



Stick together

Digital communication means digital RF tunable filters



Increase SINGARS range; increase personnel safety

The Single Channel Ground and Airborne Radio System (SINGARS) connects US and allied ground and air forces with nearly 500,000 radios in service around the world. As a software defined radio (SDR), upgrades for new capabilities are nearly free, often just a software revision. But sometimes you need a bit more.

Handhelds and manpack radios have limited range to keep down battery weight. Yet if plugged into a Vehicle Adapter Amplifier (VAA), the same handheld can now reach 40 km or more. And with the new Capability Set 14 tools, it's easier to identify and communicate with your teammates and allies. Digitally tuned frequency hopping filters within the VAA dynamically manage the RF spectrum for clear, secure information, enhancing safety for all.

Available in multiple frequency ranges and pin compatible with Pole Zero's MiniPole† series, MtronPTI's TF010x series offers lower insertion loss, low IP3 distortion and flat passband ripple to make the most of dynamic digital RF modulation schemes. Nearly fifty years of high performance filter design and manufacturing – right down to custom designed and tuned coils – helps you get the extra km from your radio communication, when it counts most.

About MtronPTI

MtronPTI offers a wide range of custom precision frequency control and data timing including: RF and microwave filters – crystal, cavity, lumped element, digital and analog tunable and low noise / harsh environment oscillators – crystal, TCXO, VCXO, OCXO, GPS and IEEE-1588 locked.

Vertically integrated with complete control of basic material science and manufacturing, MtronPTI provides high reliability high performance Internet data timing, public safety and Mil/Aero communication and control, lab and field instrumentation and energy management applications.

One-on-one technical relationships, extensive characterization, and long term application support make MtronPTI the first choice to reduce risk and lower costs on your next digital RF project.



TF0103 30-90 MHz Low Loss Digitally Tuned Filter

The TF0103 provides 250 tuning steps of 240 kHz each with 25 μ s switching. More importantly, the TF0103 increases receiver sensitivity with a much lower 3.6 dB passband insertion loss than older designs.

Power handling in-band is 1.25 Watts (+31 dBm CW) with an IP3 of +45 dBm minimum; out of band power can be up to 5 Watts (+37 dBm CW) @ $\pm 10\%$ off the tuned frequency.

MtronPTI uses an AS9100 REV C and ISO 9001:2008 quality management system in the design and manufacture of the TF0103.

Applications

Defense: manpack, vehicle, air or ship borne UHF analog or software defined radios (SDR)

Features

Tuning frequency F_{COM}	30 MHz to 90 MHz, 250 steps
Passband insertion loss	≤ 3.6 dB
Passband @ 3 dB	$F_{SIG} \pm 200$ kHz
Passband variation (peak to valley)	≤ 0.3 dB
Package	2.3" x 1.1" x 0.6", 42 pin thru-hole sealed enclosure

Product page

<http://www.mtronpti.com/products/Filter/Bandpass/TF0103-Digitally-Tunable-LC-Filter>

Photo courtesy: US Marine Corps, by Cpl. Kowshon Ye
† MiniPole is a trademark of Pole/Zero Corporation

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MtronPTI may change specifications without notice to improve end application performance or product manufacturability.
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Please contact MtronPTI for latest information.