FILTER MODELER – QUICK REFERENCE FOR MODEL-SPECIFIC FUNCTIONS

MODEL	FREQ	Q	SPEED	MODE
Tron Down	Frequency	Width	Range: Low/High	Low/Band/High-pass
Tron Up	Frequency	Width	Range: Low/High	Low/Band/High-pass
Seeker	Patterns	Width	Speed	Number of Steps in Sequence (2–9)
Obi-Wah	Frequency	Width	Speed	Low/Band/High-pass
Voice Box	Start Vowel	Stop Vowel	Speed	Automatic/Pedal
V-Tron	Start Vowel	Stop Vowel	Attack Time	Up/Up & Return
Throbber	Frequency	Width	Speed	Ramp Up/Ramp Down/Triangle/Square
Spin Cycle	Frequency	Width	Speed	Speed Sensitivity to Input Volume
Comet Trails	Frequency	Width	Speed	Gain
Slow Filter	Frequency	Width	Attack Time	Up/Down
Octisynth	Content	Width	Vibrato Speed	Vibrato Depth
Synth-O-Matic	Frequency	Width	Waveform	Pitch
Attack Synth	Frequency	Waveform	Attack Time	Pitch
Synth String	Frequency	Attack Time	Modulation Speed	Pitch
Growler	Frequency	Width	Speed	Pitch
Q Filter	Frequency	Width	Gain	Low/Band/High-pass

FILTER MODELER DETAILS

The other Modelers – Delay, Modulation, and Distortion – are primarily populated with our painstakingly faithful recreations of classic stomp boxes and effects units, giving you all the features of the originals, as well as a few extras.

The Filter Modeler, as the happy little black sheep of the family, veers off into a somewhat different direction. One reason is that several of the units that inspired it have many more features and controls than could possibly be packed into the Filter Modeler's comparatively small footprint – if you've ever used some of the original synths we studied, you know what we're talking about. Our idea was to extract some of the most valuable aspects of these units and cram them all into this little purple noise shaper for easy portability and simple operation – thereby giving you easy access to sonic strangeness wherever your musical journey takes you.

Another thing that makes the Filter Modeler a particularly special treat is the fact that a number of its models give you completely new, Line 6 original sound effects, which we happily discovered through our own journey of developing the effects for the Filter Modeler – a lot of strange things can happen when you spend long, intimate hours alone with a room full of guitars, synths, filters, and modern software development tools.

The pages that follow will take you through the details of all the models as well as sample settings for each, detailing both the loving emulations and the unique new possibilities that they offer for your musical world. We're sure you'll enjoy the trip.
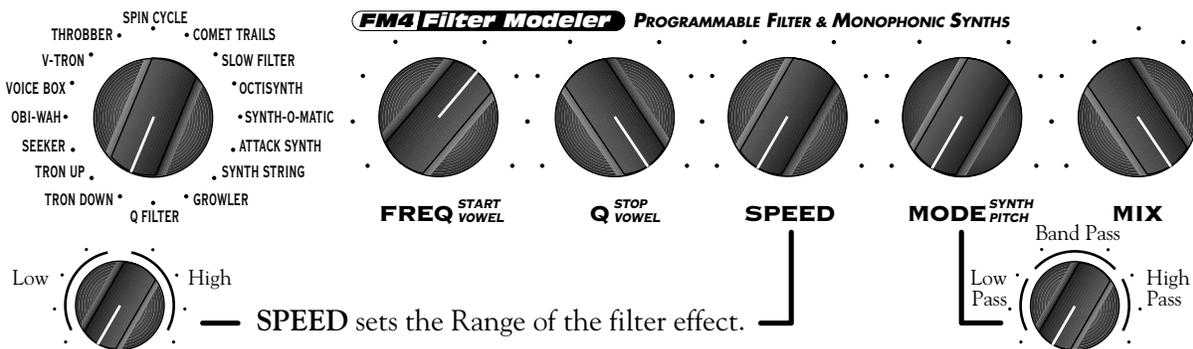
Synth Tip: Like all monophonic guitar synths, the Filter Modeler synth models will track best with neck pickups, palm muting, and single note lines.

Tron Up/Tron Down – inspired by the Mu-Tron III.
What self-respecting filter-junkie would be without a Mu-Tron III envelope follower? Part auto-wah, part triggered filter, it's all about wacky, and your Filter Modeler's model based on the Mu-Tron III gives it to you both coming and going. Go ahead – unbutton that shirt, put on the flares, and get down with your bad self!

You've got your choice of Tron Down and Tron Up, to get you both flavors of this effect a la the original Mu-Tron's up/down switch.
- **Freq**, like the Mu-Tron III gain knob, determines how far apart the high and low points of the filter sweep will be.
- **Q** sets the width of the filter.
- **Speed**, like the Mu-Tron III Range switch, selects High or Low frequencies for the focus of the filter effect.
- **Mode**, as on the original Mu-Tron III, selects the type of filter effect (Low Pass, Band Pass, or High Pass).
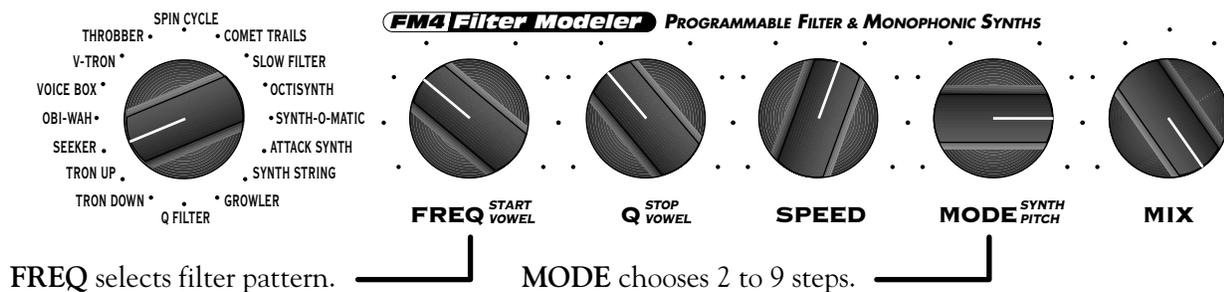
FREQ *START VOWEL*   Q *STOP VOWEL*   SPEED   MODE *SYNTH PITCH*   MIX

Low / High

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SPEED sets the Range of the filter effect.

Low Pass / Band Pass / High Pass

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Seeker – inspired by the Z-Vex Seek Wah.
The Seek Wah is a box that contains 8 "parked wah" filters that can be set at varying positions and then sequenced through, creating a pulsating hypnotic vibe (with no detectable side effects!). In our ode to this unique creation, we give you the Seeker. Here's how it works:
- **Freq** lets you select from a range of different patterns of sequenced wah filter positions. Turn slowly to find the preset that works best for your tune.
- **Q** sets the width of the filters.
- **Speed**, as on the original, controls the rate (time) that it takes to cycle through the filters.
- **Mode** sets the number of filter steps in the sequence. The Seek Wah lets you choose 4, 6, or 8. The Seeker allows any choice form 2 to 9 steps – Hello, odd time signatures!
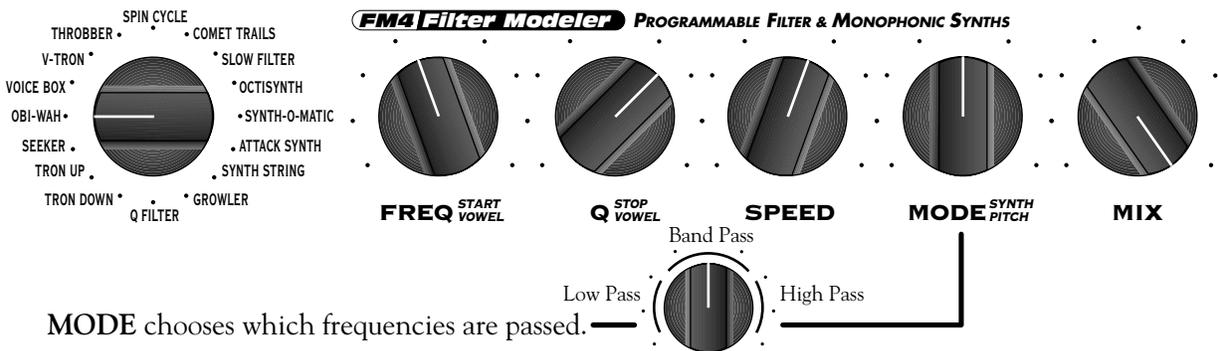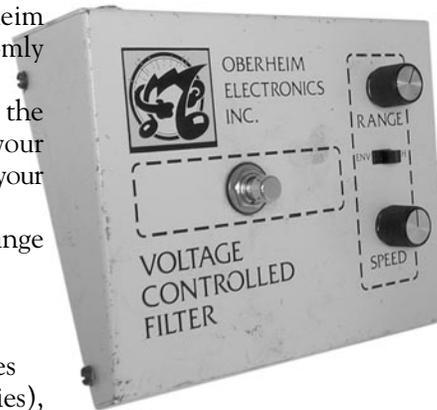
FREQ *START VOWEL*   Q *STOP VOWEL*   SPEED   MODE *SYNTH PITCH*   MIX

FREQ selects filter pattern.   **MODE** chooses 2 to 9 steps.

Obi-Wah – based on Oberheim Voltage Controlled Filter.
Sample and Hold filters like the one in the classic Oberheim
Voltage Controlled Filter create changes in tone by randomly
emphasizing certain frequencies.

    With the Obi-Wah model, the MODE knob gives you the
option to effect the high, low, or middle frequencies of your
tone. If this seems daunting to understand at first, just close your
eyes, Luke, and use The Force…

- **Freq** sets the area of frequency where the filter will change
  your tone.
- **Q** controls the width of the filter.
- **Speed** sets the rate of the random filter changes.
- **Mode** selects the type of filter effect: Low Pass (reduces
  high frequencies), Band Pass (emphasizes mid frequencies),
  or High Pass (reduces bass).

SPIN CYCLE
THROBBER •   • COMET TRAILS
V-TRON •   • SLOW FILTER
VOICE BOX •   • OCTISYNTH
OBI-WAH •   • SYNTH-O-MATIC
SEEKER •   • ATTACK SYNTH
TRON UP •   SYNTH STRING
TRON DOWN •   • GROWLER
Q FILTER

FM4 *Filter Modeler*   **PROGRAMMABLE FILTER & MONOPHONIC SYNTHS**

FREQ *START VOWEL*   Q *STOP VOWEL*   SPEED   MODE *SYNTH PITCH*   MIX

Band Pass
Low Pass   High Pass

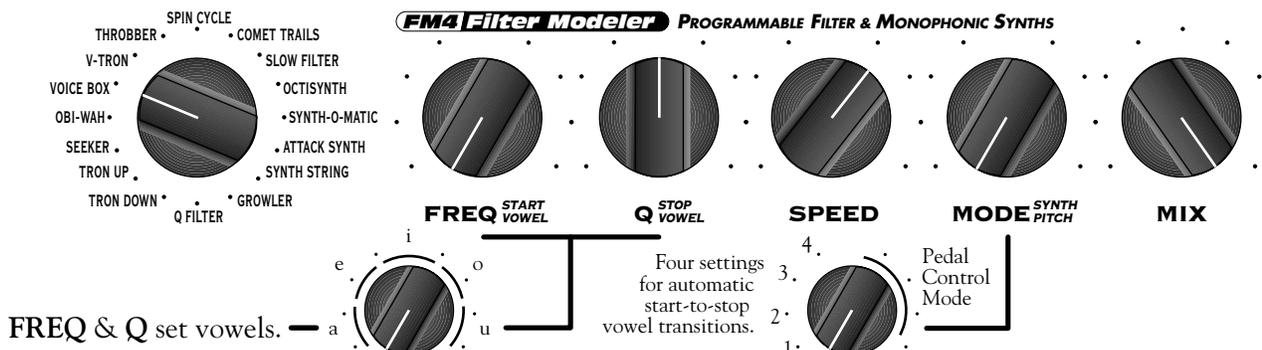**56**   **MODE** chooses which frequencies are passed.

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Voice Box – inspired by Vocoders, Vocal Tracts & Surgical Tubing.
This model gives your guitar a sound that's typical of a classic "talk box."
The FREQ knob picks a start vowel, and the Q knob picks a stop vowel.
Mode lets you choose one of four settings for shifting back and forth
between vowel one and two automatically at the speed set by the SPEED
control. Or, select Pedal mode for expression pedal control of the shift.

    This effect, like other talking pedal effects, sounds particularly great
with a distortion pedal in front of it. Peter Frampton used a "talk box"
with a Foxx Tone Machine (which is similar to the Octave Fuzz model
on the Distortion Modeler) on his famous tune *Show Me The Way*.

- **Freq** controls the sound of the starting vowel (a, e, i, o, u).
- **Q** controls the sound of the stop vowel (a, e, i, o, u).
- **Speed** sets how long it takes to "speak" from one vowel to the other
  in Automatic mode.
- **Mode** chooses between the Automatic and Pedal modes.

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TRON DOWN •   • GROWLER
Q FILTER

FM4 *Filter Modeler*   **PROGRAMMABLE FILTER & MONOPHONIC SYNTHS**

FREQ *START VOWEL*   Q *STOP VOWEL*   SPEED   MODE *SYNTH PITCH*   MIX

i
e   o
a   u

Four settings
for automatic
start-to-stop
vowel transitions.

4
3
2
1
Pedal
Control
Mode

FREQ & Q set vowels.

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V-Tron – Voice Box meets Mu-Tron III.

Imagine a head-on collision between a Mu-Tron III envelope filter and the Voice Box effect just mentioned… the resulting effect would be a V-Tron! In this model's sonic playland, your guitar again "speaks" with an almost human voice, but now it does so in response to your playing.

Each time you strike a new note or chord, the vowel sequence will be "spoken." You can choose whether the speaking will go from the start vowel to the stop vowel and call it a day (UP Mode), or turn around and come right back again (UP & RETURN).

- **Freq** controls the sound of the starting vowel (a, e, i, o, u).
- **Q** controls the sound of the stop vowel (a, e, i, o, u).
- **Speed** sets how long it takes to "speak" from one vowel to the other.
- **Mode** chooses between the two modes: UP, or UP & RETURN.
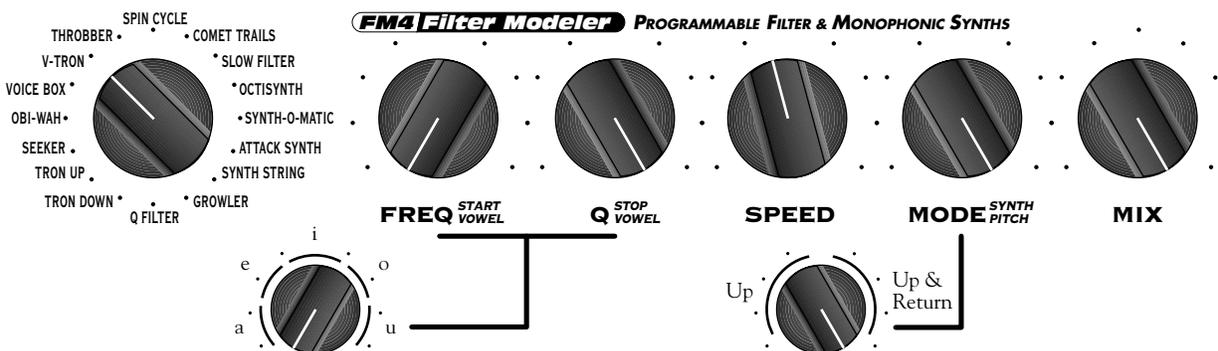
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Throbber – inspired by the Electrix Filter Factory.

We love the guys at Electrix, and couldn't do a filter box without a respectful nod to their genius, so here it is! Like the LFO section of the versatile Filter Factory, the Throbber alters the brightness of your tone with an emphasis on a specific frequency that you can select with the freaky FREQ control. Q sets the amount of emphasis from purring to howling.

This effect is perfect for those hipster Electronica sounds, and we've also noticed U2's The Edge making appearances with a Filter Factory in his rack.

- **Freq** targets a specific frequency range for the filter.
- **Q** controls the width of the filter.
- **Speed** sets the rate of the LFO.
- **Mode** selects between four different wave shapes (Ramp Up, Ramp Down, Triangle or Square).
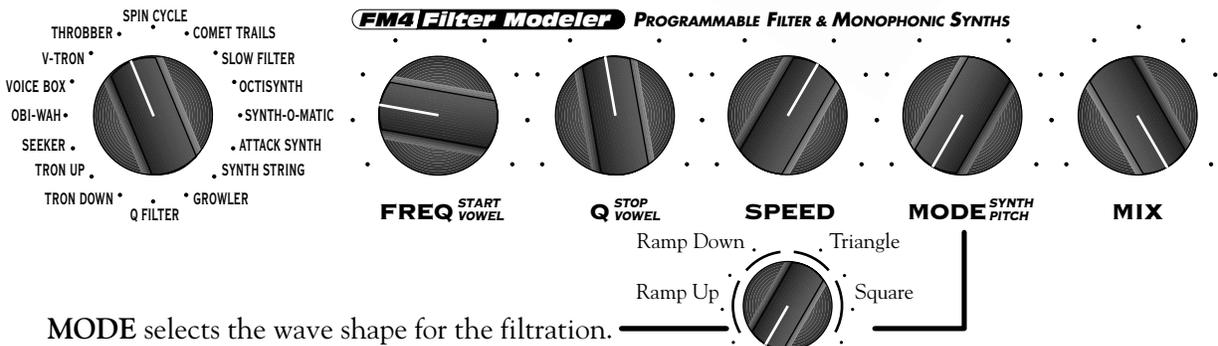
MODE selects the wave shape for the filtration.

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Spin Cycle – inspired by Craig Anderton's Wah/Anti-Wah.
This effect takes particular advantage of the Filter Modeler's stereo capabilities. Imagine two wah pedals panned left and right that work in the opposite direction from each other. One goes up while the other goes down. Now add the fact that these wah pedals are sweeping from minimum to maximum automatically. This is what headphone mixes are made for! For those times when you don't have the benefit of stereo operation, fear not – when operating in mono, the wah and anti-wah will be united on the single monophonic output.

On this model, the MODE knob is used to adjust a "peak follower", which is a nifty little number that can be used to make the speed of this effect sensitive to your playing volume. At the minimum setting of the MODE knob, the speed of the effect will remain unchanged whether you play quietly or loudly. Turn the knob up to higher settings, and your speed will now react dynamically to your playing – speeding up as you play harder, slowing down when you lay back.

- **Freq** controls the range of the filter emphasis in the wah tone.
- **Q** controls the width of the filter.
- **Speed** sets the speed at which the wah effects sweep.
- **Mode** controls the amount of Volume Sensitivity for the speed of the effect.
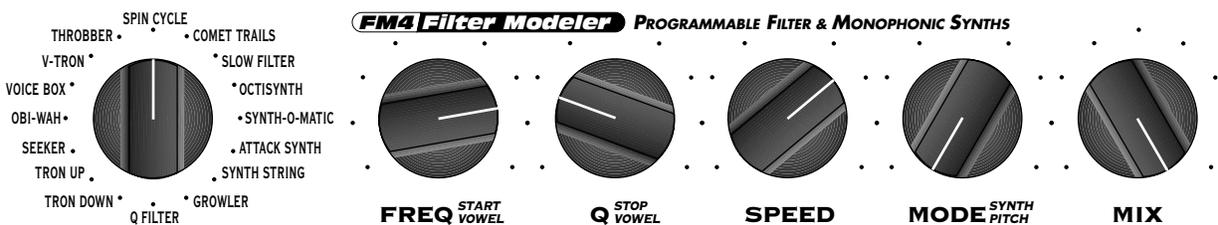
MODE sets the speed's volume sensitivity.

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Comet Trails – the result of too much Mountain Dew.
After several days spent crafting the code that makes up our digital secret sauce, we found ourselves one afternoon surrounded by 10 empty cans of Dew, and sounds from another world. We rushed from the office, shouting to anyone who would listen, "Dude! Check this out!"

Now that same caffeine and sugar-fueled rush is available to you at the stomp of a Filter Modeler foot switch. Somewhere inside your Filter Modeler are seven filters, all chasing each other around and looping back and forth across the great expanse of sonic space. The heavens fill with their joyous song. We call it Comet Trails…

- **Freq** controls the range of the filters.
- **Q** controls the width of the filters.
- **Speed** sets the rate of the filter movement.
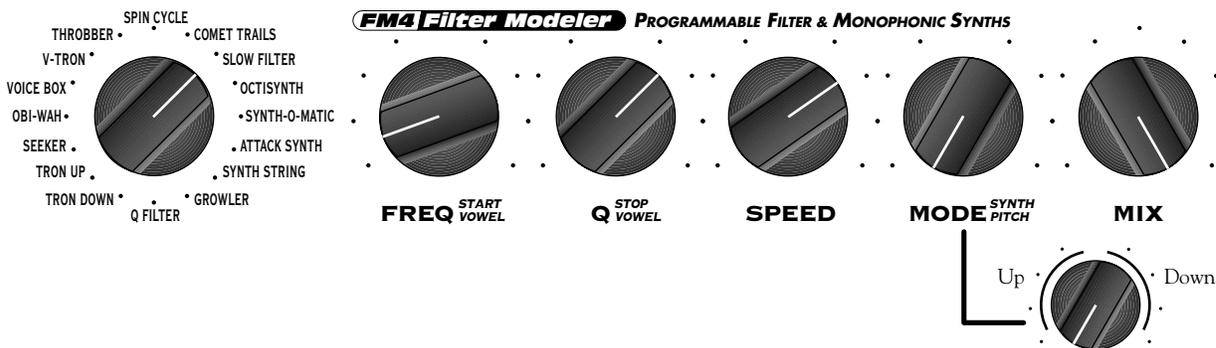- **Mode** controls the Gain of the whole shebang.
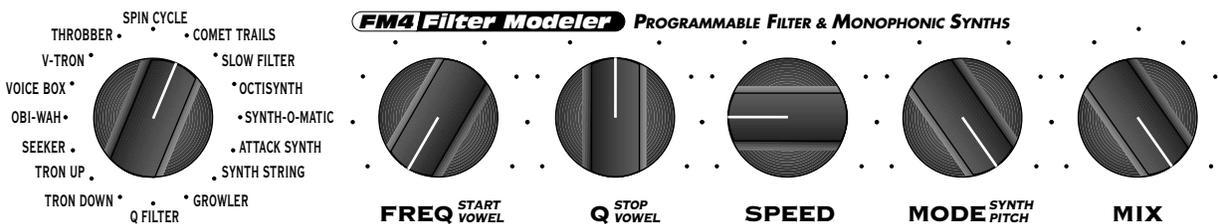
MODE sets the Gain.

Slow Filter – it's Swell!

This triggered filter rolls off the high end of your tone, with adjustable speed. You get a choice of having your tone sweep from dark to bright (the UP mode), or bright to dark (the DOWN mode). The Q lets you further shape your tone by creating a sharp boost at the point of the high end roll off. Just plug in your guitar or other noise maker and you'll see soon enough what we're talking about…

The Oberheim Synthesizer Expander Module pictured at right could be used to create an effect like this.

• **Freq** sets the frequency where the filter begins its tone shaping roll-off.

• **Q** controls the width of the filter.

• **Speed** sets the speed of the filter sweep.

• **Mode** selects between two modes: UP or DOWN.

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VOICE BOX · · OCTISYNTH
OBI-WAH · · SYNTH-O-MATIC
SEEKER · · ATTACK SYNTH
TRON UP · · SYNTH STRING
TRON DOWN · · GROWLER
Q FILTER

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FREQ *START VOWEL*   Q *STOP VOWEL*   SPEED   MODE *SYNTH PITCH*   MIX
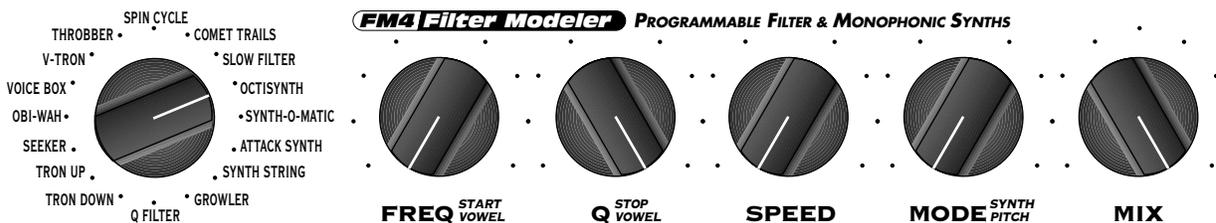
Up · · Down

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Octisynth – inspired by eight armed denizens of the deep.

Everyone knows that all you need is a bottleneck and a reverb tank to get great whale sounds, but how about our often-ignored deep sea friend the Octopus?

To emulate the call of the famous invertebrate, we've provided you with a subtle, velocity sensitive combination of Ring Modulator, Synthesizer VCO and Vibrato pedal. As an added bonus, your guitar's volume knob gets in on the action by controlling the frequency of the oscillator. Set it low to mimic the large Octopus dofleini of the North Pacific, or turn it all the way up to communicate with the inch long Octopus micropyrsus.

• **Freq** controls filter content, adding second order harmonics.

• **Q** controls the width of the filters, from mild to wild.

• **Speed** sets the rate of the Vibrato.

• **Mode** controls the Depth of the Vibrato.

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TRON UP · · SYNTH STRING
TRON DOWN · · GROWLER
Q FILTER

FM4 Filter Modeler *PROGRAMMABLE FILTER & MONOPHONIC SYNTHS*

FREQ *START VOWEL*   Q *STOP VOWEL*   SPEED   MODE *SYNTH PITCH*   MIX
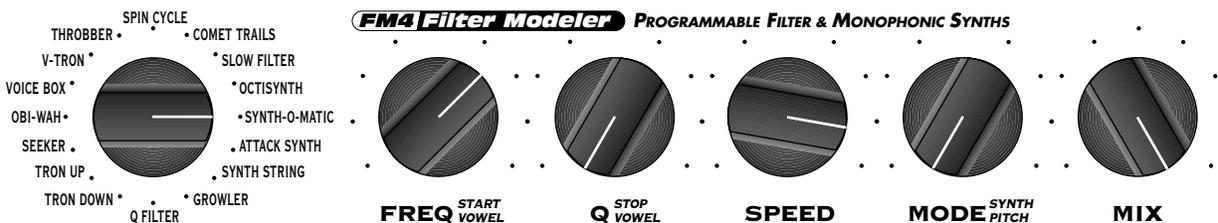
MODE sets vibrato depth. At maximum position, it self-oscillates (puts out audio whether you are playing into it or not; great for sound effects!)

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Synth-O-Matic – inspired by a collection of vintage analog synths.
This model features waveforms captured from a mouth watering collection of vintage synths: a Moog Modular (which is the unit pictured on the right), Oberhiem Synthesizer Expander Module, Sequential Circuits Prophet 600, Arp Explorer-I Model 2900, and Studio Electronics SE-1 – groovy analog circuitry giving its all to make mind-warping waveforms.

- **Freq** sets the frequency of the filter, which determines how bright your sound will be.
- **Q** sets filter width to add more or less additional emphasis on the selected frequency.
- **Speed** selects one of the eight synth waveforms.
- **Mode** controls the Pitch of the synth sound.

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TRON DOWN • • GROWLER
Q FILTER

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FREQ *START VOWEL*   Q *STOP VOWEL*   SPEED   MODE *SYNTH PITCH*   MIX

64   **SPEED** selects the synth wave – one at each dotted position.   MODE sets pitch.
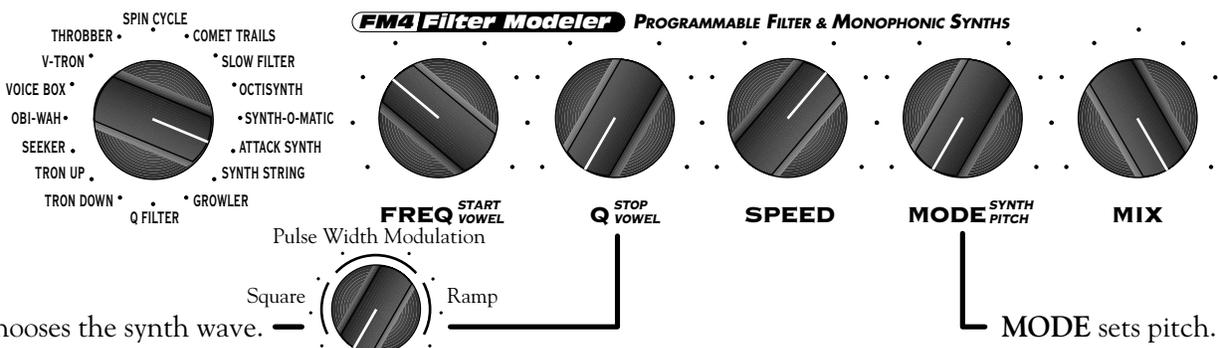
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Attack Synth – based on the Korg X911 Guitar Synth.
We borrowed the unit that inspired this model – a Korg X911 Guitar Synth –from the delightful and delicious Eric Dover (of Jellyfish and Imperial Drag). Your Filter Modeler's Attack Synth uses a waveform modeled after one of those in the X911, along with some of the wave shaping functions that are found on the original X911.

- **Freq** controls the stop frequency of the filter (labeled VCF on the X911).
- **Q** selects between Square, Pulse Width Modulation, and Ramp for the synth waveform.
- **Speed** controls the Attack (sets the time it takes to get to the stop frequency).
- **Mode** controls Pitch over a two octave range.

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FM4 Filter Modeler *PROGRAMMABLE FILTER & MONOPHONIC SYNTHS*

FREQ *START VOWEL*   Q *STOP VOWEL*   SPEED   MODE *SYNTH PITCH*   MIX

Pulse Width Modulation

Square   Ramp

Q chooses the synth wave.   MODE sets pitch.   **65**

Synth String – based on the Roland GR700 Guitar Synth

The GR700 is one of the largest guitar foot pedals ever made. It also happens to have some of the coolest analog synth sounds designed for guitar. Guitar synth pioneers like Adrian Belew considered the GR700 an essential tool for their trailblazing sonic explorations. Your Filter Modeler's Synth String model is based on one of the sounds of the GR700.
• **Freq** controls a low pass filter tone control.
• **Q** controls the attack time.
• **Speed** sets the speed of the vibrato-y pulse width modulation.
• **Mode** controls the Pitch of the effect over a two octave range.
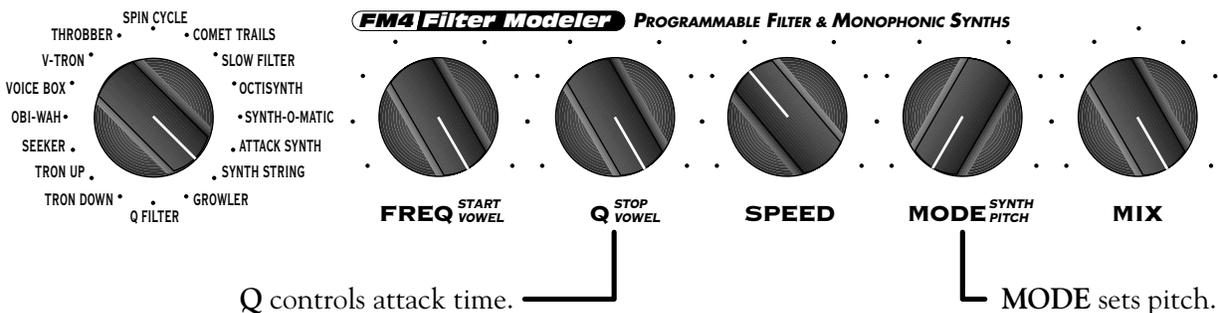
Q controls attack time. MODE sets pitch.

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Growler – GR700 meets Mu-Tron III

If you've been paying attention, you've noticed that our model based on the Mu-Tron III has been making a number of appearances in the Filter Modeler's hit parade. This time it's stepping out in the distinguished company of another GR700-inspired tone. Check out the dynamic duo in action:
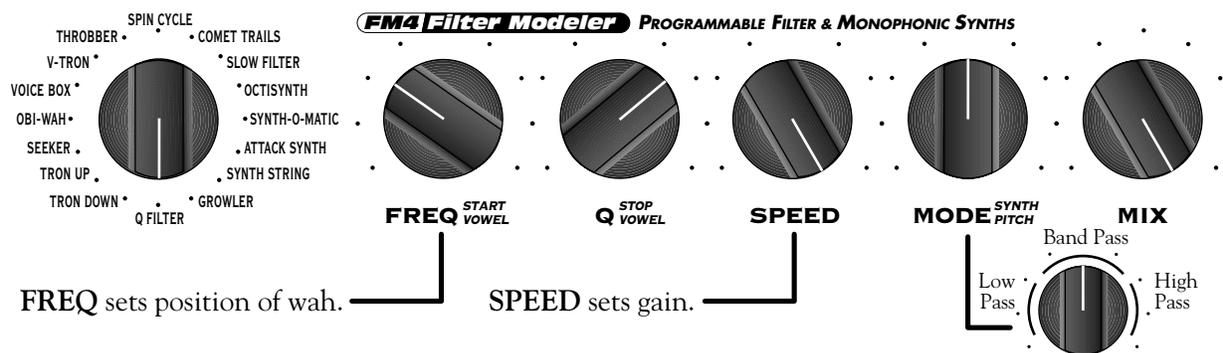• **Freq** controls the frequency of the filter (surprise).
• **Q** sets the width of the filter.
• **Speed** dials in the speed of the vibrato-y pulse width modulation.
• **Mode** controls the Pitch of the synth over a two octave range.

SPEED sets speed of vibrato-y pulse width modulation. MODE sets pitch.

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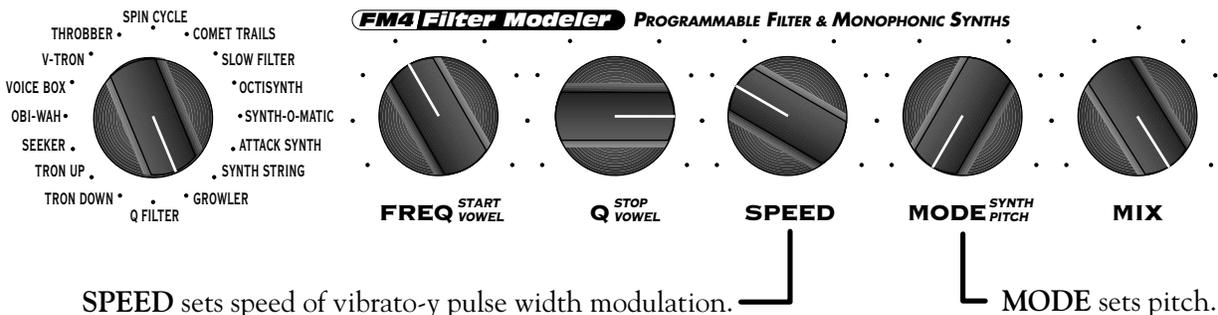
Q Filter – your very own parked wah!

You've heard it before on UFO records and from Brian May of Queen – it's a wah "parked" in one position that creates a unique, notched kind of sound. With the Filter Modeler, this effect is programmable and repeatable! You can even use this model as a wah pedal if you connect an EX-1 Expression Pedal, and set it to sweep FREQ from low to high.

• **Freq** controls the frequency of the filter
  (that's like the position of the wah pedal).
• **Q** controls the width of the filter.
• **Speed** sets the gain (how much boost
  the effect gives to your guitar).
• **Mode** selects the type of filter effect
  (Low Pass, Band Pass, or High Pass).

SPIN CYCLE
THROBBER • • COMET TRAILS
V-TRON • • SLOW FILTER
VOICE BOX • • OCTISYNTH
OBI-WAH • • SYNTH-O-MATIC
SEEKER • • ATTACK SYNTH
TRON UP • • SYNTH STRING
TRON DOWN • • GROWLER
Q FILTER

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FREQ *START VOWEL*   Q *STOP VOWEL*   SPEED   MODE *SYNTH PITCH*   MIX

Band Pass
Low Pass . . High Pass

FREQ sets position of wah.   SPEED sets gain.

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