

## Missile Guidance Systems Improved with IF SAW Filters

*Semi-standard and custom solutions used to aid target accuracy*

APITech's SAW IF filters are the ideal solution for missile guidance systems that use the IF chain to communicate with ground systems to home in on a target. A missile's target accuracy is a critical function in warfare, and guidance systems play a major role in helping shoot down a moving or fixed target. But guidance systems require proven technologies, including intermediate frequency (IF) SAW filters, to counter natural disturbances and enemy countermeasures that can limit mission-critical accuracy.

Our SAW IF filters can be deployed in a wide range of intermediate frequencies for channel selection, and offer the requisite size, low-power consumption and stable performance demanded. Working together, these enable target accuracy.

*APITech's stabilization process locks center frequency performance to within 0.0005% of the desired value*

### Design & Manufacture

Spectrum Control has its own in-house, state-of-the-art SAW wafer fab technology and SAW design-simulation software, where engineers build high-performance SAW solutions that feature minimal group-delay variation and low insertion loss. The advantage of using SAW technology is that filters can be designed substantially smaller because they are designed with mechanical resonances.

Spectrum Control also can manufacture SAW products on a certified MIL-PRF-38534 Class H & K line with Class 10,000 clean rooms and the capability to certify, screen and test to the most rigorous of industry standards.



*Spectrum Control SAW Filters have an exceptional low group delay*



### Product Details

APITech's design library consists of filters from 20 MHz up to 2600 MHz, in semi-standard and custom solutions.

Our customized test equipment is driven by in-house development software that electrically tests each SAW filter for critical parameters, including center frequency, insertion loss, bandwidth, and rejection. We perform Hermetic seam sealing that also maintains environmental integrity to pass the rigors of MIL-STD-883 Method 1014 Conditions A & C for both gross and fine leak detection.

- Insertion loss as low as 1.2 dB
- Shape factors below 1.01:1
- Ultra-flat group delay as low as 8 ns part to part
- Pre-aged at 100 C to lock center frequency within 0.0005% (quartz only)
- Certified to ISO 9001:2001 and AS9100-B
- Quality control system compliant to AS9100-B