

 Roland

# SYSTEM SYNTHESIZER **SYSTEM100**

SYNTHESIZER **101**, EXPANDER **102**, MIXER **103**, SEQUENCER **104**, MONITOR SPEAKER **109**



# System 100 Component Synthesizer

## SYSTEM 100

There used to be a time when only the richest of the pros could afford to own their own Synthesizer studio. But now, the world of professional features and professional quality are yours at your fingertips in an exciting component series, the Roland System-100.

If you can envision sounds as colors, the System-100 gives you an artist's palette with more tones than even the Old Masters could imagine. In fact, the quantity of musical sounds produced by the System-100 is almost limitless, opening up new vistas of dynamic sound creation and inter-component flexibility. Original compositions, improvisations, or imaginative



arrangements of your favorites — wherever your musical muse leads you, the System-100 goes right along.

Starting with the Synthesizer 101 with its 37-key keyboard and full range of standard synthesizer elements, build your own complete Synthesizer studio by adding the Expander 102, Mixer 103, Sequencer 104 and Monitor Speaker 109 for full-range stereo sound reproduction. And used in conjunc-

tion with an external tape deck, the System-100 lets you realize the entire scope of your talents by making it possible to do multi-track recording and a professional mix right in your own home!

Just another example of how Roland puts technology to work for musicians at a price that more musicians can afford. Enter into a new era of creative music with the Roland System-100 Synthesizer Series.

## SYNTHESIZER 101

The Roland Synthesizer 101 — the basic unit for the System-100 as well as a fully independent synthesizer in itself — features a full 37-key keyboard and the entire range of standard synthesizer elements including VCO, VCF, VCA, ADSR, LFO and Noise Generator, Variable Pulse Width Modulation on VCO, VCF High Pass Filter and Phone Jack.



# for studio performance.

## EXPANDER 102

The Expander 102 incorporates all the features of an independent synthesizer with special functions such as Ring Modulator, Sample & Hold and an Internal Mixer. While doubling the number of basic elements contained in the Synthesizer 101, the Expander 102 more than doubles its sound synthesizing capabilities, and produces a 2-channel sound when used in the System-100.



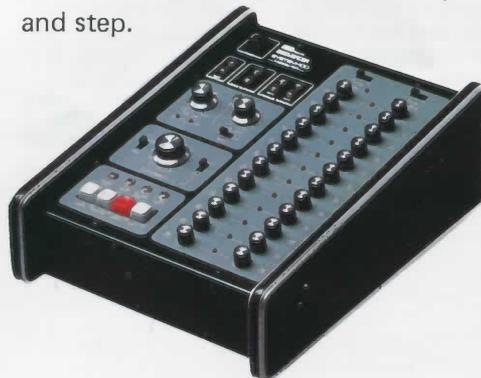
## MIXER 103

The Model 103 Mixer is a 4-channel mixer integrated with an amplifier and reverberation unit, used for Pan-pot, Effect Control and Input Selection on each channel. Additional features include Main Effect Pan-pot, Main Reverb, Main Echo and Main Pan-pot controls, plus a Monitor Level Control for precise tone monitoring.



## SEQUENCER 104

The Sequencer 104 functions to run off a set of preprogrammed control voltages, and can control the VCO to produce repeating musical sequences of any desired pattern. Features include 12 parallel registers for a total of 24 step controls, a Clock Oscillator for gate time and clock rate control, Step Controller, and a Master Controller for start, continue, stop and step.



## MONITOR SPEAKER 109

Enjoy your musical creations in stereo with Rolands 109 16cm speakers. Designed to complement the System-100 in both sound quality and distinctive styling.



# Specifications

## MODEL-101 SYNTHESIZER

### VCO (Voltage Controlled Oscillator)

Wave Form Selector (A, N, U, L), Frequency (10 ~ 10K Hz), Fine Tuning (1 oct.), Pulse Width Modulation Selector (Manual/ADSR/LFO), Pulse Width (5% ~ 50%), Ext. CV (1V/oct.), LFO  
 JACKS: VCO Output (10Vp-p), VCO Sync. Output, Ext. CV Input

### NOISE GENERATOR

Selector (White/Pink)  
 JACK: Noise Output (10Vp-p)

### AUDIO MIXER

Level (VCO, Noise, Ext. Input)  
 JACK: Ext. Input

### HIGH PASS FILTER

HPF Cutoff Frequency (10 ~ 10K Hz)

### VCF (Voltage Controlled Filter)

VCF Cutoff Frequency (20 ~ 20K Hz), Resonance, LFO/Ext. CV (1V/oct.), Selector (Ext. CV/LFO), Kybd. CV, ADSR  
 JACKS: Ext. CV Input, Check Point

### VCA (Voltage Controlled Amplifier)

Initial Gain, LFO, ADSR  
 JACK: Check Point

### ENVELOPE GENERATOR (ADSR)

Attack Time, Decay Time, Sustain Level, Release Time, ADSR Trig. (Kybd. Gate/LFO)  
 JACKS: ADSR Output (+6.5V), Ext. Env. Input (+6.5V), Ext. Gate Input (+15V)

### LFO (Low Frequency Oscillator)

LFO Frequency (0.15 ~ 25Hz), Wave Form (N, U, L)

### GLIDE

Auto Glide (Semi Tone: Key Trig. On/Off), Glide manual (Semi Tone)

### KEYBOARD CONTROL VOLTAGE

Portamento  
 JACKS: Kybd. CV Output (1V/oct.), Kybd. Gate Output (+15V)

### STANDARD OSCILLATOR: A = 440Hz

Level  
 AUDIO SIGNAL OUTPUT  
 JACKS: Output (High: 3Vp-p/Low: 0.3Vp-p)

### HEADPHONE OUTPUT

Level  
 JACK: Output (0.3V max into standard 8-ohm stereo headphones)

### KEYBOARD (37 Keys)

JACKS FOR COMPUTER (on rear of unit)  
 CV Input, CV Output, Trig. Input, Trig. Output

POWER CONSUMPTION: 10W max  
 DIMENSIONS: 610 (wide) x 355 (depth) x 145 (high)mm, 24.0 x 14.5 x 5.7 inch

WEIGHT: 9Kg or 19.8lbs.

## MODEL-102 EXPANDER

### VCO (Voltage Controlled Oscillator)

Wave Form Selector (A, N, U, L), Frequency (10 ~ 10K Hz), Fine Tuning (1 oct.), Pulse Width Modulation Selector (Manual/ADSR/LFO), Pulse Width (5% ~ 50%), Ext. CV/S & H (1V/oct.), Selector (Ext. CV/S & H), LFO

JACKS: VCO Output (10Vp-p), VCO Sync. Input (Weak/Strong), Ext. CV Input

### RING MODULATOR

Selector (Ext. /LFO)  
 JACKS: Ext. Input (10Vp-p), Ring Modulator Output (10Vp-p)

### AUDIO MIXER

Level (VCO/Ring Modulator /Ext. Input)  
 JACK: Ext. input

### HIGH PASS FILTER

HPF Cutoff Frequency (10 ~ 10K Hz)

### VCF (Voltage Controlled Filter)

VCF Cutoff Frequency (20 ~ 20K Hz), Resonance, LFO/Ext. CV (1V/oct.), Selector (Ext. CV/LFO), Kybd. CV, ADSR  
 JACKS: Ext. CV Input, Check Point

### VCA (Voltage Controlled Amplifier)

Initial Gain, LFO, ADSR  
 JACK: Check Point

### ENVELOPE GENERATOR (ADSR)

Attack Time, Decay Time, Sustain Level, Release Time  
 JACKS: ADSR Output (+6.5V), Ext. Env. Input (+6.5V)

KYBD. GATE INPUT (From Model-101: +15V)

KYBD. CV INPUT (From Model-101: 1V/oct.)

### LFO (Low Frequency Oscillator)

LFO Frequency (0.15 ~ 25Hz), Wave Form Selector (N, U, L)

### SAMPLE AND HOLD

Sample Mode (Off, N, M, A, Ext. Input), Sample Time (0.6 ~ 125Hz), Output Lag  
 JACKS: S & H Output, Clock Output (+15V), Ext. Input (10Vp-p)

### INTERNAL MIXER

JACK: Input (6Vp-p max. Impedance: 50KΩ)

### AUDIO SIGNAL OUTPUT

JACKS: Output (High: 3Vp-p/Low: 0.3Vp-p)

### HEADPHONE OUTPUT

Level  
 JACK: Output (8Ω stereo headphones)

POWER CONSUMPTION: 10W max

DIMENSIONS: 610 (wide) x 155 (depth) x 305 (high)mm, 24.0 x 6.1 x 12.0 inch

WEIGHT: 7.5Kg or 16.5lbs.

## MODEL-103 MIXER

INPUTS (Mic: 15mV, Line-H: 75mV, Line-L: 0.775V)

OUTPUTS: Line Out (0.775V, 2-ch Stereo Out), Speaker Out (8Ω, 2.5W x 2), Phones Out (8Ω Stereo headphones)

### ECHO JACKS (To Echo, From Echo):

Input Selector (Mic, Line-H, Line-L), Input Volume, Pan-Pot, Effect Selector (Echo, Reverb), Effect Volume, Master Volume, Balance, Echo Volume, Reverb Volume, Effect Pan-Pot, Monitor Volume, VU METERS (Left/Right)

FREQUENCY RANGE: 20 ~ 25,000Hz

S/N: 60db

POWER CONSUMPTION: 25W

DIMENSIONS: 280 (wide) x 355 (depth) x 145 (high)mm, 11.0 x 14.0 x 5.7 inch

WEIGHT: 6.5Kg or 14.3lbs.

## MODEL-104 SEQUENCER

### CLOCK OSCILLATOR

Clock Rate (0.1 ~ 10Hz: x 1, 1 ~ 100Hz: x 10), Range (x 1, x 10), Gate Time (10 ~ 90%), Gate Time Indicator (On/Off)

JACK: Ext. CV

### MASTER CONTROLLER

KEYS: Start (Reset), Continue, Stop, step  
 JACKS: Ext. Start Trig Input (Threshold Level +5V), Ext. Continue Trig Input (Threshold Level +5V), Stop Trig Input (+15V), Ext. Step Trig Input (Threshold Level +5V)

### VOLTAGE PROGRAMMER

Registers (CH-A: 12 Steps, CH-B: 12 Steps), Range Switch (2.5V, 5V, 10V)

### OUTPUTS:

JACKS: Gate Output (+15V), Series Output, Parallel Output (CH-A: 2, CH-B: 2)

POWER CONSUMPTION: 5W max

DIMENSIONS: 280 (wide) x 355 (depth) x 145 (high)mm, 11.0 x 14.0 x 5.7 inch

WEIGHT: 5Kg or 11lbs.

## MODEL-109 MONITOR SPEAKER

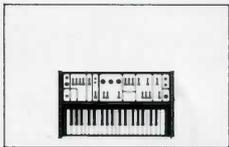
SPEAKER (16-cm full range/3.5W 8Ω): 1

DIMENSIONS: 280 (wide) x 155 (depth) x 305 (high)mm, 11.0 x 6.1 x 12 inch

WEIGHT: 3Kg or 6.6lbs.

Specifications are subject to change without notice.

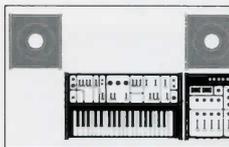
## Building your own studio the System 100 way



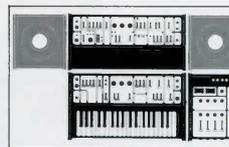
**101**  
 With 101 you have an independent synthesizer which can be used for recording or stage performances.



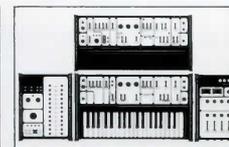
**101 + 102**  
 This combination gives you full 2-channel sound for greater sound depth and variety.



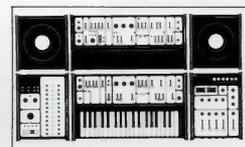
**101 + 103 + (109)**  
 Add the mixer (and 109 speakers) and all you need is a recorder for a complete basic stereo recording studio.



**101 + 102 + 103 + (109)**  
 With this arrangement, you have virtually all you need to make first class recordings at home.



**101 + 102 + 103 + 104**  
 With the sequencer, you have more versatility and control over programming synthesizer tapes.



**101 + 102 + 103 + 104 + 109**  
 With a complete System 100 studio, you have all you need to make your own recordings.

