ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Frequency Devices VX8PFFA-8* at our website: *Click HERE*

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

FREQUENCY DEVICES™

8161

8 Bit Programmable 4-Pole Pair Filters

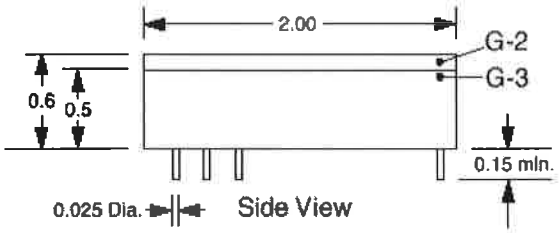
Band Reject

Description:

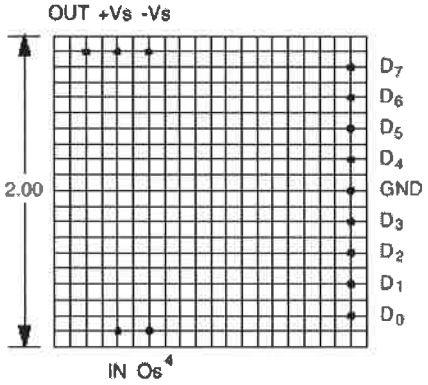
The 8161 is 4-pole-pair, 8-bit digitally programmable band-reject (notch) active filter with a "Q" of 10. The 8161 filter is factory tuned for frequencies from 100 Hz to 25.6 kHz in 100 Hz steps.

Pretuned to within ±2% of the center frequency, 8161 band-reject (notch) filters sharply attenuate those frequencies that are bound and defined by the bottom of the notch (min. 40 dB).

Pin-Out and Package Data



All dimensions are in inches
All Case Dimensions ± 0.02"
Grid Dimensions 0.1" x 0.1"



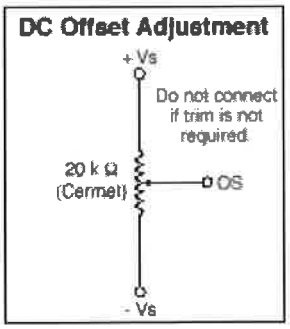
Bottom View

Specifications: (25°C and Vs ±15Vdc)

Analog Input Characteristics[1]	
Impedance	10 k Ω min.
Voltage Range	± 10 Vpeak
Max. Safe Voltage	±Vs
Analog Output Characteristics	
Impedance (Closed Loop)	1 Ω typ. 10 Ω max.
Linear Operating Range	±10V
Maximum Current[2]	±2 mA
Offset Voltage[3]	2 mV typ. 20 mV max.
Offset Temp. Coeff.	50 µV/°C
Power Supply (±V)	
Rated Voltage	±15 Vdc
Operating Range	±12 to ±18 Vdc
Maximum Safe Voltage	±18 Vdc
Quiescent Current	±25 mA typ. ±40 mA max.
Temperature	
Operating	0 to +70°C
Storage	-25 to +85°C

Notes:

1. Input and output signal voltage referenced to supply common.
2. Output is short circuit protected to common. DO NOT CONNECT TO ±Vs.
3. Adjustable to zero.
4. Units operate with or without offset pin connected.



25 Locust St., Haverhill, Massachusetts 01830 • Tel:800/252-7074, 978/374-0761 • FAX:978/521-1839
e-mail: sales@freqdev.com • Web Address: http://www.freqdev.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

FREQUENCY DEVICES™

8161

8-Bit Programmable 4 – Pole Pair Filters

Band-Reject

Model	8161
Product Specifications	Band-Reject
Size G-3	2.0" x 2.0" x 0.5"
Range f_o **256 steps @**	100 Hz to 25.6 kHz 100 Hz
Q Accuracy[1]	±10%
Theoretical Transfer Characteristics	Appendix A Pages 43
Notch Attenuation	Min 40 db.
Pass-Band Gain (non-inverting)	0± 0.25 dB typ. 0± 0.50 dB max.
Attenuation Rate	24 dB/octave
Center Frequency Stability	f_o ±2% max. ±0.01%/°C
Narrow Band Noise (20 Hz – 100 kHz)	100 μVrms typ.

1. Q – Quality Factor for band-reject filters. $Q = f_o/(f_H-f_L)$ $f_o = \sqrt{f_H f_L}$

We hope the information given here will be helpful. The information is based on data and our best knowledge, and we consider the information to be true and accurate. Please read all statements, recommendations or suggestions herein in conjunction with our conditions of sale which apply to all goods supplied by us. We assume no responsibility for the use of these statements, recommendations or suggestions, nor do we intend them as a recommendation for any use which would infringe any patent or copyright.

25 Locust St., Haverhill, Massachusetts 01830 • Tel:800/252-7074, 978/374-0761 • FAX:978/521-1839
e-mail: sales@freqdev.com • Web Address: http://www.freqdev.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

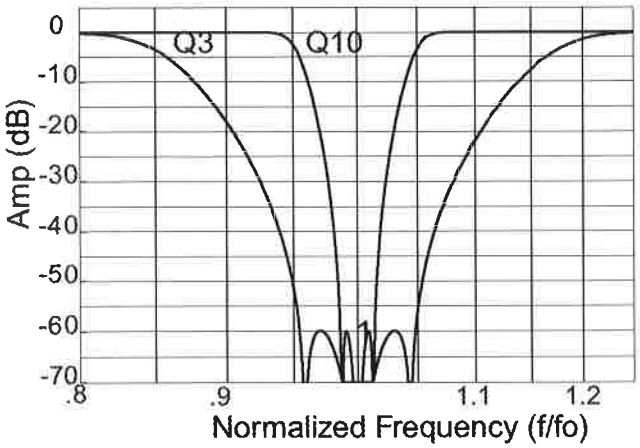
FREQUENCY DEVICES™, INC.

Band-Reject

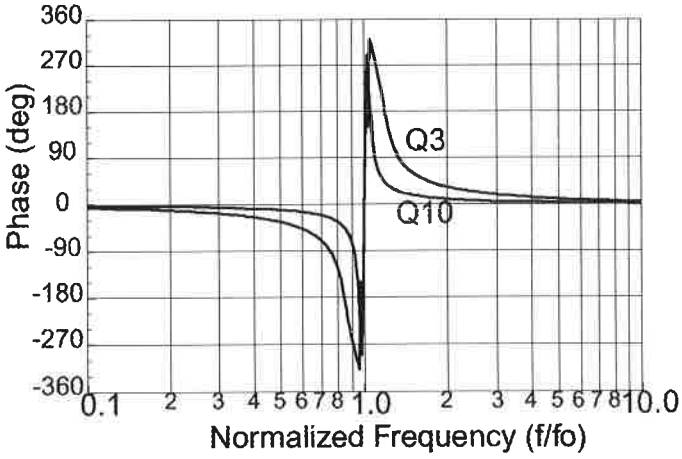
4-Pole Pair

Appendix A

Amplitude Response Curves



Phase Response Curves



Normalized Theoretical Amplitude Data

Amp (dB)	Q = 3		Q = 10	
	$f_L<f_O<f_H$		$f_L<f_O<f_H$	
	f/f_O	f/f_O	f/f_O	f/f_O
-0.10	0.799	1.251	0.935	1.069
-0.25	0.809	1.236	0.938	1.066
-0.50	0.818	1.223	0.941	1.062
-1.00	0.828	1.208	0.945	1.059
-1.50	0.835	1.198	0.947	1.056
-2.00	0.839	1.191	0.949	1.054
-2.50	0.844	1.185	0.95	1.053
-3.00	0.847	1.180	0.951	1.051
-5.00	0.858	1.165	0.955	1.047
-10.00	0.877	1.140	0.961	1.040
-15.00	0.892	1.121	0.966	1.035
-20.00	0.905	1.105	0.97	1.030
-25.00	0.916	1.092	0.974	1.027
-30.00	0.925	1.081	0.977	1.024
-35.00	0.933	1.072	0.979	1.021
-40.00	0.939	1.065	0.982	1.019
-45.00	0.945	1.059	0.983	1.017
-50.00	0.949	1.054	0.984	1.016
-55.00	0.952	1.050	0.985	1.015
-60.00	0.954	1.048	0.986	1.014

Normalized Theoretical Phase Data

Phase Mag (deg)	Q = 3		Q = 10	
	(-)	(+)	(-)	(+)
	f/f_O	f/f_O	f/f_O	f/f_O
1.0	0.020	49.66	0.067	14.88
2.5	0.050	19.91	0.164	6.087
5.0	0.100	10.03	0.306	3.268
10.0	0.194	5.160	0.504	1.985
15.0	0.279	3.590	0.621	1.609
20.0	0.352	2.838	0.696	1.437
25.0	0.416	2.405	0.746	1.340
30.0	0.470	2.129	0.783	1.278
35.0	0.515	1.940	0.810	1.235
40.0	0.555	1.803	0.831	1.204
45.0	0.588	1.700	0.848	1.180
50.0	0.617	1.620	0.861	1.161
60.0	0.664	1.505	0.882	1.133
70.0	0.701	1.427	0.897	1.115
80.0	0.729	1.372	0.909	1.101
90.0	0.752	1.330	0.917	1.090
120.0	0.797	1.255	0.934	1.071
150.0	0.824	1.214	0.943	1.060
180.0	0.844	1.185	0.950	1.052
210.0	0.862	1.160	0.957	1.045

25 Locust St., Haverhill, Massachusetts 01830 • Tel:800/252-7074, 978/374-0761 • FAX:978/521-1839
e-mail: sales@freqdev.com • Web Address: http://www.freqdev.com • Fax on Demand: 978/521-5178

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP