

# V-Synth

## Specifications

- **Keyboard** 61 keys (with velocity and channel aftertouch)
- **Sound Generator Configuration** Oscillator (envelope x 4 + LFO x 1) x 2, Modulator x 1, COSM (envelope x 2 + LFO x 1) x 2, TVA (envelope x 1 + LFO x 1) x 1
- **Sound-generation Techniques** Analog Modeling (9 waveforms), PCM / Variphase (326 Preset waveforms + Sampling waveforms), External Input
- **Modulator** 4 types + MIX
- **COSM** 15 types + THRU
- **Zones (Splits)** 16
- **Parts** 16
- **Maximum Polyphony** 24 voices (Varies depending on the load placed on the sound generator.)
- **Internal Memory** Project: 1, Patches: 512, Waves: 999, Wave memory(RAM): 50 MB (When the unit ships from the factory, 30 MB of this is taken up by the preset waves.), Sample storage memory (FLASH): 10 MB

- **External Storage Device** PC CARD slot (Microdrive, SmartMedia or CompactFlash can be used with PC card adapter.)
- **Effects** MFX (Multi-effects): 41 sets, Chorus: 8 sets, Reverb: 10 sets
- **System EQ** 4 bands
- **Sampling Frequency** Internal: 44.1 kHz, Digital Audio IN/OUT: 96, 48, 44.1 kHz
- **Signal Processing** Internal processing, sound generating section: 32 bits (floating point), effects section: 24 bits (fixed point), DA Conversion: 24 bits, AD Conversion: 24 bits
- **Nominal Output Level** MAIN OUT: +4 dBu, DIRECT OUT: +4 dBu
- **Nominal Input Level** INPUT (LINE): -20 dBu, INPUT (MIC): -46 dBu
- **Arpeggiator Patterns:** User programmable (supports use of control change messages), Motifs: 8 types, Tempo: 20 to 250 BPM
- **Display** Graphic 320 x 240 dot backlit LCD with touchscreen
- **Controllers** Pitch Bend / Modulation Lever, TimeTrip Pad, Twin D Beam Controller, Assignable Control Knobs (C1, C2)

- **Connectors** Headphones Jack, Main Output Jacks (L/MONO, R) (1/4 inch phone type), Direct Output Jacks (L, R) (1/4 inch phone type), Input Jacks (L, R) (1/4 inch phone type) (equipped with line/mic gain switch), Hold Pedal Jack, Control Pedal Jacks (1, 2) (assignable), MIDI Connectors (IN, OUT, THRU), USB Connector, Digital Audio Interface (24-bit, S/PDIF) (COAXIAL (IN, OUT), OPTICAL (IN, OUT)), AC Inlet
- **Power Supply** AC 117 V, AC 230 V, AC 240 V
- **Power Consumption** 16 W
- **Dimensions** 1,056 (W) x 398 (D) x 111 (H) mm, 41-5/8 (W) x 15-11/16 (D) x 4-3/8 (H) inches
- **Weight** 13.1 kg / 28 lbs 15 oz
- **Accessories** Quick Start, Owner's Manual, Parameter List, Sound List, CD-ROM (Driver), PC CARD Protector, Power Cable
- **Options** Keyboard Stand: KS-12, Pedal Switch: DP-2/6, Foot Switch: BOSS FS-5U, Expression Pedal: EV-5

(0 dBu = 0.775 Vrms)

## Rear Panel



**COSM**  
Composite Object Sound Modeling

Once a musical instrument generates sound vibrations, it reaches the human ear through various mediating objects, each of which significantly affects the sound. The material and configuration of the instrument, the electric/electronic/magnetic amplifying system, the air and the reverberation of the room all affect the final sound. Sound modeling, the latest DSP technology, "virtually" reconstructs these objects. Roland's breakthrough Composite Object Sound Modeling (COSM) uses the advantages of multiple modeling methods and succeeds in accurately emulating existing sounds, as well as producing sounds that have never before been created.

**Roland**  
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Roland®

V-Synth

# V-Synth



# A World of New Sounds Await...

The Roland V-Synth is an expressive new instrument for those passionate about sound. It's the first synthesizer to offer multiple oscillator technologies with realtime control over a waveform's pitch, time and formant. Sounds can then be processed through new COSM® filters, a killer arpeggiator and powerful realtime controllers including the TimeTrip Pad. Explore new musical landscapes with the V-Synth.

**V-Synth**  
VariPhrase  
COSM  
V-LINK

Flagship 61-note synthesizer with multiple oscillator technologies, user sampling and new COSM filtering for incredibly dynamic new sounds

New variable oscillators based on analog modeling, user samples and over 300 PCM waveforms with up to 24-voice polyphony\*  
\*Polyphony depends on processing power.

Independently manipulate the pitch, time and formant of sampled waveforms using VariPhrase™ technology—a world's first in a synthesizer!

Intuitive touchscreen interface with over 20 knobs and sliders, plus revolutionary TimeTrip Pad and Twin D Beam

Powerful COSM filtering/processing; separate reverb, chorus and MFX; plus programmable arpeggiator

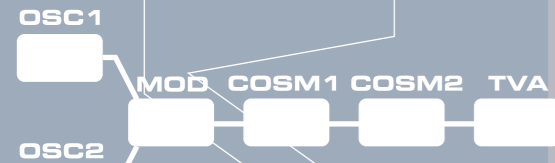
USB port for .WAV/AIFF file import, .WAV export and simplified MIDI connections

2 stereo Line outputs, stereo Mic/Line input and S/PDIF digital I/O

\*VariPhrase technology for use under one or more of U.S. Pat. Nos. 6,421,642, 6,323,797, 6,201,175 and 6,207,885. U.S. Patent Pending



# Next-Generation Synthesis for Unlimited Sonic Control.



### ■ Structure Panel

The V-Synth offers three structure types, which determine the signal flow of the dual oscillators. Structures can be selected using the front-panel buttons.



Imagine setting an envelope curve just by sliding your finger on the screen! Whether you're new to synthesizers or a seasoned programmer, the V-Synth makes it easy to dive in and get the sounds you want.

### □ New variable oscillators powered by VariPhrase

At the heart of the V-Synth are two variable oscillators with a choice of three types: PCM, Analog Modeling and External Audio Processing. The PCM oscillator uses

### ■ Oscillator Panel

Variable oscillators let you choose from three different sound generating techniques. These include analog modeling, external audio processing, and PCM synthesis with VariPhrase control.



VariPhrase technology to bring new life to otherwise static waveforms. Sample your own waveform or choose from hundreds of presets, then independently manipulate pitch, time and formant. A world's first TimeTrip function lets you control the time aspect of a waveform in any way desired. Choose the Analog Modeling oscillator and you'll get nine fat-sounding analog waveforms beefed up for even more warmth and punch. Or process any external sound through V-Synth's incredible architecture by selecting the

### ■ COSM Processor Controls

Sounds can be further shaped using two COSM processors. These include modeled multi-mode analog filters, plus other tools like a Wave Shaper and metallic Side Band Filter.



External Audio Processing type. No other synthesizer provides this degree of sonic control.

### □ COSM processing = total sound shaping

Instead of typical multi-mode filters, the V-Synth features two dedicated COSM processors for warping sounds in entirely new ways. If you want traditional filters, they're there. But if you want to go beyond, simply select an algorithm like polyphonic guitar amp modeling or the unique Side Band Filter, which can pull out the sharper, metallic content of sounds. There's also a Wave Shaper, Resonator

(polyphonic waveform processing through a modeled resonance body) and more. These tools are an essential part of the sound creation process and can radically alter any

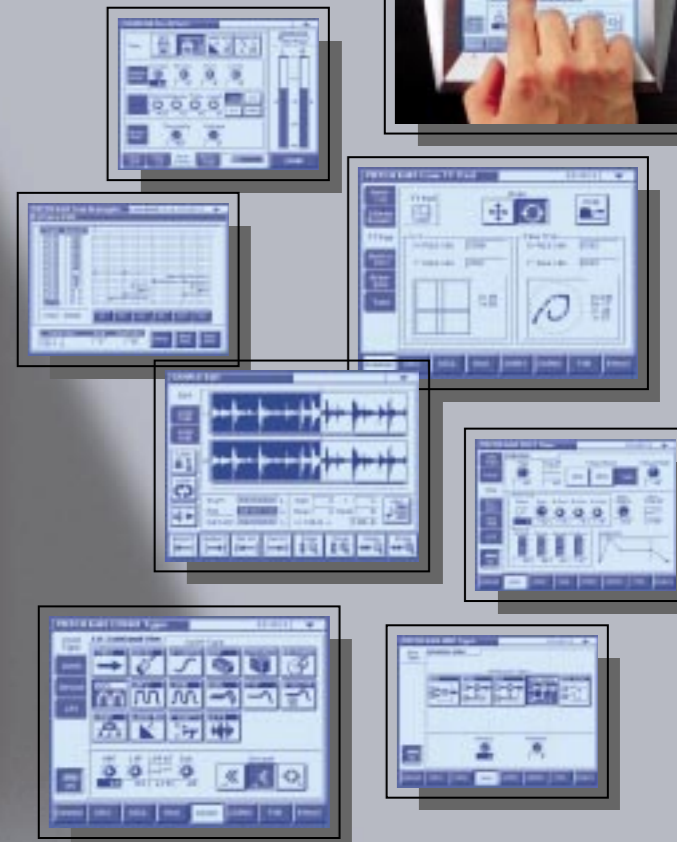
sound. The V-Synth's separate reverb, chorus and MFX handle all global effects processing.

### □ Sample your own waves, or import via USB

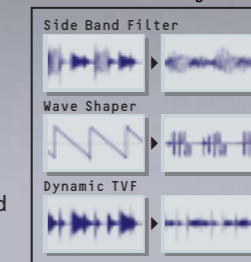
Any of the V-Synth's internal waveforms can be

### ■ Touchscreen Display

V-Synth's large LCD screen responds to touch and dragging motions—making it easy to set graphic parameters like envelope curves and filter response.



### ■ COSM Processing Examples



overwritten with user-sampled waves. Simple record from the stereo analog input or the S/PDIF digital input, and you can edit the sample and use it as an internal waveform. The V-Synth's USB port also makes for a convenient way to import .WAV and AIFF files from a computer. You can even resample an effected sound or any performance played with the TimeTrip Pad, D Beam or arpeggiator. Sample data can be quickly copied to a computer via USB, or to an optional PC card. And by purchasing readily available PC card adapters, other media like CompactFlash, SmartMedia and MicroDrives can also be used.

# An Interactive Approach to Sound.

## □ Add your own "touch" with the TimeTrip Pad

Roland's revolutionary TimeTrip Pad offers a degree of sonic control never before possible. Simply rub your finger along the pad in a clockwise or counter-clockwise motion to scan a waveform forwards or backwards in time—without changing pitch or formant. Slow a waveform

down to uncover rich harmonic content, speed it up, or freeze it at any position—all with the touch of your finger.

Imagine adding expressive phrasing to a lead vocal sample or manipulating a drum loop like a DJ without changing pitch. The TimeTrip Pad lets you create amazing new sounds and effects not possible in software.



## ■ TimeTrip Pad

This innovative controller lets you adjust the time parameter of a waveform in real time—without affecting pitch or formant—simply by dragging your finger along the pad.

## □ Awe-inspiring performance controllers

The V-Synth is not only a powerful sound sculpting tool, but also a killer performance synthesizer. To start, you get a programmable arpeggiator that can instantly create backing chords or turn a few notes into a blazing techno sequence. The arpeggiator can also control synthesis parameters like filter cutoff or envelope decay—just like a vintage step sequencer.



## ■ Programmable Arpeggiator

Use the arpeggiator to create complex riffs from a single note or chord, or to create timbral changes that add rhythmic motion to a sound.



## ■ Twin D Beam

Control a variety of effects and controllers using two infrared beams of light. Examples include oscillator pitch, LFO depth, TimeTrip and more.



\*D Beam light has been colored for illustrative purposes only. Actual infrared light beam is invisible.

Arpeggio settings are stored with each Patch, making it easy to recall hundreds of patterns in performance.



## V-LINK

### ■ V-LINK

Roland's V-LINK makes it possible to control video clips when used with an Edirol DV-7PR Digital Video Workstation (sold separately).

## □ Groundbreaking V-LINK video control

V-LINK is another new approach to creative expression, allowing playback and even performance of video clips with music created on the V-Synth; all you need is the Edirol DV-7PR Digital Video Workstation (sold separately). Use V-LINK to trigger different video clips with V-Synth's keyboard while using the bender to change playback speed. Using the TimeTrip Pad, you can scan a clip forwards or backwards with your finger, or change colors using the Twin D Beam. The future is now, and it's called V-LINK.

For the ultimate in realtime control, check out the V-Synth's Twin D Beam. Using two infrared light beams, you can control a variety of preset controller functions—or even play melodies—by moving your hand vertically and horizontally in the air. Your crowd will be amazed!

