

# High Performance Switched Filter Banks



Available in Standard  
VITA 3U & 6U  
&  
Custom Hermetic  
Packages



# Q MICROWAVE, INC



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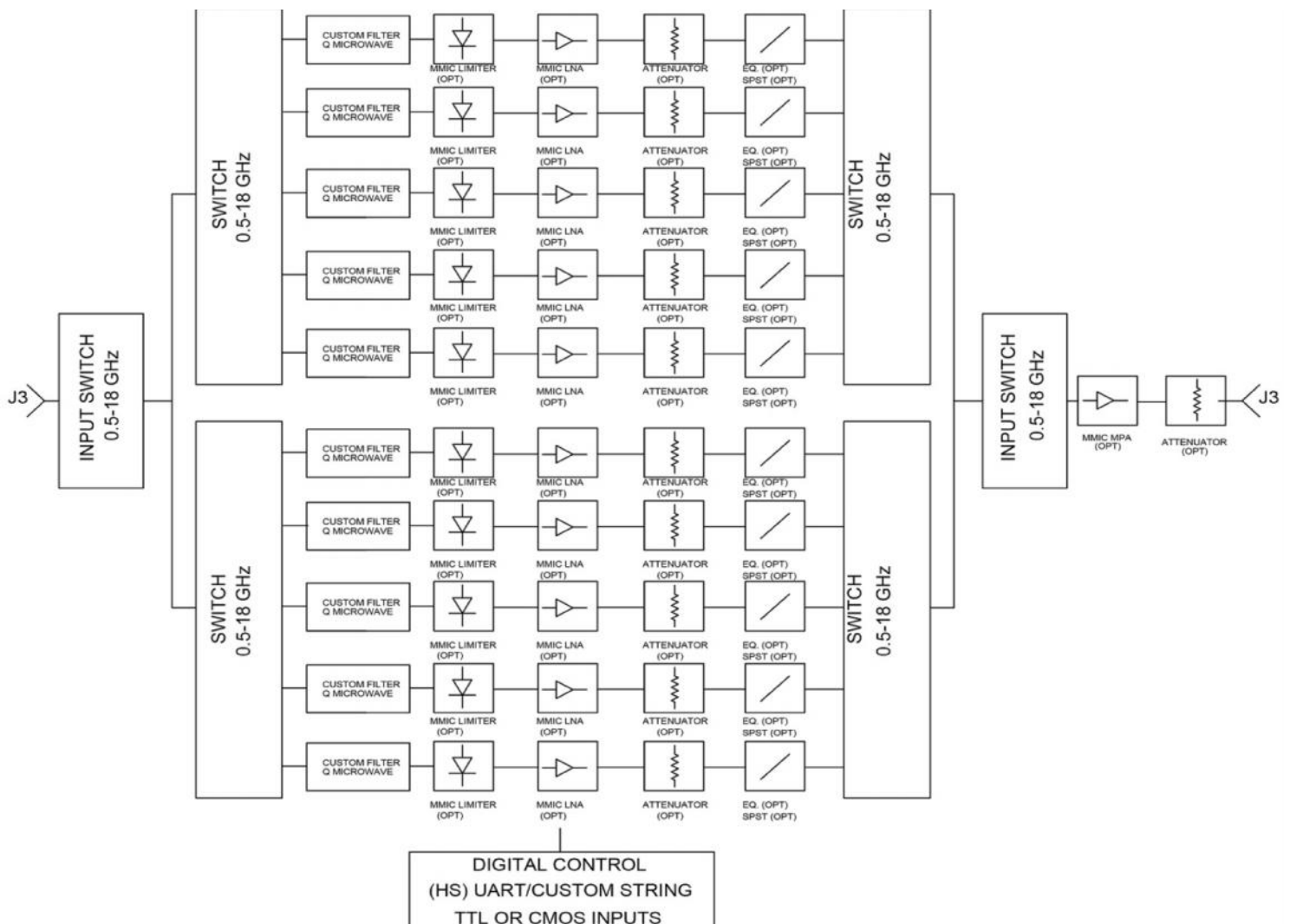
## 0.5 to 18 GHz RF Switch Filters in 3U and 6U to VITA 46 Specifications with Bandwidths from 1% to 100%

### Typical Applications

- ) Frequency Thinner
- ) Electronic Warfare Systems
- ) Radar Systems

### Features

- ) 0.5 to 18 GHz
- ) Switching < 100 ns
- ) Isolation >60 db
- ) Up to ten channels
- ) Voltage +/- 6 VDC
- ) Small Size
- ) Rugged Hermetic Package
- ) RF Connectors, SMA, GPO, GPPO, SMT, MICROSTRIP
- ) Filtering Implemented by Lumped Element, Combine, Ceramic &/or Printed Filters



Q Microwave 1591 Pioneer Way, El Cajon, CA 92020  
 Phone: 619-258-7322 E-mail: [Sales@qmicrowave.com](mailto:Sales@qmicrowave.com)



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## 0.5 to 18 GHz RF Switch Filters in 3U and 6U to VITA 46 Specifications with Bandwidths from 1% to 100%

Table 1: Electrical Specifications

Parameter	Min.	Typ.	Max.	Units
RF Input Frequency Range	0.5		18	GHz
VSWR	2.0:1	1.5:1		
Switching Speed		100		ns
Channel to Channel Isolation	50	60	70	dbc
Input Power	+10	+20	+34	dBm
Video Leakage		70		dBm
Video Transients		20		mVpp
Insertion Loss		6		dB
Group Delay Matching		2		ns
3 line Digital Switch Logic with Decoded CPLD or FPGA clock speed 200Mhz with RS232 or RS485		CMOS		
Gain Variation over Passband		1.0		dB
Filter Specifications bandwidth	1%	10%	100%	
Phase Noise		-150		dBc/Hz
Impulse Response n=6 Taylor weighting		40		dB

### General Description

Q Microwave's Switch filters are designed for filters centered between 0.5 and 18 GHz, with bandwidth from 1% to 100%.

This module is configured to use TTL or CMOS logic inputs in order to provide a higher degree of flexibility and customized applications.

Digital control is provided through a Micro-D connector , DC pins or VITA 46.0

The unit is packaged in a rugged housing with hermetical seals and internal potting in order to provide higher reliability in difficult environments.

**All specifications are customizable upon request.** For more information, please contact: [sales@qmicrowave.com](mailto:sales@qmicrowave.com)

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**Table 2: Typical 5 Channel RF Switch Filter Specifications**

Band	Fc (MHz)	1.5 dB BW (MHz)	Lower Rejection		Upper Rejection	
			dB	MHz	dB	MHz
RF1	1550	500 - 2600	50	20 - 400	50 40	2990 - 11000 11000 - 18000
RF2	3740	2380 - 5100	50	20 - 2050	50 40	5840 - 11000 11000 - 18000
RF3	6490	4880 - 8100	50	20 - 4250	50	9260 - 18000
RF4	9990	7880 - 12100	50	20 - 6750	50	13820 - 18000
RF5	14940	11880 - 18000	50	20 - 10350	40	at 24000

**Table 3: Typical 5 Channel IF Switch Filter Specifications**

Band	Fc (MHz)	1.5 dB BW (MHz)	Lower Rejection		Upper Rejection	
			dB	MHz	dB	MHz
IF1	3610	3120 - 4100	50	20 - 2700	50	4700 - 13000
IF2	4343	3865 - 4820	50	20 - 3330	50	5560 - 13000
IF3	6625	6150 - 7100	50	20 - 5300	50	8125 - 13000
IF4	7363	6900 - 7825	50	20 - 6000	50	8980 - 13000
Anti-Alias	1200	950 - 1450	50	20 - 800	50	2050 - 15000

**Table 4: Typical 10 Channel S Band Switch Filter Specifications**

Band	Fc (MHz)	1.0 dB BW (MHz)	Lower Rejection		Upper Rejection	
			dB	MHz	dB	MHz
CH 1	2950	2900 - 3000	50	20 - 2700	50	3200 - 18000
CH 2	3050	3000 - 3100	50	20 - 2800	50	3300 - 18000
CH 3	3150	3100 - 3200	50	20 - 2900	50	3400 - 18000
CH 4	3250	3200 - 3300	50	20 - 3000	50	3500 - 18000
CH 5	3350	3300 - 3400	50	20 - 3100	50	3600 - 18000
CH 6	3450	3400 - 3500	50	20 - 3200	50	3700 - 18000
CH 7	3550	3500 - 3600	50	20 - 3300	50	3800 - 18000
CH 8	3650	3600 - 3700	50	20 - 3400	50	3900 - 18000
CH 9	3750	3700 - 3800	50	20 - 3500	50	4000 - 18000
Ch 10	3850	3800 - 3900	50	20 - 3600	50	4100 - 18000