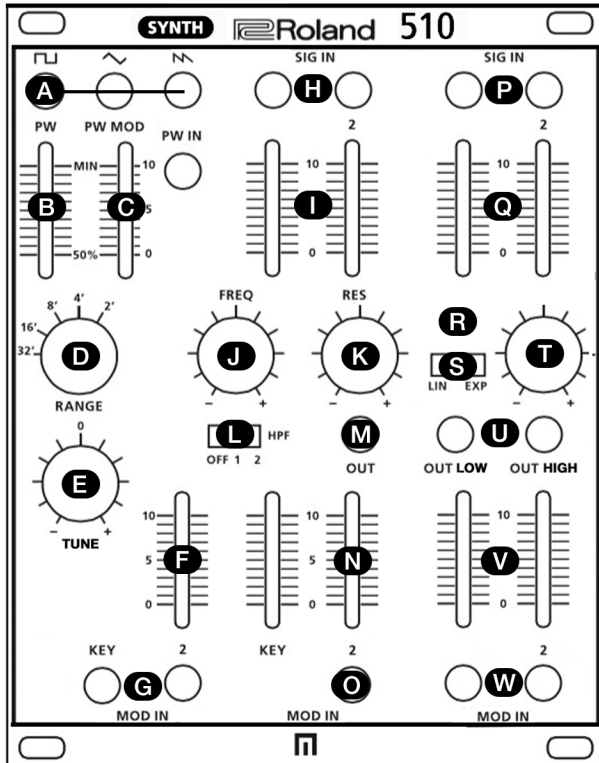


# ROLAND SYSTEM-500 MODULE 510

## SYNTHESIZER VOICE

The 510 is a three-in-one module with three functions: VCO, VCF, and VCA. Several of the jacks are internally patched, allowing you to create sounds with minimal patching. You can defeat the internal patching by inserting plugs into the jacks.



### A VCO OUT

These jacks output the signal from each VCO (pulse wave, triangle wave, sawtooth wave)

### B PW

Specifies the pulse width (the ratio between the upper and lower portions of the pulse wave).

\* For a symmetrical square wave, set the slider to the "50%" position.

### C PW MOD

Adjusts the depth of pulse width modulation based on the voltage that is input from the PW IN jack.

### D RANGE

Switches the pitch range of the VCO. You can switch the range up or down in one-octave steps in a five-octave range from 32' to 2'.

## SPECIFICATIONS

### CONTROLLERS

#### VCO

PULSE WIDTH SLIDER  
PWM SLIDER  
SIGNAL IN 3 SLIDER  
MODULATION IN 2 SLIDER  
RANG

#### VCF

TUNE  
SIGNAL IN 1 SLIDER  
SIGNAL IN 2 SLIDER  
KEY IN SLIDER  
MODULATION IN 2 SLIDER  
HPF SWITCH

#### VCA

FREQUENCY KNOB  
RESONANCE KNOB  
SIGNAL IN 1 SLIDER  
SIGNAL IN 2 SLIDER  
MODULATION IN 1 SLIDER  
MODULATION IN 2 SLIDER  
LINER/EXPONENTIAL SWITCH

### INDICATORS

INITIAL KNOB  
LOAD INDICATOR  
OVERLOAD INDICATOR  
SQUARE WAVE JACK  
TRIANGLE WAVE JACK  
SAW WAVE JACK

### CONNECTORS

#### VCO

\* If you set this to the 8' position and apply a voltage of 2V to MOD IN KEY, the middle C pitch is produced.

### E TUNE

Makes fine adjustments to the VCO range.

### F CV 2 ATTENUATOR

Adjusts the depth of pulse width modulation based on the voltage

### G MOD IN KEY/2

Adjusts the level of the voltage that is input from the MOD IN 2 jack.

### H VCF SIG IN

These jacks input audio signals.

### I VCF SIG IN LEVEL CONTROL

These sliders adjust the level of the signals that are input from the SIG IN jacks.

### J VCF FREQ

Adjusts the cutoff frequency of the filter.

\* Setting this to a low value lowers the cutoff frequency, so that the high-frequency portion of the signal does not pass through. Setting this to a high value raises the cutoff frequency, so that the input signal is output without change.

### K VCF RES

Boosts the frequency components in the region of the cutoff frequency.

\* By raising the resonance you can make the VCF oscillate. You can use this as an audio source for sound effects, or use KYBD CV to control the VCF and play pitches from the keyboard.

### L VCF HPF

Adjusts the cutoff frequency of the High Pass Filter.

\* At the OFF setting, the original waveform passes through without change. As you raise the setting

to 1 or 2, the cutoff frequency rises, allowing only the high-frequency portion of the signal to pass through.

### M VCF OUT

These are output jacks. These jacks output the signal from the VCF.

### N VCF CV IN ATTENUATOR

This slider adjusts the gain of the voltage that is input from the MOD IN KEY/2 jacks.

### O VCF MOD IN KEY/2

These jacks input a voltage that controls the VCF color.

### P VCA SIG IN

These jacks input audio signals.

### Q VCA SIG IN LEVEL CONTROL

These sliders adjust the level of the signals that are input from the SIG IN jacks.

### R INDICATORS

These indicate the state of the output signal (load: green, overload: red).

### S LIN/EXP CONTROL MODE

Specifies whether the control voltage and setting of the INITIAL knob affects the audio signal linearly or exponentially.

### T INITIAL

Adjusts the VCA's initial gain (the gain when there is no control voltage at all).

\* If you are using only a control voltage to control the VCA, use this knob to specify the initial gain appropriately for the LIN/EXP control mode setting: 0 (for LIN) or in the region of 1 (for EXP).

### U OUTPUT LOW/HIGH

These are output jacks. These jacks output the signal from each VCA. The OUT LOW jack outputs a lower-level signal than the OUT HIGH jack.

### V VCA CV INPUT ATTENUATOR

These sliders adjust the gain of the voltages that are input from the MOD IN 1/2 jacks.

### W VCA MOD IN 1/2

These jacks input voltages that control the VCA.

### PULSE WIDTH IN

KEY IN JACK  
MODULATION IN 2 JACK  
SIGNAL IN 1 JACK  
SIGNAL IN 2 JACK  
OUT JACK

#### VCF

KEY IN JACK  
MODULATION IN 2 JACK  
SIGNAL IN 1 JACK  
SIGNAL IN 2 JACK  
OUT LOW JACK  
OUT HIGH JACK

#### VCA

MODULATION IN 1 JACK  
MODULATION IN 2 JACK  
SIGNAL IN 1 JACK  
SIGNAL IN 2 JACK  
OUT LOW JACK  
OUT HIGH JACK

#### POWER SUPPLY

#### CURRENT DRAW

#### ACCESSORIES

OWNER'S MANUAL  
LEAFLET "USING THE UNIT SAFELY"  
EURORACK INSTALLATION SCREWS  
EURORACK POWER CABLE

# ROLAND SYSTEM-500 MODULE 510

## SYNTHESIZER VOICE

### INTERNAL PATCHING

**1 - SQUARE WAVE & VCF SIG IN 1**  
IF NO PLUG IS INSERTED IN VCF SIG IN 1,  
IT IS PATCHED TO A SQUARE WAVE.

**2 - VCF OUT & VCA SIG IN 1**  
IF NO PLUG IS INSERTED IN VCA SIG IN 1,  
IT IS PATCHED TO VCF OUT.

\* IF A PLUG IS INSERTED IN VCF OUT,  
IT IS NOT PATCHED TO VCA SIG IN 1.

**3 - VCF MOD IN 2 & VCA MOD IN 1**  
IF NO PLUG IS INSERTED IN VCA MOD IN 1,  
IT IS PATCHED TO VCF MOD IN 2.

