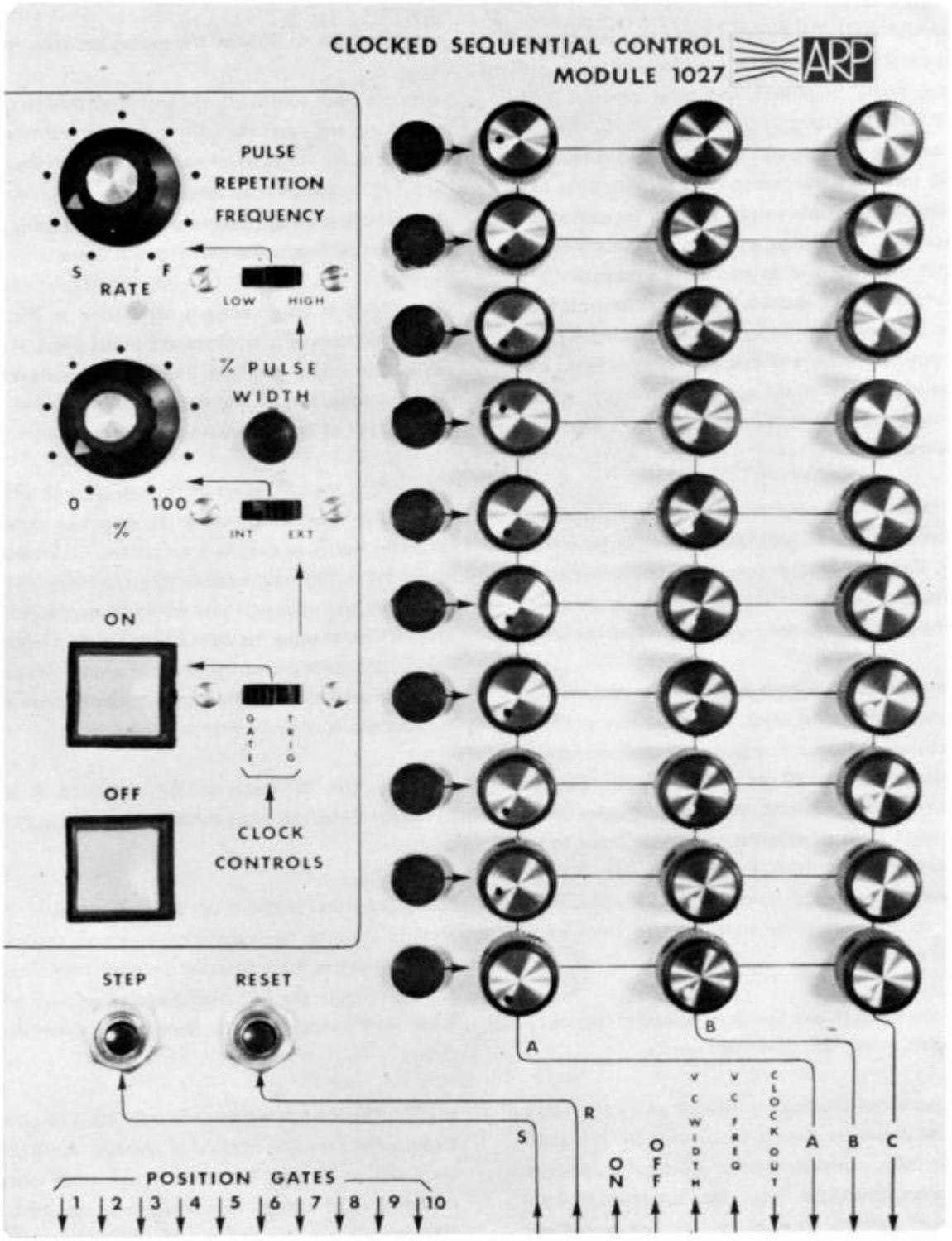
CLOCKED SEQUENTIAL CONTROL
MODULE 1027
ARP
PULSE
REPETITION
FREQUENCY
S
F
RATE
LOW
HIGH
% PULSE
WIDTH
0
100
%
INT
EXT
ON
OFF
GATE
TRIG
CLOCK
CONTROLS
STEP
RESET
A
B
R
S
ON
OFF
VC WIDTH
VC FREQ
CLOCK OUT
A
B
C
POSITION GATES
1
2
3
4
5
6
7
8
9
10

ACTUAL SIZE

MODULE 1027
SEQUENCER
PAGE 2 OF 3

The ARP 1027 Ten-Position Sequencer is a compact sequential voltage generator used for controlling oscillators, filters, amplifiers, and other modules in the ARP Series 2000 Synthesizers. The ARP 1027 Sequencer contains an integrated circuit ten-step counter and three rows of potentiometers to provide three independently adjustable voltage outputs for each step of the counter. In addition, a built-in time base generator allows the sequencer to step along automatically. A variety of inputs, outputs, and panel controls facilitates the execution of complex sequencing patterns, rhythmic patterns, and external control. When used at switching rates in the audio spectrum, the sequencer can generate complex waveforms by stepwise approximations.

The three voltage outputs, A, B, and C, are shown on the panel with their associated column of potentiometers. Each row of three potentiometers is adjacent to an indicator light which displays the sequencer count, and hence the three potentiometers which are active.

Illuminated push button switches are used to start and stop the internal clock. A control labeled “Pulse Repetition Frequency” adjusts the stepping rate of the sequencer from 20 per minute to 400 per second in two ranges. In addition, the clock frequency can be controlled from an external source; an input to the sequencer labeled “V.C. Freq.” is provided for this purpose. This external control voltage is added internally to the voltage generated by the front panel “rate” control.

The internal clock can be turned on and off by applying pulses to the “on” and “off” inputs.

The sequencer produces a 10 volt gate pulse every time the sequencer steps to a new position. The width of this pulse, normally used for controlling envelope generators, amplifiers, filters, etc, is controlled from the front panel or from an external voltage and can vary from 5% to 95% of the period between steps.

With the clock turned off, the sequencer may be stepped along and reset manually using the front panel push buttons. An external voltage applied to the “S” and “R” inputs will accomplish the same functions. Complex sequential patterns are generated using the “S” and “R” inputs and the “Position Gates”.

The “Position Gate” outputs correspond to the ten lamps and rows of potentiometers on the panel. A position gate output goes from 0 volts to +10 volts when the sequencer reaches the step which corresponds to the number of the “Position Gate” output.

Connecting the “R” input of the sequencer to a “Position Gate” output will cause the sequencer to reset when the sequencer reaches that position. For instance, if one wished the sequencer to count to five and then reset, the sixth position gate would be connected to the “R” input using the matrix switches. The sequencer would actually count to six, but would remain in the sixth position for only a microsecond before the counter was reset to the first position.

Similarly, the “S” input can be connected to any “Position Gates” to cause the sequencer to skip those positions.

Cable jacks are provided on the back panel of the Module 1027 to facilitate connections to the ARP 1028 Sequencer Slave Module, the ARP 1026 Preset Voltage Module, the ARP 1050 Sequential Mixer, and other ARP modules in the Series 2000 synthesizer family.

NOTE: This module requires one ARP 4001 Negative Exponential Function Module or one ARP 4003 Linear Function Module. The factory will install either module free of charge. Unless otherwise specified, a 4001 module will be supplied with each unit.

ELECTRICAL SPECIFICATIONS

OUTPUT IMPEDANCES:	1 Kohm all outputs.
INPUT IMPEDANCES:	100 Kohms minimum, all inputs.
INPUT SENSITIVITY:	“S”, “R”, “ON”, “OFF” inputs, +8.0 volts.
	“V.C. Width”, “V.C. Freq.” inputs, 0 - 10 volts.
PULSE REPETITION FREQUENCY:	20 pulses/minute to 400 pulses/second, without external control
POWER REQUIREMENTS:	+15 volts @ 150 ma, regulated to ± 0.1%.
	-15 volts @ 75 ma, regulated to ± 0.1%.
	+12 to +15 volts @ 100 ma, unregulated.