specific to use in Poly Chain mode only.

Following are the Global parameters that affect response to MIDI:

MIDI Channel: ALL, 1…16 – Selects the MIDI channel to send and receive data, 1 to 16. All receives on any channel.

Poly Chain: Off, Out, In – Use this to link two Prophet '08s to double polyphony by intelligently processing the keys hit and passing MIDI data through to the Poly Chain MIDI out jack, where it can be routed to a second Prophet '08.

Local Control: Off, On – Enables or disables the internal connection between the keyboard and panel controls and the synth electronics.

Clock: see table – Selects the MIDI clock status, and enables External sequencer triggers, as follows:

Display	MIDI Clock Setting
Internal	MIDI clock is neither sent nor received
MIDI Out	MIDI clock is sent
MIDI In	MIDI clock is received
MIDIn/Out	MIDI clock is received and transmitted (use with Poly Chain)

MIDI Parameter Send: NRPN, CC, Off – Changes to the values of the Prophet '08's front panel controls are transmitted via MIDI as Non-registered Parameter Number (NRPN) controllers or as Continuous Controllers (CC). Transmission of parameters can also be turned off.

MIDI Parameter Receive: All, NRPN, CC, Off – Sets the method by which the Prophet '08 receives parameter changes via MIDI. As with transmission, NRPNs are the preferred method, though some controllers may only be able to send CCs.

MIDI Program: Off, On – When On, the synth will respond to MIDI program changes received, and will transmit Program changes to MIDI Out.

MIDI Pressure: Off, On – When On, the synth will respond to MIDI pressure (aftertouch) received, and will transmit Keyboard Pressure to MIDI Out.

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MIDI Control: Off, On – When On, the synth will respond to MIDI controllers, and will transmit controllers from the keyboard to the MIDI Out. Controllers include Pitch Wheel, Mod Wheel, Pedal, Breath, Volume, and Expression.

MIDI SysEx: Off, On – When On, the synth will respond to received MIDI SysEx messages, and will transmit them, when prompted, to the MIDI Out.

MIDI Messages

System Real-time Messages

Status	Description
1111 1000	MIDI Timing Clock

Received Channel Messages

Status	Second	Third	Description
1000 nnnn	0kkkkkkk	0vvvvvvv	Note Off. Velocity is ignored
1001 nnnn	0kkkkkkk	0vvvvvvv	Note On. Note off if vvvvvvv = 0
1010 nnnn	0kkkkkkk	0vvvvvvv	Polyphonic Key Pressure
1011 nnnn	0vvvvvvv	0vvvvvvv	Control Change; see "Received Controller Messages" table following
1100 nnnn	0ppppppp		Program change, 0 – 127 for Programs 1 – 128 within current Bank
1101 nnnn	0vvvvvvv		Channel Pressure
1110 nnnn	0vvvvvvv	0vvvvvvv	Pitch Bend LS Byte then MS Byte

Notes:
0kkkkkkk		Note number 0 – 127
nnnn		Channel number 0 to 15 (MIDI channel 1-16). Ignored if MIDI channel set to ALL
0vvvvvvv		Value

Received Controller Messages

Status	Second	Third	Description
1011 nnnn	1	0vvvvvvv	Mod Wheel – directly assignable controller
1011 nnnn	2	0vvvvvvv	Breath Controller – directly assignable controller
1011 nnnn	4	0vvvvvvv	Foot Controller – directly assignable controller
1011 nnnn	7	0vvvvvvv	Volume – Combined with Master Volume and Voice Volume
1011 nnnn	74	0vvvvvvv	Brightness – Added to low-pass filter cutoff frequency
1011 nnnn	11	0vvvvvvv	Expression Controller – directly assignable controller
1011 nnnn	32	0vvvvvvv	Bank Select – 0 and 1 select banks 1 and 2; others ignored

Status		Third	Description
1011 nnnn	64	0vvvvvvv	Damper pedal – holds envelopes in Sustain if 0100 0000 or higher
1011 nnnn	123	0vvvvvvv	All Notes Off – clear all MIDI notes
1011 nnnn	121	0vvvvvvv	Reset All Controllers – clears all MIDI controllers to 0, MIDI volume to maximum

See sections below for additional Continuous Controller (CC) and Non-registered Parameter Number (NRPN) messages received.

Transmitted Channel Messages

Status	Second	Third	Description
1000 nnnn	0kkkkkkk	0000000	Note Off.
1001 nnnn	0kkkkkkk	0vvvvvvv	Note On.
1011 nnnn	0vvvvvvv	0vvvvvvv	Control Change; see "Transmitted Controller Messages" table following
1100 nnnn	0ppppppp		Program change, 0 – 127 for Programs 1 – 128 within current Bank
1101 nnnn	0vvvvvvv		Channel Pressure
1110 nnnn	0vvvvvvv	0vvvvvvv	Pitch Bend LS Byte then MS Byte

Notes:
0kkkkkkk		Note number 0 – 127
nnnn		Channel number 0 to 15 (MIDI channel 1-16). Ignored if MIDI channel set to ALL
0vvvvvvv		Value

Transmitted Controller Messages

Status	Second	Third	Description
1011 nnnn	0000 0001	0vvvvvvv	Mod Wheel
1011 nnnn	0000 0010	0vvvvvvv	Breath Controller – when assigned to Pedal/CV
1011 nnnn	0000 0100	0vvvvvvv	Foot Controller – when assigned to Pedal/CV
1011 nnnn	0000 0111	0vvvvvvv	Volume – when assigned to Pedal/CV
1011 nnnn	0100 1010	0vvvvvvv	Brightness – when assigned to Pedal/CV
1011 nnnn	0000 1101	0vvvvvvv	Expression – when assigned to Pedal/CV
1011 nnnn	0010 0000	0vvvvvvv	Bank Select – 0 to 2
1011 nnnn	0100 0000	0vvvvvvv	Damper pedal – sends 0 if off, 0100 0000 when on

See sections below for additional Continuous Controller (CC) and Non-registered Parameter Number (NRPN) messages transmitted.

Additional Continuous Controllers (CCs) Transmitted/Received

The following table details how CCs are mapped onto the Prophet '08's controls. They are transmitted when MIDI Parameter Send is set to CC in Global, and recognized when received when MIDI Parameter Receive is set to either CC or All in Global.

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Parameter	CC#		Parameter	CC#
Osc 1 Frequency	20		VCA Level	113
Osc 1 Freq Fine	21		Pan Spread	114
Osc 1 Shape	22		Amp Env Amt	115
Glide 1	23		Amp Velocity Amt	116
Osc 2 Frequency	24		Amp Delay	117
Osc 2 Freq Fine	25		Amp Attack	118
Osc 2 Shape	26		Amp Decay	119
Glide 2	27		Amp Sustain	75
Osc Mix	28		Amp Release	76
Noise Level	29			
			Env 3 Destination	85
Filter Frequency	102		Env 3 Amt	86
Resonance	103		Env 3 Velocity Amt	87
Filter Key Amt	104		Env 3 Delay	88
Filter Audio Mod	105		Env 3 Attack	89
Filter Env Amt	106		Env 3 Decay	90
Filter Env Vel Amt	107		Env 3 Sustain	77
Filter Delay	108		Env 3 Release	78
Filter Attack	109			
Filter Decay	110		BPM	14
Filter Sustain	111		Clock Divide	15
Filter Release	112			

NRPN Messages

The Non-Registered Parameter Number (NRPN) MIDI messages are used to transmit and receive both global and program parameters. They are transmitted when MIDI Parameter Send is set to NRPN in Global, and recognized when received when MIDI Parameter Receive is set to either NRPN or All in Global.

The messages are handled in standard MIDI format using the NRPN CC commands in running status byte format. Below is the format used for transmitting a NRPN parameter:

Transmitted NRPN Messages

Status	Description
1011 nnnn	Control Change
0110 0011	NRPN parameter number MSB CC
0vvv vvvv	Parameter Number MSB
0110 0010	NRPN parameter number LSB CC

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0vvv vvvv	Parameter Number LSB
0000 0110	NRPN parameter value MSB CC
0vvv vvvv	Parameter value MSB
0010 0110	NRPN parameter value LSB CC
0vvv vvvv	Parameter value LSB

The parameter number can be found in the two tables below, one for Global parameters, and the other for Program parameters. The parameter numbers and the parameter values are broken into two 7-bit bytes for MIDI transmission; the LSB has the seven least-significant bits, and the MSB has the seven most-significant bits, though in most cases the MSB will be zero or one, and never more than two.

When receiving an NRPN, all messages do not necessarily need to be transmitted, since the synth will track the most recent NRPN number, though it is usually good practice to send the entire message above.

Once an NRPN is selected, the synth will also respond to NRPN Data Increment and Decrement commands, which some controllers utilize. Finally, it responds to one RPN (Registered Parameter Number) command, the RPN/NRPN Reset command, which can be handy for resetting the currently selected parameter to a known state.

Received NRPN Messages

Status	Second	Third	Description
1011 nnnn	0110 0011	0vvvvvvv	NRPN parameter number MSB CC
1011 nnnn	0110 0010	0vvvvvvv	NRPN parameter number LSB CC
1011 nnnn	0000 0110	0vvvvvvv	NRPN parameter value MSB CC
1011 nnnn	0010 0110	0vvvvvvv	NRPN parameter value LSB CC
1011 nnnn	0110 0000	0xxxxxxx	NRPN parameter value Increment
1011 nnnn	0110 0001	0xxxxxxx	NRPN parameter value Decrement
1011 nnnn	0010 0101	0111111	RPN parameter number MSB CC – Reset NRPN parameter number (when both MSB and LSB received)
1011 nnnn	0010 0100	0111111	RPN parameter number LSB CC – Reset NRPN parameter number (when both MSB and LSB received)

Global Parameter Data

The following table shows the Global data that is sent and received on global parameter dumps, and the corresponding NRPN number when sent/received individually.

Parm	NRPN	Range	Description
0	x	0 – 127	Program Number 1 – 128
1	x	0 – 1	Bank Number 1 – 2
2	384	0 – 24	Master Transpose; 0 = -12 semitones (1 octave), 12 = 0 (no transpose), and 24 = +12 semitones.
3	385	0 – 100	Master Fine Tune; 0 = -50 cents, 50 = 0 (centered), 100 = + 50 cents
4	386	0 – 16	MIDI Channel; if = 0, data received on all MIDI channels. Otherwise = channel number 1 – 16.
5	387	0 - 2	Poly Chain 0 No Chaining 1 Poly Chain Out 2 Poly Chain In
6	388	0 – 3	MIDI clock select 0 Use Internal clock, don't send MIDI clock 1 Use Internal clock, send MIDI clock 2 Use MIDI clock In 3 Use MIDI clock In, and retransmit MIDI clock out
7	389	0 - 1	Local Control Off/On
8	390	0 - 2	Parameter Send: 0 NRPN 1 CC 2 Off
9	391	0 - 3	Parameter Receive: 0 All 1 NRPN only 2 CC only 3 Off
10	392	0 - 1	MIDI Program Send/Receive Off/On
11	393	0 - 1	MIDI Pressure Send/Receive Off/On
12	394	0 - 1	MIDI Controller Send/Receive Off/On
13	395	0 - 1	MIDI Sysex Send/Receive Off/On
14	396	0 - 5	Pedal Destination: 0 Foot Control 1 Breath Control 2 Expression 3 Volume 4 Filter Frequency 5 Filter Frequency / 2
15	397	0 - 1	Damper Polarity; 0 = normally open, 1 = normally closed
16	398	0 - 3	Velocity Curve
17	399	0 - 3	Pressure Curve
18	x		LCD Contrast

Program Parameter Data

The following table lists the Prophet '08's voice parameters. These are used for the NRPNs and in the program and edit buffer dumps. Since most parameters are present in both the A and B layers, they are listed side-by-side.

A	B	Range	Description
0	200	0 – 120	Oscillator 1 Frequency, 0 – 120 in semitones (10 octave range)
1	201	0 – 100	Oscillator 1 Fine Tune; 0 = -50 cents, 50 = 0 (centered), 100 = + 50 cents
2	202	0-103	Oscillator 1 Shape 0 Oscillator Off 1 Sawtooth 2 Triangle 3 Sawtooth/triangle mix 4 – 103 Pulse Wave, Pulse width 0 – 99
3	203	0 - 127	Oscillator 1 Glide
4	204	0 - 1	Oscillator 1 Keyboard Off/On
5	205	0 – 120	Oscillator 2 Frequency, 0 – 120 in semitones (10 octave range)
6	206	0 – 100	Oscillator 2 Fine Tune; 0 = -50 cents, 50 = 0 (centered), 100 = + 50 cents
7	207	0-103	Oscillator 2 Shape 0 Oscillator Off 1 Sawtooth 2 Triangle 3 Sawtooth/triangle mix 4 – 103 Pulse Wave, Pulse width 0 – 99
8	208	0 - 127	Oscillator 2 Glide
9	209	0 - 1	Oscillator 2 Keyboard Off/On
10	210	0 - 1	Sync off/on
11	211	0 - 3	Glide Mode: 0 fixed rate 1 fixed rate auto 2 fixed time 3 fixed time auto
12	212	0 - 5	Oscillator Slop
13	213	0 - 127	Oscillator 1 - 2 Mix
14	214	0 - 127	Noise Level
15	215	0 - 164	Filter Frequency, steps in semitones
16	216	0 - 127	Resonance
17	217	0 - 127	Filter Keyboard Amount
18	218	0 - 127	Filter Audio Modulation
19	219	0 - 1	Filter Poles 0: 2-pole; 1: 4-pole
20	220	0 - 254	Filter Envelope Amount; -127 to +127
21	221	0 - 127	Filter Envelope Velocity Amount
22	222	0 - 127	Filter Envelope Delay
23	223	0 - 127	Filter Envelope Attack

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24	224	0 - 127	Filter Envelope Decay
25	225	0 - 127	Filter Envelope Sustain
26	226	0 - 127	Filter Envelope Release
27	227	0 - 127	VCA Initial Level
28	228	0 - 127	Output Spread
29	229	0 - 127	Voice Volume
30	230	0 - 127	VCA Envelope Amount
31	231	0 - 127	VCA Envelope Velocity Amount
32	232	0 - 127	VCA Envelope Delay
33	233	0 - 127	VCA Envelope Attack
34	234	0 - 127	VCA Envelope Decay
35	235	0 - 127	VCA Envelope Sustain
36	236	0 - 127	VCA Envelope Release
37	237	0 - 166	LFO 1 Frequency; 0 – 150 unsynced frequencies 151 Sequence speed divided by 32 152 Sequence speed divided by 16 153 Sequence speed divided by 8 154 Sequence speed divided by 6 155 Sequence speed divided by 4 156 Sequence speed divided by 3 157 Sequence speed divided by 2 158 Sequence speed divided by 1.5 159 One cycle per step 160 Two cycles per three steps 161 Two cycles per step 162 One cycles per three steps 163 Four cycles per step 164 Six cycles per step 165 Eight cycles per step 166 Sixteen cycles per step
38	238	0 - 4	LFO 1 Shape 0 Triangle 1 Reverse Sawtooth 2 Sawtooth 3 Pulse (square) 4 Random
39	239	0 - 127	LFO 1 Amount
40	240	0 - 43	LFO 1 Mod Destination; See Modulation Destination list below
41	241	0 - 1	LFO 1 Key Sync Off/On
42	242	0 - 166	LFO 2 Frequency; same as LFO 1
43	243	0 - 4	LFO 2 Shape; same as LFO 1
44	244	0 - 127	LFO 2 Amount

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45	245	0 - 43	LFO 2 Mod Destination; See Modulation Destination list below
46	246	0 - 1	LFO 2 Key Sync Off/On
47	247	0 - 166	LFO 3 Frequency; same as LFO 1
48	248	0 - 4	LFO 3 Shape; same as LFO 1
49	249	0 - 127	LFO 3 Amount
50	250	0 - 43	LFO 3 Mod Destination; See Modulation Destination list below
51	251	0 - 1	LFO 3 Key Sync Off/On
52	252	0 - 166	LFO 4 Frequency; same as LFO 1
53	253	0 - 4	LFO 4 Shape; same as LFO 1
54	254	0 - 127	LFO 4 Amount
55	255	0 - 43	LFO 4 Mod Destination; See Modulation Destination list below
56	256	0 - 1	LFO 4 Key Sync Off/On
57	257	0 - 43	Envelope 3 Mod Destination; See Mod Destination list below
58	258	0 - 254	Envelope 3 Amount; -127 to +127
59	259	0 - 127	Envelope 3 Velocity Amount
60	260	0 - 127	Envelope 3 Delay
61	261	0 - 127	Envelope 3 Attack
62	262	0 - 127	Envelope 3 Decay
63	263	0 - 127	Envelope 3 Sustain
64	264	0 - 127	Envelope 3 Release
65	265	0 - 20	Mod 1 Source; See Modulation Source list below
66	266	0 - 254	Mod 1 Amount; -127 to +127
67	267	0 - 43	Mod 1 Destination; See Modulation Destination list below
68	268	0 - 20	Mod 2 Source; See Modulation Source list below
69	269	0 - 254	Mod 2 Amount; -127 to +127
70	270	0 - 43	Mod 2 Destination; See Modulation Destination list below
71	271	0 - 20	Mod 3 Source; See Modulation Source list below
72	272	0 - 254	Mod3 Amount; -127 to +127
73	273	0 - 43	Mod 3 Destination; See Modulation Destination list below
74	274	0 - 20	Mod 4 Source; See Modulation Source list below
75	275	0 - 254	Mod 4 Amount; -127 to +127
76	276	0 - 43	Mod 4 Destination; See Modulation Destination list below
77	277	0 - 43	Sequence 1 Destination; See ModDestination list below
78	278	0 - 43	Sequence 2 Destination; See ModDestination list below

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79	279	0 - 43	Sequence 3 Destination; See ModDestination list below
80	280	0 - 43	Sequence 4 Destination; See ModDestination list below
81	281	0 - 254	Mod Wheel Amount; -127 to +127
82	282	0 - 43	Mod Wheel Destination; See ModDestination list below
83	283	0 - 254	Pressure Amount; -127 to +127
84	284	0 - 43	Pressure Destination; See ModDestination list below
85	285	0 - 254	Breath Amount; -127 to +127
86	286	0 - 43	Breath Destination; See ModDestination list below
87	287	0 - 254	Velocity Amount; -127 to +127
88	288	0 - 43	Velocity Destination; See ModDestination list below
89	289	0 - 254	Foot Control Amount; -127 to +127
90	290	0 - 43	Foot Control Destination; See ModDestination list below
91	291	30 - 250	BPM tempo
92	292	0 - 12	Clock Divide: Half Note Quarter Note Eighth Note Eighth Note half swing Eighth Note full swing Eighth Note triplets Sixteenth Note Sixteenth Note half swing Sixteenth Note full swing Sixteenth Note triplets Thirty-second Notes Thirty-second Notes triplets Sixty-Fourth note triplets
93	293	0 - 12	Pitch Bend Range
94	294	0 - 4	Sequencer Trigger: 0 Normal 1 Normal, no reset 2 No gate 3 No gate/no reset 4 key step
95	295	0 - 5	Key Mode: 0 Low note priority 1 Low note priority with re-trigger 2 High note priority 3 High note priority with re-trigger 4 Last note hit priority 5 Last note hit priority with re-trigger

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96	296	0 - 4	Unison Mode: 0 1 voice 1 All voices 2 All voices detune1 3 All voices detune2 4 All voices detune3
97	297	0 - 3	Arpeggiator Mode: 0 Up 1 Down 2 Up/Down, 3 Assign
98	298	0 - 1	Envelope 3 Repear Mode; off/on
99	299	0 - 1	Unison; off/on
100	300	0 - 1	Arpeggiator; off/on
101	301	0 - 1	Gated Sequencer; off/on
102-117	302-317	x	Unused
118	X	0 - 127	Split Point; 60 = C3
119	X	0 - 2	Keyboard Mode: 0 Normal 8 Voice 1 Stack 2 Split
120-135	320-335	0 - 127	Sequence Track1, steps 1 – 16 0 to 125: Normal sequence step value 126 Reset 127 Rest
136-151	336-351	0 - 126	Sequence Track 2, steps 1 – 16 0 to 125: Normal sequence step value 126 Reset
152-167	352-367	0 - 126	Sequence Track 3, steps 1 – 16 0 to 125: Normal sequence step value 126 Reset
168-183	368-383	0 - 126	Sequence Track 4, steps 1 – 16 0 to 125: Normal sequence step value 126 Reset
184-199	X	32 - 127	Name charaters 1 – 16, in ASCII format

The following tables list the values used with the program parameters to specify modulation destinations and sources.

Mod Destinations	Value
Off	0
Osc 1 Freq	1
Osc 2 Freq	2
Osc 1 and 2 Freq	3
Osc Mix	4

Noise Level	5
Osc 1 Pulse Width	6
Osc 2 Pulse Width	7
Osc 1 and 2 Pulse Width	8
Filter Frequency	9
Resonance	10
Filter Audio Mod Amt	11
VCA Level	12
Pan Spread	13
LFO 1 Freq	14
LFO 2 Freq	15
LFO 3 Freq	16
LFO 4 Freq	17
All LFO Freq	18
LFO 1 Amt	19
LFO 2 Amt	20
LFO 3 Amt	21
LFO 4 Amt	22
All LFO Amt	23
Filter Env Amt	24
Amp Env Amt	25
Env 3 Amt	26
All Env Amounts	27
Env 1 Attack	28
Env 2 Attack	29
Env 3 Attack	30
All Env Attacks	31
Env 1 Decay	32
Env 2 Decay	33
Env 3 Decay	34
All Env Decays	35
Env 1 Release	36
Env 2 Release	37
Env 3 Release	38
All Env Releases	39
Mod 1 Amt	40
Mod 2 Amt	41
Mod 3 Amt	42
Mod 4 Amt	43

Mod Sources	Value
Off	0
Sequence Track 1	1
Sequence Track 2	2
Sequence Track 3	3

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Sequence Track 4	4
LFO 1	5
LFO 2	6
LFO 3	7
LFO 4	8
Filter Envelope	9
Amp Envelope	10
Envelope 3	11
Pitch Bend	12
Mod Wheel	13
Pressure	14
MIDI Breath	15
MIDI Foot	16
MIDI Expression	17
Velocity	18
Note Number	19
Noise	20

Sysex Messages

Universal System Exclusive Message (Device Inquiry)

Status	Description
1111 0000	System Exclusive (SysEx)
0111 1110	Non-realtime message
0vvv vvvv	If MIDI channel is set to 1-16, 0vvvvvvv must match (unless MIDI Channel = ALL); always responds if 0vvvvvvv = 0111 1111.
0000 0110	Inquiry Message
0000 0001	Inquiry Request
1111 0111	End of Exclusive (EOX)

Prophet '08 responds with:

Status	Description
1111 0000	System Exclusive (SysEx)
0111 1110	Non-realtime message
0vvv vvvv	If MIDI Channel = ALL, 0vvvvvvv = 0111 1111. Otherwise 0vvvvvvv = Channel Number 0-15.
0000 0110	Inquiry Message
0000 0010	Inquiry Reply
0000 0001	DSI ID
0010 0011	Prophet '08 ID (Family LS) Note: Special Edition ID = 0010 0100
0000 0000	Family MS
0000 0000	Family Member LS
0000 0000	Family Member MS
0jjj nnnn	Main Software version: jjj – Minor rev; nnnn – Major rev

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0vvv vvvv	Voice Software version LS
0vvv vvvv	Voice MS
1111 0111	End of Exclusive (EOX)

Request Program Dump

Status	Description
1111 0000	System Exclusive (SysEx)
0000 0001	DSI ID
0010 0011	Prophet '08 ID
0000 0101	Request Program Transmit
0000 00vv	Bank Number, 0 – 1
0vvv vvvv	Program Number, 0 – 127
1111 0111	End of Exclusive (EOX)

The Prophet '08 will respond by sending out the Program Data in the format described below in *Program Data Dump*.

Request Program Edit Buffer Dump

Status	Description
1111 0000	System Exclusive (SysEx)
0000 0001	DSI ID
0010 0011	Prophet '08 ID
0000 0110	Request Program Edit Buffer Transmit
1111 0111	End of Exclusive (EOX)

Prophet '08 will respond by sending out the current Program edit buffer in the format described below in *Program Edit Buffer Data Dump*.

Request Global Parameter Dump

Status	Description
1111 0000	System Exclusive (SysEx)
0000 0001	DSI ID
0010 0011	Prophet '08 ID
0000 1110	Request Global Parameter Transmit
1111 0111	End of Exclusive (EOX)

Prophet '08 will respond by sending out the current edit buffer in the format described below in *Global Parameters Data Dump*.

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Status	Description
1111 0000	System Exclusive (SysEx)
0000 0001	DSI ID
0010 0011	Prophet '08 ID
0000 0010	Program Data
0000 00vv	Bank Number, 0 – 1
0vvv vvvv	Program Number, 0 – 127
0vvv vvvv	439 bytes in "packed MS bit" format (see page 54.)
1111 0111	End of Exclusive (EOX)

Program Edit Buffer Data Dump

Status	Description
1111 0000	System Exclusive (SysEx)
0000 0001	DSI ID
0010 0011	Prophet '08 ID
0000 0011	Edit Buffer Data
0vvv vvvv	439 bytes in "packed MS bit" format (see page 54).
1111 0111	End of Exclusive (EOX)

Global Parameters Data Dump

Status	Description
1111 0000	System Exclusive (SysEx)
0000 0001	DSI ID
0010 0011	Prophet '08 ID
0000 1111	Main Parameter Data
0vvv vvvv	38 nibbles (LS then MS) for 19 Global parameters. Global Parameters are listed starting on page 43.
1111 0111	End of Exclusive (EOX)

Note: The Global Parameters Data Dump is not recognized when received; it is only transmitted when requested. NRPN messages are used to change Globals.

Packed Data Format

Data is packed in 8 byte "packets", with the MS bit stripped from 7 parameter bytes, and packed into an eighth byte, which is sent at the start of the 8 byte packet.

Example:

Input Data   **Packed MIDI data**

```
1 A7 A6 A5 A4 A3 A2 A1 A0        1    00 G7 F7 E7 D7 C7 B7 A7
2 B7 B6 B5 B4 B3 B2 B1 B0        2    00 A6 A5 A4 A3 A2 A1 A0
3 C7 C6 C5 C4 C3 C2 C1 C0        3    00 B6 B5 B4 B3 B2 B1 B0
4 D7 D6 D5 D4 D3 D2 D1 D0        4    00 C6 C5 C4 C3 C2 C1 C0
5 E7 E6 E5 E4 E3 E2 E1 E0        5    00 D6 D5 D4 D3 D2 D1 D0
6 F7 E6 E5 E4 E3 E2 E1 E0        6    00 E6 E5 E4 E3 E2 E1 E0
7 G7 G6 G5 G4 G3 G2 G1 G0        7    00 F6 F5 F4 F3 F2 F1 F0
                                 8    00 G6 G5 G4 G3 G2 G1 G0
```

This explains why it takes 439 MIDI bytes to transmit 384 Program data bytes.

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Hidden Functions

Hold the PROGRAM switch and hit the +/YES switch to set the Program to a basic patch, with most parameters set to zero. It does not save the sound in the current program; it only changes all the parameters.

If you hold the EDIT LAYER B switch while in Stack or Split, the EDIT LAYER B switch will blink; this indicates you are now in Link Mode, which means that any parameter you change will update that parameter in both Layer A and Layer B. This can be handy while playing Stacked or Split programs in a live situation.

The following hidden functions are listed for information only; you should not normally have to use these. To use these, hold the GLOBAL switch and hit:

LFO 1 Switch – Displays the software versions for the Main and Voice processors.

LFO 2 Switch – Calibrates the low pass filters and analog oscillator waveshapes.

LFO 3 Switch – Resets all Global parameters to factory settings

To calibrate the pitch and mod wheels:

1. Turn the mod wheel all the way off (down), and while also holding the pitch wheel off, hold the Global switch and hit the Mod 1 switch.

2. Return the pitch wheel to center, and hold Global and hit the Mod 2 switch.

3. Move the Mod wheel all the way on (up), and while also holding the pitch wheel all the way on, hold Global and hit the Mod 3 switch.

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