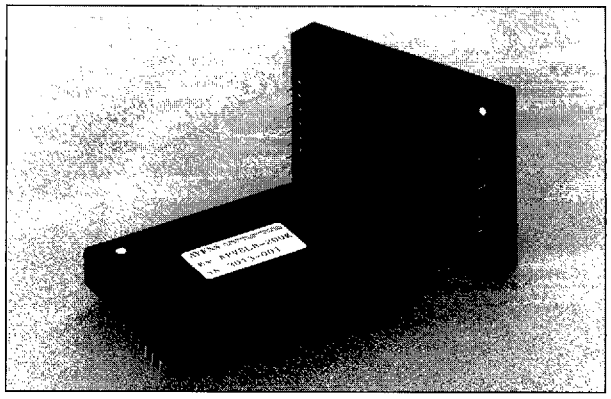
Variable Frequency Voltage-Control

APV series are best used in recovering or eliminating unknown signal or band of signals by sweeping the cut-off up and down continuously from 0.01 Hz to 100k Hz. It is a basic building block in automation and time sharing signal processing.



Features include:

❒ CUSTOMER SPECIFIED PARAMETERS
Customer defines passband, stopband, roll-off rate, response, & gain.

❒ NO SET-UP, NO ENGINEERING CHARGE
No additional cost besides unit price.

❒ HIGH PRECISION
± 1% accuracy in -3 dB frequency.

❒ ANALOG ACTIVE FILTER
RC active filter.
Not switch-capacitor filter.

❒ COMPLETELY ASSEMBLED
Fully Finished module.
No external component required.

❒ FREQUENCY RANGE
0.01 Hz to 100 kHz

❒ 4 STANDARD RESPONSES
Butterworth, Bessel, Chebyshev, & Elliptic.

❒ SUPPORT ALL FILTER FUNCTIONS
Lowpass, Highpass, Bandpass, & Band-reject.

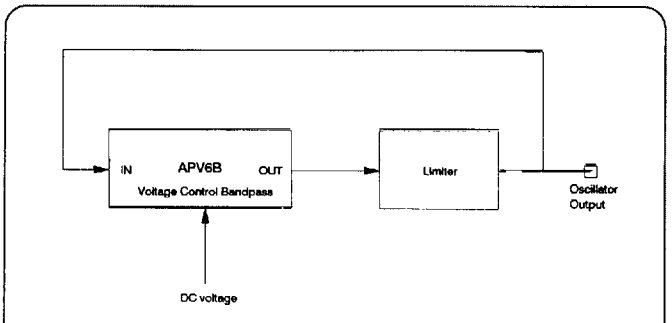
❒ STABLE OUTPUT
Unity gain output. Amplification available.

❒ IDEAL FUNCTION BLOCK
High input impedance. Low output impedance.

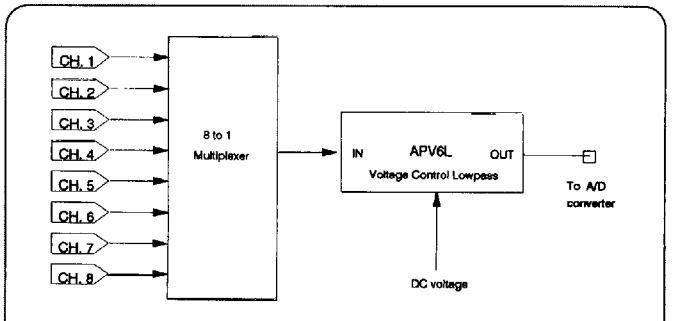
❒ COMPENSATED DC OFFSET
Internal DC offset < 2 mV. External adjustable to 0.0.

❒ BUILT-IN DECOUPLING
Internal power supply decoupling.

Suggested Applications



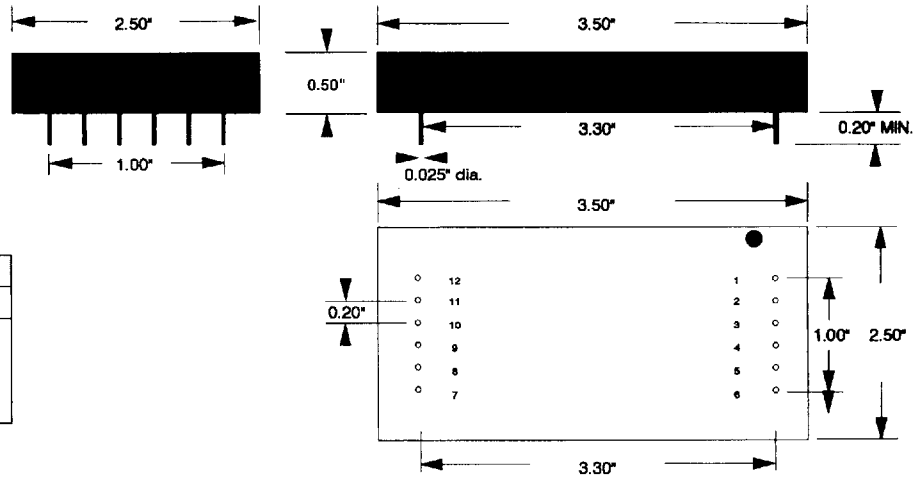
VOLTAGE CONTROLLED OSCILLATOR



MULTI-CHANNEL A/D ANTI-ALASING FILTER

Servicing R & D – University – Educational

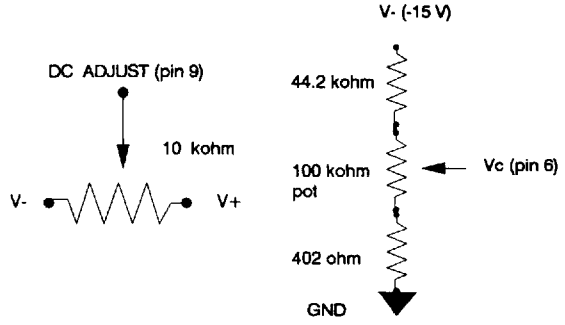
Case Style and Outline Dimensions



BOTTOM VIEW (white dot on pin 1)

FREQUENCY SELECTION

Vc (control voltage)				
A1	A0	0.1V.	1.0V.	10.0V.
0	0	0.1 Hz	1.0 Hz	10 Hz
0	1	10 Hz	100 Hz	1 kHz
1	0	1 kHz	10 kHz	100 kHz
1	1	1 kHz	10 kHz	100 kHz



PIN ASSIGNMENT

PIN NO.	MODEL: APV
1	A0*
2	A1*
3	Filter Input
4	Gnd
5	V+
6	Vc

PIN NO.	MODEL: APV
7	Gnd
8	V-
9	DC Adjust
10	Filter Output
11	N/C
12	N/C

* A0, A1 are CMOS TTL compatible logic * N/C: No connection

Specifications

ELECTRICAL CHARACTERISTICS

(Supply = ±15V., Load = 10 kΩ, Temp. = 25° C)

Frequency Tuning Limits	0.1 Hz. to 100 KHz.
Frequency Ratio	1:100
Frequency Stability	0.01%/°C
Frequency Accuracy	± 2%
Poles	8 (48 dB/octave) also available 4 pole 24 dB/octave 6 pole 36 dB/octave
Gain	± 0.2 dB, non-inverting
Control Voltage Range	± 13 volts
Noise	150 microvolts rms DC-100 KHz.
Input Impedance	> 1 MΩ
Output Impedance	less than 1 ohm
Max. Signal Level	± 10 volts
Max. Load	2500 ohms
Power Supply	± 15 volts @ 45 mA low power option available
DC Offset	10 mV maximum, adjustable externally to 0 mV
Operating Temperature	0°C to 60°C

MECHANICAL CHARACTERISTICS

Dimensions	3.5" x 2.5" x 0.5"
Pins	0.025" diameter

OPTIONS

Suffix	Description
L –	Low power consumption (20mA)
I –	Industrial temp. range (-25° C to 85° C)
M –	Military temp. range (-55° C to 125° C)
A1 –	10x amplification
A2 –	100x amplification
A3 –	1000x amplification
D –	Differential Input

PART NUMBER SYSTEM (Typical part numbering example shown below)

APV – L – 8 – E – 10K – I – L – A1

- A1: Gain Option (see option)
- L: Low power Option (see option)
- I: Temperature Range Option (see option)
- 10K: –3 dB Frequency (specified by customer)
- E: Response: B=Butterworth, L=Bessel, C=Chebyshev, E=Elliptic
- 8: Filter order: 8th order
- L: Filter type: L = Low Pass, H = Highpass, B = Bandpass, R = Band-reject
- APV: Model Number (see selection)

Typical Frequency Response Curves Available
(See Back of Catalog)

800-394-5407 • 718-827-5991 • Fax 718-235-9805

AVENS
SIGNAL EQUIPMENT CORP