

D-70

SUPER LA SYNTHESIZER

Discover the astonishing creative potential and powerful programming versatility of Advanced LA Synthesis.

With the D-70, you'll experience a new dimension in sound generation and control capabilities onstage or in the studio.

Scan by Ludovic Gombert (mastersynth.com)

 Roland

Advanced LA Synthesis—A New Standard of Quality



Experience Total Creative Power with Roland's D-70

The D-70 Super LA Synthesizer introduces Roland's most innovative and sophisticated synthesis method ever—Advanced LA Synthesis. Offering a huge selection of new sounds including everything from exceptionally realistic acoustic instruments to massive, warm "analog" synthesizer tones, Advanced LA Synthesis provides you with incredible expressive possibilities. The D-70's easy-to-use editing features allow you to alter sounds instantly and dramatically, letting you create unique, personalized sounds quickly and easily in the studio or even while playing live. Powerful and amazingly flexible, the D-70 gives you creative potential no other keyboard can match!

Advanced LA Synthesis—An Entirely New Synthesis Method

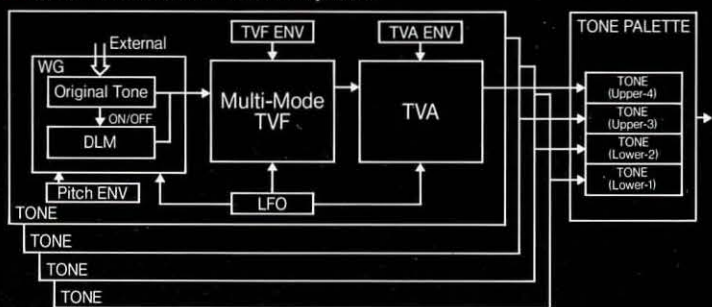
While based on the same Linear Arithmetic concept of the original LA Synthesis, Advanced LA Synthesis is a totally new method of synthesis that features Time Variant Filters (TVF) with three selectable modes plus Resonance and Differential Loop Modulation (DLM) which creates thousands of new waveforms. Roland's proprietary Advanced LA Synthesis technique utilizes three distinct steps which provide the D-70 with extraordinary creative potential. First, the D-70 contains high-quality PCM sounds which offer sophisticated, sampler-level realism. Second, the D-70 allows you

to modify these PCM sounds using digital synthesis techniques including high-performance digital filtering. Third, the D-70 lets you combine any of these sounds to create sounds of even greater complexity. Advanced LA Synthesis conducts the entire synthesis process in a fashion that makes it easy for you to envision the results of sound editing and the D-70's easy-to-use editing features enable you to create sounds the way you imagine them.

The Advanced LA Synthesis Architecture

The basic unit of sound on the D-70 is an Original Tone which is a high-quality

■ Sound Creation with Advanced LA Synthesis





PCM sample that is modified using RS-PCM and DI techniques. You can also use DLM to create new waveforms from any of the D-70's internal PCM samples or those on optional Sound Cards. By modifying Original Tones or your DLM-created waveforms with TVF, TVA and other parameters. Original Tones are transformed into Tones. Next, you can combine up to four Tones using the Tone Palette and configure them into a Patch. Advanced LA Synthesis' straight forward architecture makes creative sound programming an intuitive, easy-to-understand process.

RS-PCM and DI Provide Excellent Sound Quality Right From the Start

The D-70 achieves its distinctive sound quality by combining RS-PCM (Re-Synthesized Pulse Code Modulation) and DI (Differential Interpolation) technology. RS-PCM evaluates the characteristics of each harmonic in a PCM sample then modifies the contents and the sound's overall character by adjusting each harmonic's envelope, providing an extremely natural-sounding sample that is consistent over the entire playback range. The DI process inserts data between the sampled waveform's sampling points, smoothing out its "staircase" shape to precisely duplicate the original analog waveform. These processes result in realistic and exceptionally musical sounds with sound-quality comparable to that of professional-level samplers. These sounds require no further editing, making them instantly useful for any playing

situation. The D-70 offers a wide variety of high-quality instrument sounds as well as numerous synthesizer textures. Best of all, the D-70 lets you alter these sounds using synthesis techniques to create your own stunning sounds.

An Extensive Selection of RS-PCM Data for Sound Creation

A key factor of the D-70's versatility is the tremendous variety of sound data available for you to customize. This sound data consists of 119 internal PCM sounds including multi-sampled RS-PCM instrument sounds and sound elements such as white noise and sawtooth waves, sound elements from optional SN-SPLA Series Sound Element Cards for the D-70, and a huge selection of RS-PCM sounds available on optional SN-U110 Series RS-PCM Cards.

DLM Provides Unlimited Sound Creation Possibilities

DLM (Differential Loop Modulation) lets you create your own customized waveforms for synthesis. DLM's start point and loop length parameters allow you to specify the part of a waveform you want to use. Then complex looping functions using advanced interpolation technology truncate and modulate the part you select to create a new waveform. The resulting waveform includes many inharmonic partials, ideal for TVF processing or producing unique sounds such as a ring modulation effect. DLM features two modes, each with definable Start Point (0-127) and Length (1-128), giving you 32,768 different

Real-Time Functions for the Performing Keyboardist



Velocity Sensitivity, Key Assign, Solo Legato, Velocity Mode and Threshold Sensitivity form a Patch. Using Key Mode, you can layer, split or assign Zones to Tones on the keyboard, and Velocity Mode and Threshold Sensitivity let you assemble expressive velocity mix configurations. The D-70's internal memory stores up to 128 Patch configurations, and you can use an optional RAM card (M-256E) to store an additional 128 Patches.

Tone Palette Sliders and Function Buttons

Four Tone Palette Sliders allow you to modify Tone Palette parameters. Tone Palette function buttons which let you select a parameter you want to modify such as Level, Pan, or TVF Cutoff are located to the left of the sliders. After you select a parameter, you can use each slider to modify that parameter for each Tone Palette Section, enabling simultaneous editing of all four Tones. The Tone Palette's easy-to-use combination of function buttons and four sliders place exceptional creative and expressive power in your hands instantly.

Creative Options Using Layer Mode

By using Layer Mode with the Tone Palette editing functions, you can create four-Tone layered sounds. The D-70's Layer mode offers many creative options. For instance, you can assign the attack portion of a sound to one Section of the Tone Palette, the sustain portion to another, and the decay and release portions to the other two Sections. Using the four sliders, you can

adjust the level balance of each of these sound components in real time.

Impressive Digital Effects

The D-70 features built-in studio-quality digital reverb and chorus which each feature a variety of different selectable effect types. The effect types for Reverb include Room 1-3, Hall 1-2, Gate, Delay, and Cross Delay, and the effect types for Chorus include Chorus 1-2, FB-Chorus, Flanger, and Short Delay. The effects are digitally linked, allowing you to combine effects with no loss in

■ Built-in Reverb Effects Mode

Room 1 - 3	Well-defined and spacious reverb
Hall 1,2	Slower reverb, with greater depth than Room
Gate	Gated (sharply muted) reverb
Delay	Conventional delay
Cross Delay	Delayed repeats are panned to left and right

■ Built-in Chorus Effects Mode

Chorus 1	A spacious and rich effect
Chorus 2	A deep ensemble effect, especially good for making strings richer
FB-Chorus	An effect mid-way between chorus and flanger
Flanger	A unique effect in which overtones change dramatically, especially effective for Tones containing many upper partials, such as HEAVY EG
Short Delay	Short delayed repeats



sound quality and 24-bit processing provides noise-free performance. You can modify effects parameters in real-time using the four front-panel sliders and store settings to a Performance.

Another D-70 Exclusive—Analog Feel Function

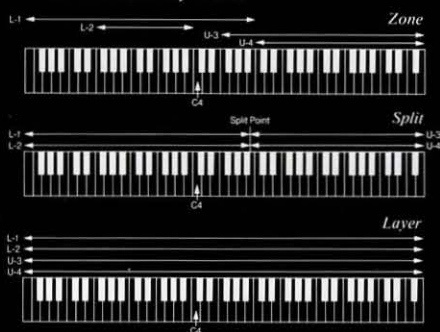
The D-70 contains a variable Analog Feel function which simulates the wavering pitch of an analog synth's oscillator. This useful feature adds analog-like warmth and enables you to create thick, textured sounds.

The D-70 Maximizes Real-Time Performance Capabilities

As a Versatile Keyboard...

The D-70 features a velocity and aftertouch-sensitive keyboard with a weighted, synthesizer action and offers maximum expressiveness when playing internal sounds or external sound sources. The

Three Selectable Key Modes



keyboard's 76-note range gives you exceptional flexibility when using Split mode and the multiple Zones of the Tone Palette, making the D-70 the ideal master keyboard for any MIDI setup.

With Key Assign Modes...

The D-70 features two Key Assign modes, Poly (polyphonic) and Solo (monophonic), which determine how notes affect each other when played in succession. In Poly mode, the D-70 operates as a normal polyphonic synthesizer where the envelope of each note you play is independent. Solo mode offers two different modes—Normal Solo and Solo Legato. In Normal Solo mode, pressing a key cancels the sound and envelope of the previously played note, and in Solo Legato mode, playing notes legato cancels the previous sound but will not retrigger the envelope, similar to a monophonic analog synthesizer. To add portamento according to your playing style in Solo mode, you can select either Normal or Auto Portamento. Normal adds portamento to all notes you play, while Auto applies portamento only if you play a note while holding the previous note. This enables you to add expressive touches to instrument sounds such as duplicating a trombone slide, a sax slur, or the legato tonguing effects of brass instruments. Another real-time performance-enhancing feature is Release Velocity which affects the Release parameter of TVF or TVA envelopes depending on how quickly you release a key, providing exceptionally responsive expressive capabilities.

Flexible Control of External Sound Sources and Multi-Timbral Operation



...and Full Controller Functions

The D-70 features versatile controller options for use with internal sounds or external MIDI sound sources. Controllers include Bender, Aftertouch, Modulation, the function-assignable C1 Slider or Expression Pedal (optional EV-5/EV-10), Pedal Switch and Hold Pedal (optional FS-5L/FS-5U/DP-2/DP-6). The D-70's internal memory stores settings for Function, Value and Destination that recall how you want to use these controllers. When a Pedal

■ Functions Assignable to External Pedal Switches

C1 Slider Exp. Pedal	[TVF]	change the Cutoff Frequency
	[TVA]	change the Volume
	[LFO Pitch]	change the Pitch Modulation (vibrato)
	[LFO TVF]	change the Cutoff Modulation (growl)
	[LFO TVA]	change the Volume Modulation
	[Pitch Bend]	change the pitch
Pedal SW	[Portamento Time]	change the Portamento Time
	[LFO Pitch]	change the Pitch Modulation (vibrato)
	[LFO TVF]	change the Cutoff Modulation (growl)
	[LFO TVA]	change the Volume Modulation
	[Octave Down]	lower the pitch 1 octave
	[Octave Up]	raise the pitch 1 octave

*The built-in C1 slider can be assigned the same functions as the Expression Pedal.

Switch is connected to the D-70's Control input, you can access functions such as Performance selection or Tone editing by foot control.

MIDI Palette Controls External Sound Sources

The D-70's powerful keyboard controller capabilities make it especially ideal for live performance.

The MIDI Palette lets you store complex MIDI parameter configurations and recall them instantly in performance. Like the Tone Palette, the MIDI Palette features four Sections—Lower 1, Lower 2, Upper 3, and Upper 4—and each section contains parameters such as Transpose, Program Change Number, and MIDI Transmit Channel.

Using MIDI Out Key Mode, you can split, layer or zone sections of the MIDI Palette on the D-70's keyboard, opening up versatile creative possibilities using Velocity Mode and Threshold Sensitivity.

Extensive Multi-Timbral Capabilities

Using an external sequencer, you can create intricate multi-instrument arrangements with the D-70's sounds and 30-voice polyphony. Up to five Parts and a separate Rhythm Part as well as MIDI Palette and Effects settings can be configured to a Performance and a total of 64 Performances can be stored to internal memory and another 64 on an optional RAM card (M-256E).



You can select five Performances to form a User Set, and assign each Performance to one of the five front-panel Function buttons just below the display, giving you instant access to Performances and MIDI Palette settings. The D-70's internal memory stores up to ten User Sets and you can store an additional ten on an optional RAM card.

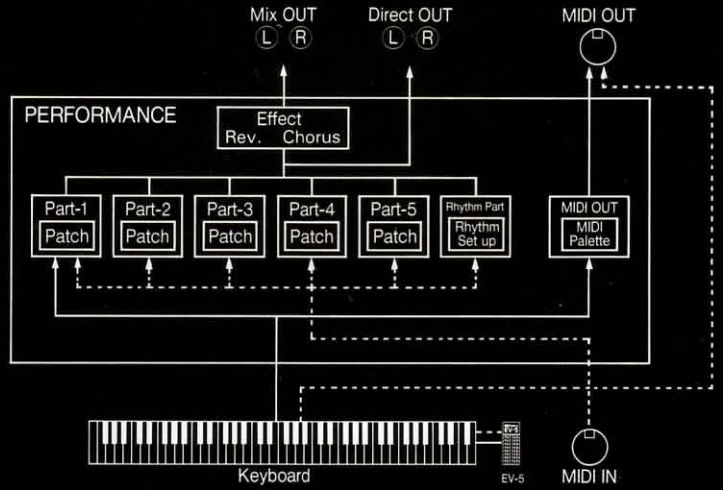
Operational Ease and Performance-Oriented Features

The D-70 offers a tremendous selection of real-time functions and fast, easy operation. The four front-panel sliders let you modify parameters amazingly quickly and easily. The D-70's 40-digit x 8-line LCD provides ample space for graphic displays of parameters such as TVF and TVA envelopes, and a Value dial allows you to quickly scroll through parameter values and functions. Five Function buttons corresponding to menu options listed on the display provide instant access to various functions. And for even greater ease-of-operation, the Jump function lets you assign a frequently used menu to one of the five Function buttons so you can access a desired menu from any other menu, at any time.

Hear the D-70's Potential

A built-in ROM Demo song fully demonstrates the D-70's high-quality sounds and versatile capabilities.

■ Structure of a Performance



Sounds and Specs for Any Professional Application



D-70 Specifications

Keyboard:	76 Keys, Weighted Synthesizer Action. Velocity and Channel Aftertouch Sensitive Advanced LA Synthesis		
Sound Sources:			
Multi-Timbral Capability:	5 Part + 1 Rhythm Part		
Max. Polyphony:	30 Notes		
Memory:	Internal System Setup x 1 User Set x 10 Performance x 64 Patch x 128 Tone x 128 Rhythm Setup x 1 Original Tone x 119 External System Setup x 1 User Set x 10 Performance x 64 Patch x 128 Tone x 128 Rhythm Setup x 1 (When using optional M-256E RAM card)	Rear Panel:	Buttons: Play, Edit, PCM Card, Solo, Portamento, Release, Cutoff, Resonance, Attack, Level, Pan, Tuning, Tone/Zone Select, Tone Display, MIDI Out, Effect/Ctrl, Part, User, Function (F1-F5), Exit, Cursor (▲▼◀▶), Dec, Inc, Performance, Patch, Tone, A/B, Int/Card, Command, Write, Enter, Bank (1-8), Number Display: 40 digit x 8 line LCD Switches: Power, Protect Controls: Contrast Card Slots: RAM Card, PCM Card x 2 (A, B) Connectors: MIDI IN/OUT/THRU Jacks: Direct Out x 2 (L, R), Mix Out x 2 [L(Mono), R], Expression Pedal, Pedal Switch, Hold Pedal, Headphone
Digital Effect:	Reverb: Room 1/2/3, Hall 1/2, Gate, Delay, Cross Delay Chorus: Chorus 1/2, FB-Chorus, Flanger, Short Delay Pan: L to R in 15 increments	Dimensions:	1196(W) x 305(D) x 100(H)mm 47-1/16" x 12" x 3-15/16"
Front Panel:	Controls: Bender/Modulation lever, Value dial Sliders: Master Volume, C1, Brightness, Tone Palette (1-4)	Weight:	12 kg (26 lb 8 oz)
		Options:	M-256E RAM card, SN-U110 Series RS-PCM Cards, SN-SPLA Series Sound Element Cards for D-70, FS-5L/FS-5U/DP-2/DP-6 Footswitch, EV-5/EV-10 Expression Pedal, KS-5/7/8 Keyboard Stand





Original Tone List

SN-SPLA Series Sound Element Card



SN-U110 Series RS-PCM Card



M-256E RAM Card



EV-5 Expression Pedal



DP-2 Footswitch



I-1 Acoustic			
1	A. PIANO 1	31	TP/TRB 2
2	A. PIANO 2	32	TP/TRB 3
3	A. PIANO 3	33	BRASS
4	A. PIANO 4	34	SAX 1
5	E. PIANO 1	35	SAX 2
6	E. PIANO 2	36	SAX 3
7	BRIGHT EP	37	FLUTE
8	E. ORGAN 1	38	SHAKU
9	E. ORGAN 2	39	CALLIOPE
10	E. ORGAN 3	40	PAN PIPES
11	E. ORGAN 4	41	BAGPIPES
12	R. ORGAN	42	BALAPHONE
13	A. GUITAR	43	BTRIMBAO
14	E. GUITAR 1	44	KALIMBA
15	E. GUITAR 2	45	CYMBALON
16	HEAVY. EG	46	VIB
17	SLAP 1	47	MARIMBA
18	SLAP 2		
19	SLAP 3	I-2 Synthesizer	
20	SLAP 4	1	FANTASYNTH
21	SLAP 5	2	JP. STRINGS
22	FINGERED	3	SYN. VOX 1
23	PICKED	4	SYN. VOX 2
24	FRETLESS	5	SYNTH HARP
25	AC. BASS	6	DIGI. BELL
26	CHOIR	7	FANTA BELL
27	STRINGS 1	8	DIST 5TH
28	STRINGS 2	9	SOFT SYN
29	SOFT TP	10	BASS LP
30	TP/TRB 1	11	BELL LP
		12	HARP ATK
		13	PIZZ
		14	EP WAVE
		15	CLAV WAVE
		16	LITE WAVE
		17	B-S WAVE
		18	SAX WAVE
		19	BLO WAVE
		20	SYN. WAVE 1
		21	SYN. WAVE 2
		22	SYN. PULSE 1
		23	SYN. PULSE 2
		24	SYN. PULSE 3
		25	SYN. SQUARE
		26	SYN. TRI
		27	SYN. SAW 1
		28	SYN. SAW 2
		29	SYN. SAW 3
		30	DIGITAL 1
		31	DIGITAL 2
		32	DIGITAL 3
		33	DIGITAL 4
		34	DIGITAL 5
		35	DIGITAL 6
		36	DIGITAL 7
		37	DIGITAL 8
		38	DIGITAL 9
		39	WHITENOISE
		40	BREATH
		41	SPECTRUM 1
		42	SPECTRUM 2
		43	NOISE 1
		44	NOISE 2
		I-3 Percussion	
		1	SNARDRUM 1
		2	SNARDRUM 2
		3	SNARDRUM 3
		4	SNARDRUM 4
		5	SNARDRUM 5
		6	KICK 1
		7	KICK 2
		8	KICK 3
		9	KICK 4
		10	TOM 1
		11	TOM 2
		12	HI-HAT
		13	CHINA CYM
		14	CRASH CYM
		15	RIDE BELL
		16	SIDE STICK
		17	STICKS
		18	CABASA
		19	CLAPS
		20	COWBELL
		21	808 SNARE
		22	808 HI-HAT
		23	808 TOM
		24	ELEC TOM
		25	808 CLAVES
		26	CLICK
		27	AGOGO
		28	ORCH HIT

