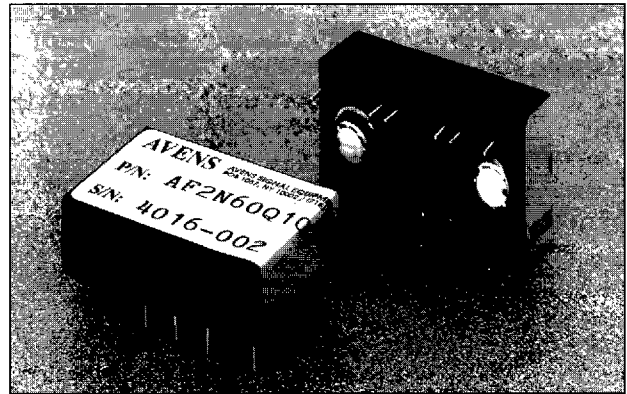


FIXED FILTER MODULES

Miniature Precision Active/Bandpass/Band-Reject

This active notch filter is particularly useful for rejecting unwanted line frequencies such as 50, 60, 100, 120 or 400 Hz within sharply defined limits. Applications are in such diversified areas as communications, telemetry, control, analog computers or sensitive chemical measurements. Carrier frequencies can be eliminated where passive filters would affect waveform. In Biological and Medical recording equipment, this filter will eliminate 60 or 50 cycle noise signals in EEGs, ECGs, EMGs and EGGs without signal distortion such as would occur with passive filters. At 60 and 50 Hz the rejection bandwidth can be narrowed to 1 Hz.



Features include:

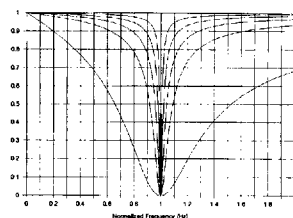
- ☐ **60 CYCLES (60Hz) POWER NOISE REJECTION**
Up to 60 dB attenuation.
Q = 10 (10% - 3 db bandwidth).
Other frequency available (e.g. 50Hz)
- ☐ **2ND ORDER FILTER BLOCK**
Implement a 2nd order (biquad) stage.
Cascade to build higher order filter.
- ☐ **MULTI-FUNCTION OUTPUTS**
Simultaneous outputs : Lowpass,
Highpass, Bandpass & Bandreject
- ☐ **COMPLETELY ASSEMBLED**
Fully finished module.
No external component required.
- ☐ **BUILT-IN ADJUSTABLE PARAMETERS**
3 dB bandwidth, Notch frequency, center frequency,
DC offset.
- ☐ **IDEAL FUNCTION BLOCK**
High input impedance.
Low output impedance.
- ☐ **SYMMETRICAL RESPONSES**
Same roll-off rate on lower & upper band
- ☐ **STABLE OUTPUT**
Unity gain output.
Amplification available.
- ☐ **COMPENSATED DC OFFSET**
Internal DC offset < 2 mV.
External adjustable to 0.0.
- ☐ **BUILT-IN DECOUPLING**
Internal power supply decoupling.
- ☐ **LOW POWER CONSUMPTION**
1 mA of supply current per unit.

Suggested Applications and Ratings

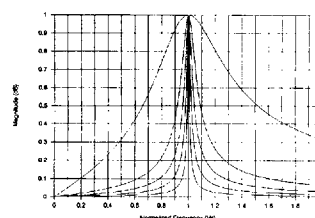
APPLICATIONS

- Phase correction
- Signal Conditioner
- Frequency selection
- Harmonic elimination
- 60 Hz/50Hz power noises rejection
- Audio Equalizer
- Speech Analysis

TYPICAL RESPONSE CURVES



Band Reject



Bandpass

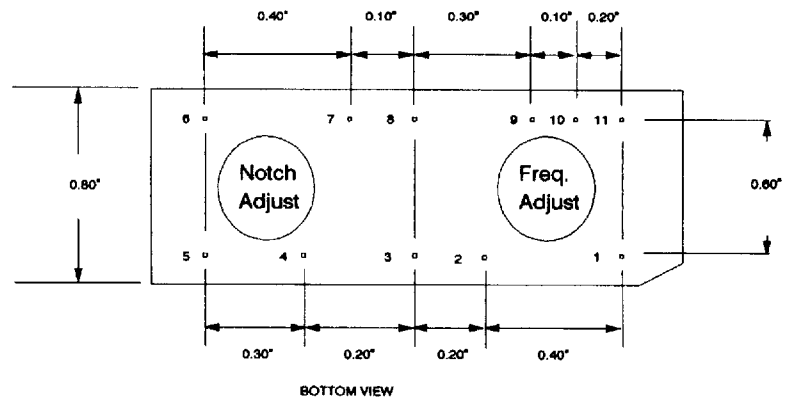
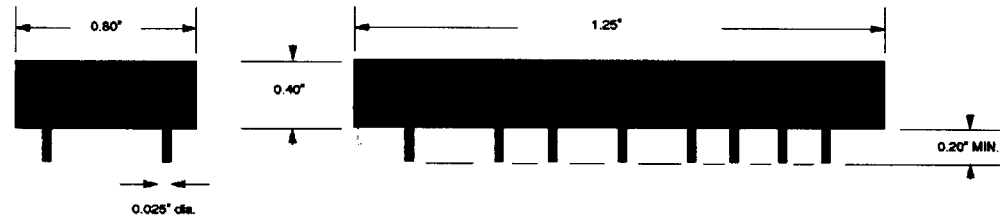
ABSOLUTE MAXIMUM RATING

Supply Voltage	± 15 V to ± 5 V
Input Voltage	± 12 V
Output Swing	± 12 V (2k load)
Dynamic Range	> 90 dB
Operating Temp.	
commercial	0° C to 70° C
industrial	- 25° C to 85° C
military	- 55° C to 125° C
Storage Temp.	- 65° C to 150° C
Max. Attenuation	> 60 dB

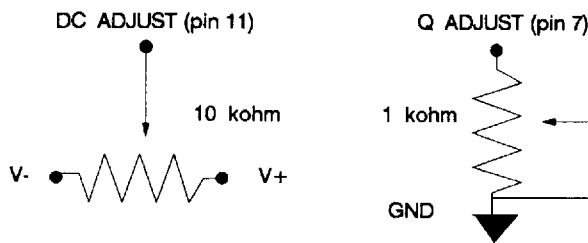
Case Style and Outline Dimensions

24 PIN DIP PACKAGE

PIN NO.	FUNCTION
1	No Connection
2	Highpass Output
3	V+ Supply
4	Bandpass Output
5	No Connection
6	Filter Input
7	Q Adjust
8	V-Supply
9	Band-reject Output
10	Ground & common of supply
11	DC Adjust



ADJUSTMENT CIRCUITS



Specifications

ELECTRICAL CHARACTERISTICS

(Supply = $\pm 15V$., Load = 10 k Ω , Temp. = 25° C)

Supply Current	10 mA/4th order
Input Impedance	> 500 kohm
Output Impedance	< 1 ohm (@ DC)
Cut-off Variation	$\pm 2\%$
Frequency Stability	0.01 % /°C
Unity Gain Output	0.0 dB
Max. Input Voltage	$\pm 12 V$.
Max. Output Voltage	$\pm 12 V$.
DC Offset	< $\pm 2mV$

MECHANICAL CHARACTERISTICS

Dimension	1.25" x 0.80" x 0.025"
Pin Diameter	0.025"
Materials	Glass Filled Thermoplastic Nylon
Socket	Standard 24 pin DIP Socket

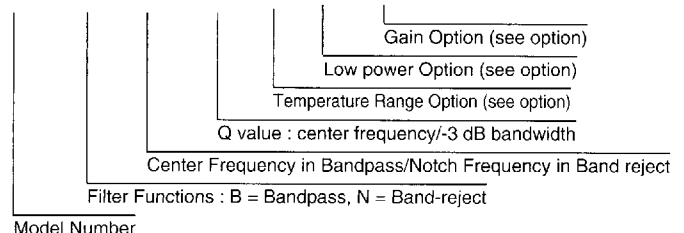
OPTIONS

Suffix	Description
L	Low power consumption (1mA)
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

PART NUMBER SYSTEM

(Typical part numbering example shown below)

AF2 - B - 60 - Q10 - I - L - A1



Typical Frequency Response Curves Available
(See Back of Catalog)

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

AVENS
SIGNAL EQUIPMENT CORP.

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