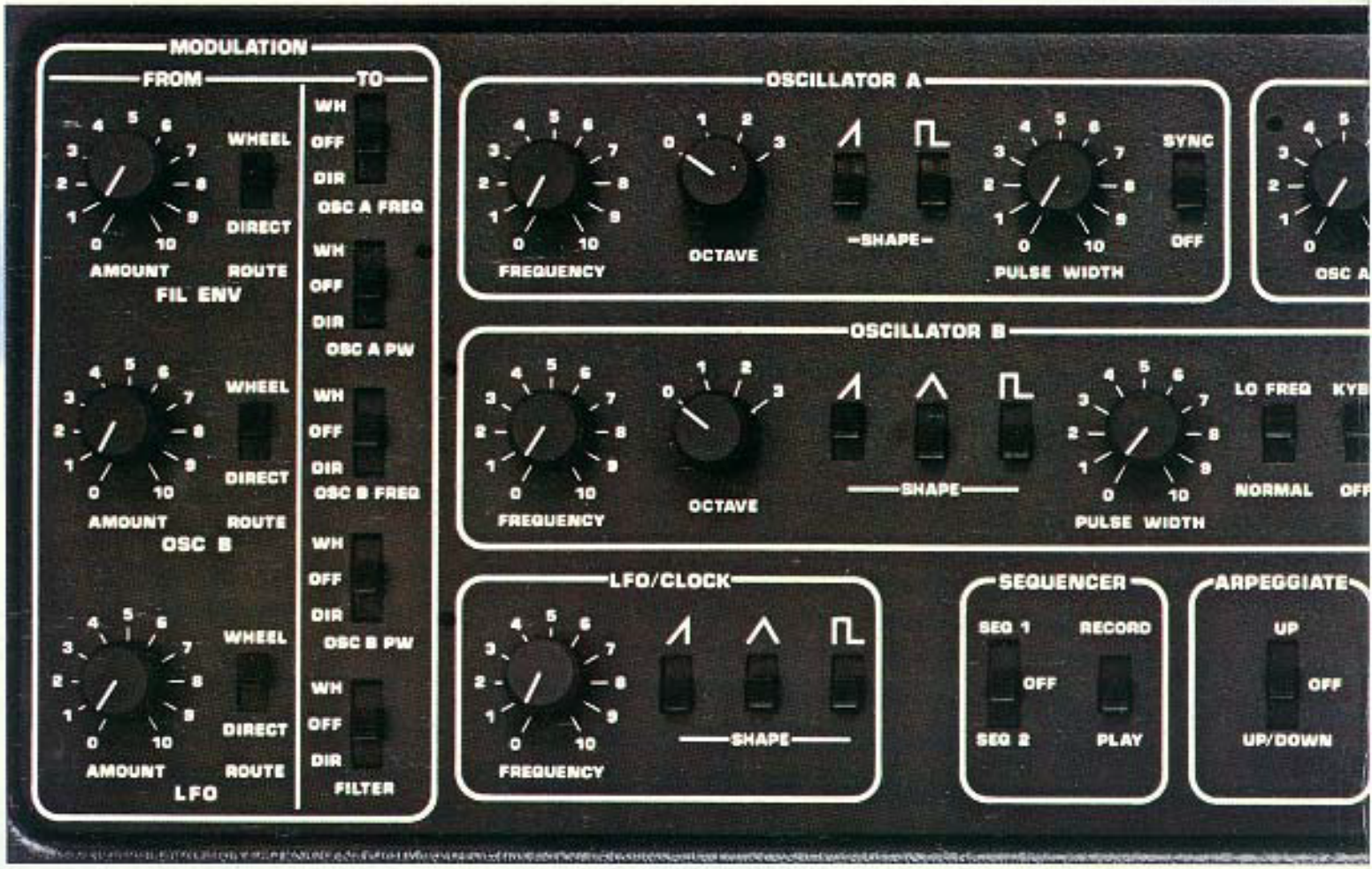
The Pro-One Spec Sheet

SEQUENTIAL CIRCUITS INC

The Pro-One is designed and manufactured by Sequential Circuits, Inc., producers of the legendary Prophet-5 and Prophet-10. It is a monophonic synthesizer with the same voice electronics (and therefore the same sound) as its big brothers. Musicians no longer have to compromise versatility and quality when they purchase a low-cost instrument.



Modulation Section

The Pro-One's modulation facilities allow two different paths of modulation at any one time—one routed DIRECT and the other routed through the mod WHEEL. There are three sources available, and they are fully mixable and assignable.

FIL ENV, OSC B, and LFO AMOUNT knobs determine the amount of modulation mixed into the WHEEL or DIRECT paths by the adjacent ROUTE switches.

Each source routed DIRECT is mixed and applied directly to the selected destination, while those routed WHEEL are mixed and then sent to the mod wheel which determines the level of modulation.

OSC A FREQ, OSC A PW, OSC B FREQ, OSC B PW, and FILTER switches select the WHEEL or DIRECT modulation path (or neither) for each destination.

As can be seen, all destinations could be controlled by the same source, or different combinations could be used (double modulation).

Oscillator Sections

The controls in these sections determine the oscillator frequencies and the output waveshapes sent to the MIXER and MODULATION sections.

FREQUENCY knob. Varies frequency continuously over a 1-octave range.

OCTAVE switch. Transposes over a 4-octave range.

SHAPE switch. Mixes the corresponding waveshapes at full level into oscillator output.

PULSE WIDTH knob. Determines pulse wave duty cycle (0% to 100%).

SYNC switch (A only). Forces oscillator A to follow oscillator B in hard synchronization.

LO FREQ switch (B only). Extends oscillator B range to sub-audio frequencies.

KYBD switch (B only). Allows keyboard control or independent operation of oscillator B.

Mixer Section

OSC A and OSC B knobs. Determine the amount of each oscillator signal input to the low-pass filter.

NOISE/EXT knob. Determines the amount of white noise to mix into the filter. When the external audio input is used on the rear panel, the noise is bypassed, and this knob determines the amount of external signal to mix into the filter.

LFO/Clock Section

The controls in this section determine the frequency and output waveshape of the Pro-One's low frequency oscillator which is then routed as a modulation source via the MODULATION section.

FREQUENCY knob. Varies LFO/CLOCK frequency over a range of .1 to 30 Hertz.

SHAPE switch. Mixes the corresponding waveshape at full level into the LFO output.

The LFO/CLOCK is also used as the clock for the sequencer and arpeggiator.

Glide Section

RATE knob. Determines the rate of glide (portamento) between notes.

AUTO/NORMAL switch. In NORMAL, the glide acts in the traditional manner. In AUTO, the keyboard will glide *only* when a new key is hit with the previous key still held. This enables complex "tuned" pitch bending with one hand.

Sequencer Section

SEQ1/OFF/SEQ2 switch. Selects either sequence one or two, or disables the sequencer if OFF. A total of 40 notes can be split in any combination between the two sequences.

The Pro-One has all the standard features you would expect from a mono synth. However, the Pro-One goes well beyond standard by including a sequencer, arpeggiator, automatic glide, digital interface, and numerous other features unheard of on a low-cost unit.

RECORD/PLAY switch. Selects whether to record a new sequence or to play back a previously recorded sequence as selected on the SEQ1/OFF/SEQ2 switch. To record a sequence, simply play the series of notes on the keyboard, inserting rests by switching momentarily from record to play. On playback, the sequence can be transposed up or down by simply hitting a key on the keyboard. The LFO/CLOCK FREQUENCY knob controls the speed of playback.

Arpeggiate Section

The arpeggiator will sequence between any held keys in either an UP or UP/DOWN direction as selected by the switch. The LFO/CLOCK determines the speed. Also, by flipping the RECORD switch while arpeggiating, the Pro-One will "latch" and remember which keys are being held, so that you can take your hands off the keyboard. The contents of the sequencer are unaffected.

Mode Section

RETRIG/NORMAL switch. Selects one of two keyboard triggering modes. NORMAL provides low-note priority, with retriggering only occurring when all keys are released prior to hitting the next key. RETRIG will retrigger the envelopes and play the last key hit regardless of relative keyboard position.

REPEAT/EXT/NORMAL switch. Enables the envelopes to be constantly retriggered (by the LFO/CLOCK) allowing repeated notes. This switch will also enable the external gate input on the rear panel, which overrides the LFO/CLOCK when used.

DRONE/OFF switch. Opens the envelopes allowing endless drones without holding a key.

GATE lamp will turn on whenever a gate is present—this aids in adjusting the audio gate generator as well as clarifying normal operation.

Filter Section

CUTOFF knob. Determines the cutoff frequency for the Pro-One's 24 db/octave (4 pole) low-pass filter.

RESONANCE knob. Determines the amount of resonance of the filter. When fully clockwise the filter will oscillate in a sine wave.

KEYBOARD AMOUNT knob. Determines the amount of keyboard voltage that will affect the filter cutoff frequency.

ENVELOPE AMOUNT knob. Determines the amount of ADSR filter envelope that will control the cutoff frequency.

ATTACK knob. Varies attack time from 2 milliseconds to more than 10 seconds.

DECAY knob. Varies decay time from 2 milliseconds to more than 10 seconds.

SUSTAIN knob. Varies sustain level from 0 to peak level.

RELEASE knob. Varies release time from 2 milliseconds to more than 20 seconds.

Amplifier Section

The ATTACK, DECAY, SUSTAIN and RELEASE knobs in this section determine the envelope applied to the amplifier in the same manner as the corresponding controls in the FILTER section.

MASTER TUNE knob. Simultaneously varies the frequency of both oscillators to enable tuning with other instruments.

VOLUME knob. Determines the overall output level.

Back Panel Functions

LINE VOLTAGE switch. Allows for different AC voltage levels.
POWER switch. Turns the Pro-One's power on.
AUDIO OUT jack. A stereo jack that can be used as a mono or stereo line-level audio output. It can also drive stereo headphones directly.
AUDIO IN jack. Allows external audio signals to be mixed and processed in the Pro-One.
There is an automatic "gate generator" which will trigger the envelopes (and can advance the sequencer and arpeggiator) when the audio in reaches the trigger threshold.
FILTER CV IN. Provides control access to the filter for pedals, etc.
GATE OUT. Follows the current gate status– it can also be used to tie several Pro-Ones together for polyphonic sequences.
CV OUT. Follows the current key (or sequence note) being played. It is calibrated at the industry standard 1 volt/octave.
GATE/CLK IN. Provides for external gating of the Pro-One. This input is also used as an external clock on the sequencer and arpeggiator.
CV IN. Provides for external control of the oscillators at 1 volt/octave.

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