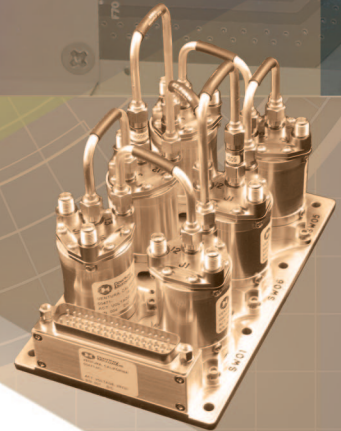


# TAKING COMMAND THROUGH THE

**DEVELOPMENT  
OF INTEGRATED  
MICROWAVE  
SOLUTIONS**

**SERVING THE SPACE, AEROSPACE,  
DEFENSE, AND COMMERCIAL MARKETS**





## SUBSYSTEMS



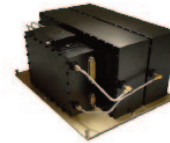
INTEGRATED  
COSITE  
EQUIPMENT



LEGACY  
MULTICOUPLER



LTE/WIFI  
TEST BOX



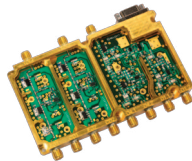
DOWN CONVERTER  
W/ LNA



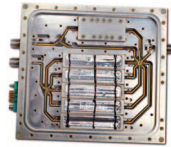
TEST  
SYSTEMS



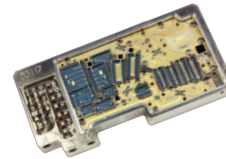
## INTEGRATED MICROWAVE ASSEMBLIES (IMAS)



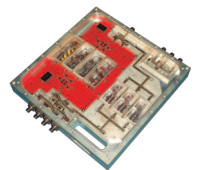
SIGNAL DISTRIBUTION  
UNIT



18 GHz IMA



2-18 GHz  
SWITCHED FILTER BANKS



7-CHANNEL

## FILTERS



SURFACE  
MOUNT



TUNABLE



CO-AXIAL  
CONNECTORIZED

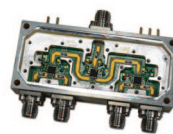


WAVEGUIDE

## SWITCHES



SURFACE  
MOUNT



PIN DIODE



COAXIAL



WAVEGUIDE

MICROWAVE PRODUCTS GROUP (MPG) OFFERS CUSTOM AND STANDARD DESIGNS SUPPORTING SOME OF TODAY'S MOST CHALLENGING AEROSPACE, MILITARY, COMMERCIAL, AND SPACE APPLICATIONS.

### CERTIFICATIONS

DOMINICAN REPUBLIC  
ISO 9001:2008

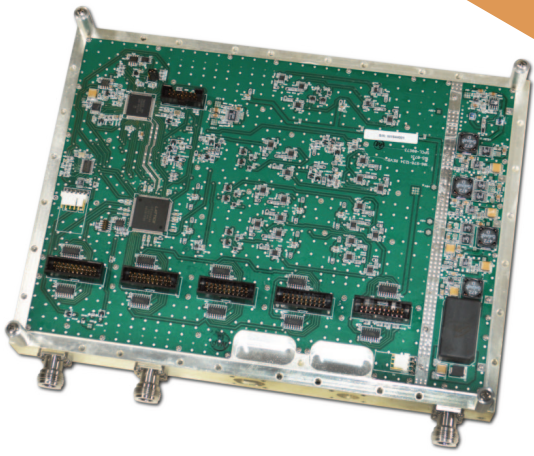
WEST CHESTER  
AS9100

SALISBURY  
AS9100

YORK  
ISO 9001:2015  
ISO 14001:2015

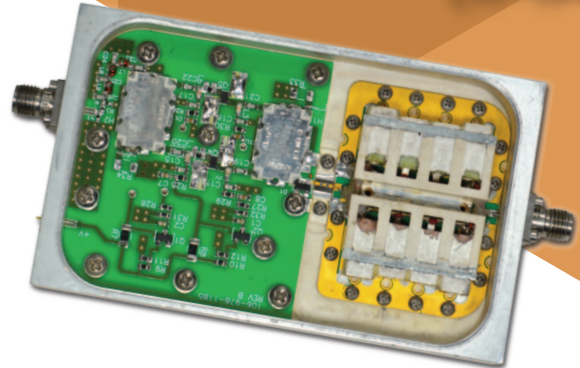
VENTURA  
AS9100

# INTEGRATED MICROWAVE ASSEMBLIES (IMAS)



## 4 Band, 2-18 GHz Amplified Switched-Multiplexer

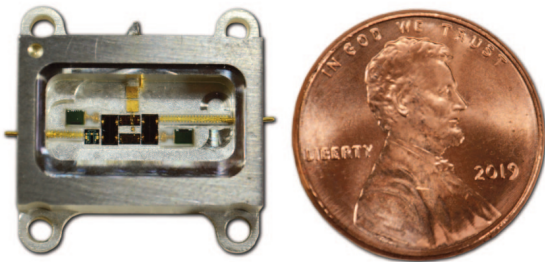
Provides receivers with ability to selectively reject intentional and unintentional interferers to preserve receiver sensitivity.



## Pre-Filtered GPS LNA

4-Pole pre-filtered response with limiter and < 3 dB noise figure.

## INNOVATION IN DESIGN



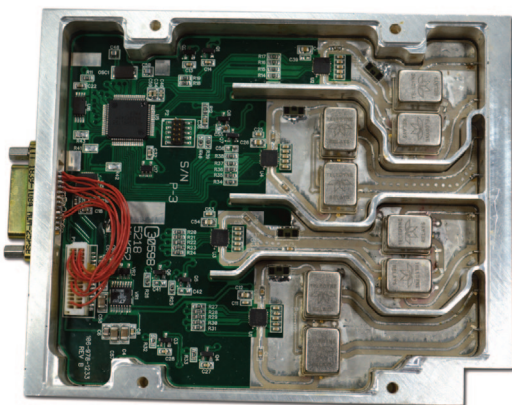
## Low Noise Amplifier

Miniaturized low noise amplifiers for high reliability applications.



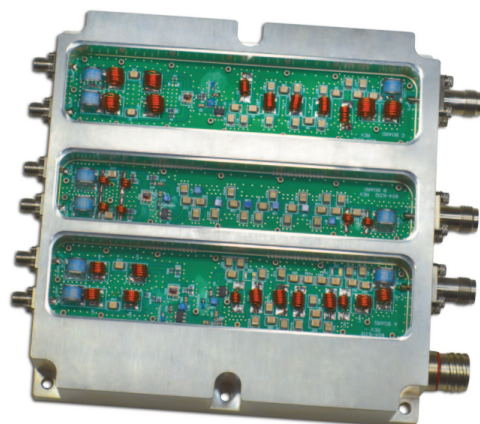
## Space Matrix T-Switch Assembly

DC-22 GHz low loss switch assembly



## Digital Attenuator with Low-Loss Bypass

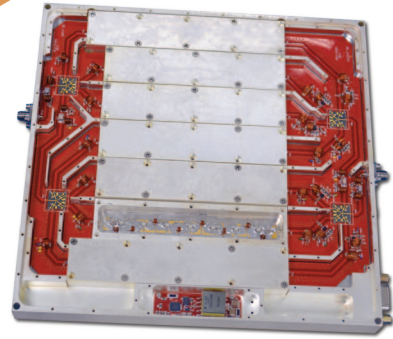
4 independent paths, 45 dB digital attenuator with ultra low-loss bypass up to 5000 MHz.



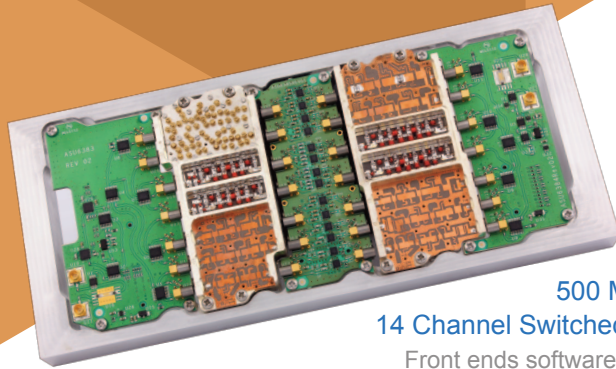
## Pre-Filtered LNA with Dual-Outputs

3 independent pre-filtered LNA's with embedded lightning protection for high-performance jet aircraft application.

# INTEGRATED MICROWAVE ASSEMBLIES (IMAS)

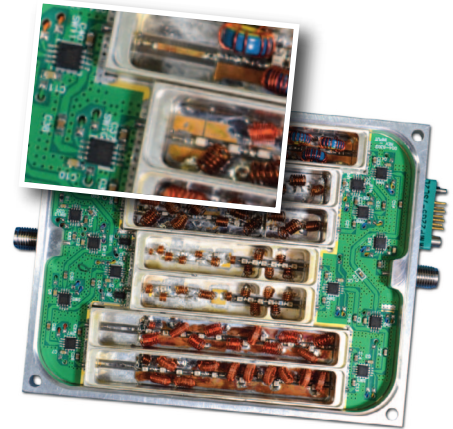
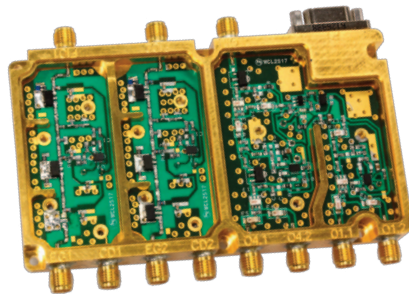


**High Power Switched Filter Banks**  
100W+ VHF/UHF Bands, 50W L Band / S Band



**500 MHz - 3 GHz  
14 Channel Switched Filter Bank**  
Front ends software defined radio  
Tx & Rx functions Dynamic range  
adjustment gain control

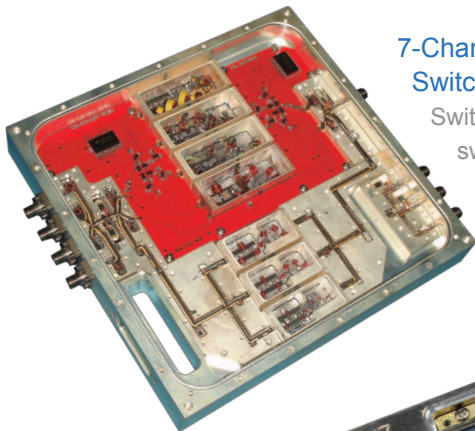
**6-18 GHz , Radar Warning  
Receiver Building Block**  
for RF and local oscillator  
signal distribution



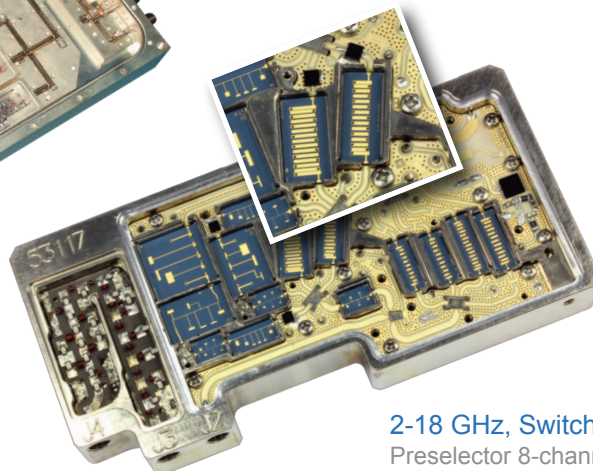
**7-Channel, Switched Filter Bank**  
42-4000 MHz switched filter bank with  
low in-band video leakage.

## RELIABLE. FASTER. MODULAR.

### NEXT GENERATION INTEGRATED MICROWAVE ASSEMBLIES



**7-Channel, 500-3000 MHz  
Switched Filter Bank**  
Switched Filter bank with embedded transfer  
switches and multiple inputs.

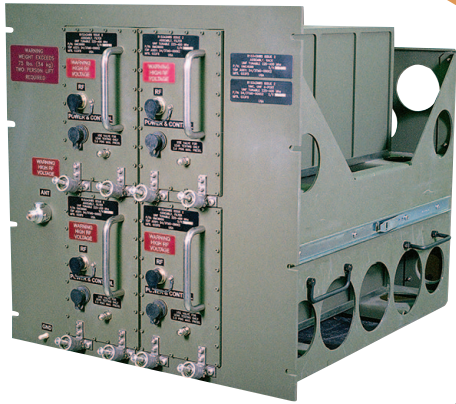


**2-18 GHz, Switched Filter Bank for ESM System**  
Preselector 8-channels 50n sec switch time.  
Built in test oscillator functionality and independent IF filter



**2-18 GHz, Preselector Reconfigurable  
Filter Bank for ESM receivers**  
8 independent switchable channels, allowing  
user to dynamically change the passband  
performance on a pulse by pulse basis.

# SUBSYSTEMS



## Tunable Multicoupler

- Basic 4 Port Multicoupler
- Enables 4 Transceivers to Share a Single Antenna
- 3 Pole Bandpass Filter
- 50 dB Isolation at 3 MHz Channel Spacing



## Custom Configured Switching Systems

Systems are fully controlled through controller modules with Windows based PC and removable hard drive.

MPG IS VERTICALLY INTEGRATED AND IS WELL-POSITIONED TO DEVELOP AND DELIVER CUSTOM SUBSYSTEM NEEDS. FROM ONE PIECE TEST SYSTEMS TO CUSTOM MILITARY APPLICATIONS, OUR TECHNICAL STAFF IS READY TO ENGAGE.



## Digitally Controlled Tunable Rack Assemblies

- Bandpass and Bandstop Options
- Tunable Center Frequency
- Tunable Bandwidth
- Tune over Multi-octave Ranges
- Suitable for LTE and WiFi Testing

## Switch Matrix Systems

- Electromechanical
- Solid State
- Non-Blocking
- Full Fan In/Out
- Highly Scalable and Modular
- Trouble-free Maintenance for Field Upgrades and Repair
- 1U/2U/3U/4U Rack Mountable Enclosures



# SUBSYSTEMS

# CONNECTING & PROTECTING IS WHAT WE DO



## ICE2004 Referenceless Canceller

Intelligently identifies interferer signals and cancels them. Highly integrated design with extensive digital signal processing (DSP) and RF manipulation. Ideal for SIGINT & COMINT applications, aboard ships and ISR aircraft, DF (direction finding) systems and other sensitive RF systems



## L-Band

4x48 Solid State Fan-Out Switch; 48x4 Solid State Fan-In Switch; 8x2 Electromechanical Switch; LCD Touch Screen; Ethernet with SNMP Protocol



## ICE5200 / ICE3009 VHF/UHF Filter/Amplifier

Multi-Band, High Power, High Selectivity Half Duplex Transmit and Receive Filter/Amplifier. Reduces broadband noise in transmit mode of operation and reduces interfering signals at the transceiver's RF input in receive mode. Supports SINCGARS, HAVEQUICK, SATURN waveforms. Optimized for SWaP-C

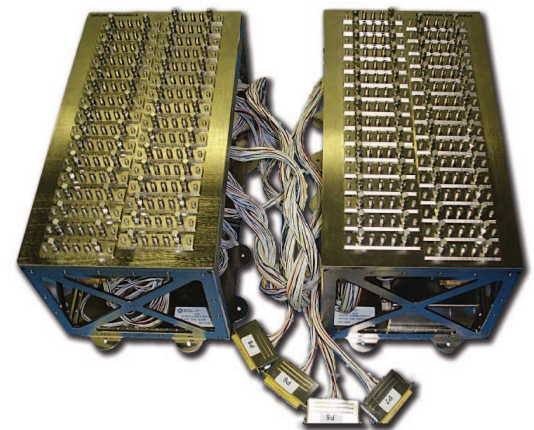


## Custom Configured Systems

- Switch Matrices
- Filters, Tunable or Fixed
- Attenuators
- Amplifiers

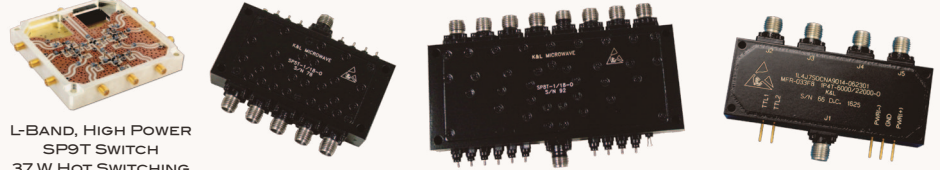


## Space Qualified Switch Matrices

- CANBus control
- 64 SPDT Switches
- Operation in Vacuum



# ADDITIONAL MPG PRODUCTS

<b>AGILE AND TUNABLE</b>	1 MHz  28 GHz 	 	BW = 2% MULTI-OCTAVE
<b>THIN FILM Q250-400</b>	2 GHz  18 GHz 		BW = 5% MULTI-OCTAVE
<b>LUMPED ELEMENT Q50-300</b>	300 KHZ  6 GHz 		BW = 1% MULTI-OCTAVE
<b>CERAMIC Q150-1,000</b>	500 MHz  5 GHz 		BW = 1 - 30%
<b>TUBULAR Q300-700</b>	20 MHz  20 GHz 		
<b>CAVITY Q500-30,000</b>	30 MHz  30 GHz 		BW = 0.2 - 100%
<b>SUSPENDED SUBSTRATE Q400-600</b>	500 MHz  50 GHz 		BW = 10% MULTI-OCTAVE
<b>WAVEGUIDE Q1,000-20,000</b>	1 GHz  100 GHz 		BW = 0.5 - 10%
<b>MULTIPLEXERS</b>			
<b>LUMPED ELEMENT CERAMIC CAVITY</b>	300 KHZ  100 GHz 		BW = 1% MULTI-OCTAVE

<p><b>SOLID STATE PIN DIODE</b></p> <p>100 MHz - 18 GHz, SPDT - SP8T SWITCHING SPEED: 100 &amp; 250 NSEC MAX. HIGH POWER OPTIONS AVAILABLE SPACE QUALIFIED OPTIONS AVAILABLE</p>	 <p>L-BAND, HIGH POWER SP9T SWITCH 37 W HOT SWITCHING</p>
<p><b>COAXIAL</b></p> <p>DC - 26.5 GHz, DC - 40 GHz SPDT, DPDT, SP3T-SPI4T3 ACTUATOR: FAILSAFE, NORMALLY OPEN, LATCHING SELF CUTOFF OPTIONS: INTERNAL OR EXTERNAL TERMINATIONS SPACE QUALIFIED OPTIONS AVAILABLE</p>	 <p>MINIATURE MECHANICAL AND RELIANT HIGH REPEATABILITY AVAILABLE</p>
<p><b>WAVEGUIDE</b></p> <p>WR62, WR75, WR90, WR112* SPTD &amp; DPDT LATCHING ACTUATOR *OTHER OPTIONS AVAILABLE SPACE QUALIFIED OPTIONS AVAILABLE</p>	
<p>SWITCHES ARE NORMALLY CONTROLLED VIA DC POWER, TTL, OR CANBUS MESSAGING; OTHER CONTROL MAY BE AVAILABLE UPON REQUEST.</p>	



Enabling Communication  
and Signal Control



MICROWAVE PRODUCTS GROUP UNIFIES THE HERITAGE,  
PRODUCT LEADERSHIP AND INNOVATION OF FOUR WORLD CLASS BRANDS  
TO ENABLE COMMUNICATION, PROVIDE SIGNAL CONTROL AND  
TAKE COMMAND ACROSS THE SPECTRUM

[WWW.DOVERMPG.COM](http://WWW.DOVERMPG.COM) • [SUPPORT@DOVERMPG.COM](mailto:SUPPORT@DOVERMPG.COM)