



**Solid State Switches**



**Detector Log Video Amplifiers**



**Solid State Variable Attenuators**



**Switch Assemblies**



**American Microwave Corporation**

AMERICAN MICROWAVE CORPORATION IS A LEADER IN THE DESIGN & MANUFACTURE OF DC TO 40 GHZ SOLID STATE CONTROL COMPONENTS.

**WWW.AMERICANMIC.COM**

## A BRIEF LOOK BACK...

Since it's founding in 1978 by Raymond L. Sicotte, American Microwave Corporation (AMC) has become a leader in the design and manufacture of DC to 40 GHz Solid State Control Components. AMC is dedicated to providing state-of-the-art technology as well as uniformly high quality microwave components and subsystems. AMC's vertically integrated manufacturing plant makes it possible to design, machine and manufacture microwave hardware; which means total technology, quality and schedule control on all prototype and production orders.

The first microwave switch, model SW-2184-A pulse modulator, was produced in 1981. Since then, AMC has produced hundreds of models of microwave solid state switches for both commercial and defense electronics market worldwide.

In 1986, AMC delivered its first electronically variable attenuator model AGH-8018-D and it has expanded the product line to include many high performance, multi-octave band models over the years. AMC began producing its Detector Logarithmic Video Amplifier (DLVA) Product line in

## QUALITY STANDARDS

- MIL-STD-454
- MIL-STD-202
- MIL-STD-883
- ISO-9001:2008
- IPC-A-610 Workmanship Standard
- IPC-J STD-001 Soldering Standard
- MIL-STD-45662 Calibration Standard
- Custom Tailored Screening is Available

1990 and has been a key supplier of these products to the Defense Electronics Industry since.

Throughout the years, AMC has developed custom assemblies incorporating a variety of functions including amplifiers, filters, couplers, and power dividers with attenuators and multi-throw switches. AMC's most recent product line development has been that of phase invariant attenuators. An example of this is the development of a new line of Digitally Controlled Phase Invariant Attenuators. The first product in the new line was an 8 to 18 GHz, 40 dB attenuation range model. Additional phase invariant attenuator products covering 1 to 18 GHz are available today.

## FACILITIES

### Three Buildings in Frederick, Maryland

1. MIC/MMIC Assembly & Clean Room, Test Lab, Engineering, Quality, Material Management, Customer Service & Sales
2. Administration, Human Resources & Finance
3. Machine Shop

1 Hass VF3 & 2 VFO - CNC Milling Machines Lathe, Manual Mill & Drill Press



**AMC's management is committed to adding the resources and technology necessary to keep our customer's needs the priority.**



**American Microwave  
Corporation**

## **PRODUCT OVERVIEW**

### **SOLID STATE SWITCHES**

- 100s of standard products
- Data Sheets and Outline Drawings available upon request and on website
- DC to 40 GHz
- Standard lead-time stock to 60 days
- All standard products are designed to meet MIL Std 202 (additional screening available)
- Nearly 1,000 custom variations or options are available with minimal impact to price or delivery
- SMT or connectorized

### **SOLID STATE VARIABLE ATTENUATORS**

- Standard products
- Data Sheets and Outline Drawings available upon request and on website
- 10 MHz to 18 GHz
- Broadband, Digital Linearized
- Current Controlled Non-Linear
- Designed to meet MIL Std 202 (additional screening available)
- Up to 8 Bit Digitally Controlled Resolution
- Analog Voltage Controlled Linearized
- Phase Invariant Attenuators

### **DETECTOR LOG VIDEO AMPLIFIERS (DLVAs)**

- Standard products
- Very repeatable, high quality designs
- Competitive with price and delivery
- Flexibility to support custom designs (RF, logic or mechanical specials welcome)
- CW immunity circuits available for all models

### **INTEGRATED ASSEMBLIES**

- Solid State Switch Technology
- Attenuators, couplers, modulators and phase shifter designs available
- In-house machine shop, MIC/MMIC clean room and 40 GHz Test capability
- Custom digital designs
- Experience putting the pieces together

**Need a Custom Switch, Attenuator, DLVA or Assembly?  
Contact [sales@americanmic.com](mailto:sales@americanmic.com)**

# SOLID STATE SWITCHES

A market leader in PIN Diode and GaAs MMIC switches, AMC offers the industries widest range of standard products and options. With a library of nearly 1000 available designs covering 10 MHz to 40GHz in configurations from SPST to SP48T, AMC has an existing solution for most applications. In addition, AMC welcomes the opportunity to work with customers on unique requirements for low loss, high isolation, phase matching, custom drivers, special testing and non-standard mechanical configurations.

	Frequency Range (GHz)	Model Number
SPST	DC-40 0.5-18	SWCH1K-DC40-SK SWN-2184-1DR/DT
SP2T	0.5-18	SWN-2DR/DT-STANDARD
SP3T	0.5-18 0.5-18	SWN-1140-3DR/DT-STANDARD MSN-3DR/DT-05-STANDARD
SP4T	0.5-18 0.5-18	SWN-1140-4DR/DT-STANDARD MSN-4DR/DT-05-STANDARD
SP5T	0.5-18 0.5-18	SWN-1140-5DR/DT-STANDARD MSN-5DR/DT-05-STANDARD
SP6T	0.5-18 0.5-18	SWN-1140-6DR/DT-STANDARD MSN-6DR/DT-05-STANDARD
SP7T	0.5-18 0.5-18	SWN-1140-7DR/DT-STANDARD MSN-7DR/DT-05-STANDARD
SP8T	0.5-18 0.5-18	MSN-8DR/DT-05-STANDARD MSR-8DR/DT-04-STANDARD
SP10T	0.5-18	MSN-10DR/DT-05-STANDARD
SP12T	0.5-18	MSN-12DR/DT-05-STANDARD
SP16T	0.5-18	MSN-16DR/DT-05-STANDARD
SP32T	0.5-18	MSN-32DR/DT-05-STANDARD



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## MEDIUM HIGH POWER SOLID STATE SWITCHES

AMC's expertise in Solid State Switches extends to medium power narrow and broadband designs. These switches are customer specific variations on standard and legacy designs operating at average power levels from 3 to 100 watts depending on frequency range and bandwidth. These are robust PIN diode switches with proven field reliability. Proprietary PIN diode architecture minimizes junction temperatures to assure long life under medium to high power conditions. Contact AMC with your requirements.

# SOLID STATE VARIABLE ATTENUATORS

AMC's Electronically Variable Attenuators are available in octave and multi-octave bandwidths to 18 GHz. These linearized voltage variable attenuators are programmable and have attenuation ranges from 30-120dB. While standard models are available from stock to 90 days, AMC welcomes special requirements.

	Frequency Range (GHz)	Model Number
<b>BROADBAND ATTENUATORS</b>	0.5-18	DVAT-0518-60-8-SK-193
	0.5-18	DVAT-0518-60-8-SK-196
	0.5-18	ADVAN-0518-15DD
<i>Very High Speed &lt;15nS</i>		

## OCTAVE BAND ATTENUATORS

1.2-2.0	G-DVAN-1020-60-8
2.0-4.0	DVAN-2040-60-8
2.5-5.0	DVAN-2550-60-8
4.0-8.0	DVAN-4080-60-8
5.0-10	DVAN-5010-60-8
6.0-12	DVAN-6012-60-8
8.0-18	DVAN-8018-60-8



# PHASE INVARIANT ATTENUATORS

AMC's Phase Invariant Digital Programmable Attenuator offers essentially constant phase, adjustable attenuation. The attenuator utilizes a unique double balanced arrangement of diodes and quadrature couplers to achieve the phase independent attenuation characteristics.

	Frequency Range (GHz)	Model Number
<b>BROADBAND ATTENUATORS</b>	1 to 2 Ghz	PI-DVAN-1020
	2 to 4 Ghz	PI-DVAN-2040
	4 to 8 Ghz	PI-DVAN-4080
	6 to 12 Ghz	PI-DVAN-6012
	8 to 18 Ghz	PI-DVAN-8018
	6 to 18 Ghz	PI-DVAN-6018



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# DETECTOR LOG AMPLIFIERS (DLVAs)

AMC's DLVAs are best known for their reliability. With years of legacy on MIL programs, the quality and repeatability of AMC designs are without peer. While standard models are available from stock to 90 days, AMC has the flexibility to support custom designs.

Frequency Range (GHz)

Model Number

2-18

LVD-218-50  
LVD-218-50-CW



2-18

LVD-218-70  
LVD-218-70-CW



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## CUSTOM & OBSOLETE PARTS

AMC has been very successful at assisting our customers with second sourcing efforts for RF/microwave components. AMC has designed, manufactured and delivered: FORM, FIT and FUNCTIONAL replacements to Switches, Attenuators, DLVAs, Phase Shifters, Modulators, and related assemblies. AMC can often meet all of the electrical, mechanical and environmental specifications of a Source Control Drawing.

# INTEGRATED ASSEMBLIES

## AMC PUTS THE PIECES TOGETHER

Solid State Switch  
Technology

In-House Designs  
for Attenuators, Couplers,  
Modulators & Phase Shifters



In-House Machine  
Shop, MIC/MMIC Lab &  
Custom Digital Designs

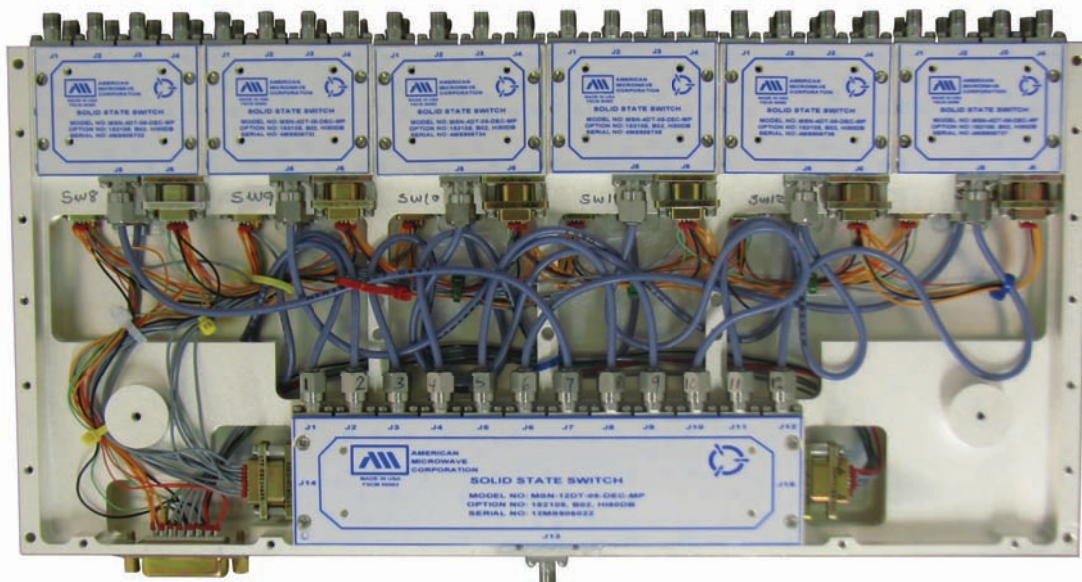
Established Relationships  
With Vendors for  
Amplifiers, Filters, Ferrites &  
Cable Assemblies

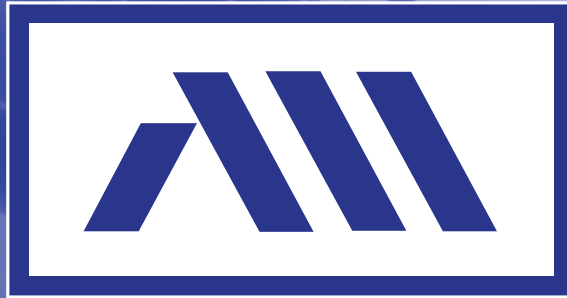
## AMC is a specialist in the integration of control products

- We work closely with our customer's engineering team
- Solid State Switch Technology
- Incorporating our own designs for couplers, modulators and phase shifters
- Maximize use of internal digital design capability and our own machine shop
- Leveraging established relationships with specialized vendors of:
  - amplifiers, isolators, limiters, filters and cable assemblies

## Examples of AMC's Integration Experience Includes:

RF Switching Amplifier Networks • Switch Assemblies/Switch Matrices  
Sector Summers • Switch Driver Assemblies





**American Microwave  
Corporation**

## **WHY AMERICAN?**

- **Standard Catalog Products**
- **Vertically Integrated Manufacturing**
- **Engineering Oriented Test Technicians**
- **Experience & Test Capability to 40 GHz**
- **Legacy Defense System Experience**
- **Quick Turn Production Capability**
- **Company Wide Emphasis on Quality**
- **“Customer First” Approach to Business**
- **State-of-the-Art Technology (Electrical & Mechanical)**