

# HIGH-POWER SOLID-STATE POWER AMPLIFIERS & CONTROL COMPONENTS



## MILITARY & COMMERCIAL APPLICATIONS

ELECTRONIC WARFARE  
COUNTER-IED  
COMMUNICATION JAMMING  
RADAR/ IFF

MEDICAL EQUIPMENT  
ACTIVE SCANNED ARRAYS  
SATCOM



## OVERVIEW

Stellant Power Systems Technology (PST), founded in 1987, designs and manufactures solid-state high-power amplifiers, RF microwave high-power control components and receiver protection products. Amplifier products operate to 18 GHz with output power levels to multi-kilowatts. Control components and receiver products operate to 40 GHz and multi-kilowatts power.

Our design and manufacturing strengths support high-quality, high-complexity designs to meet your every need. Our products are utilized in various military and commercial applications including Electronic Warfare, Radar/IFF, Military Communications, SATCOM, Medical Equipment, and EMI/EMC testing. All are designed to operate in airborne, ground, mobile, and severe military environments. product to offer. From stand alone amplifier modules to rack-mounted amplifier systems, to a wide array of high power (T/R and Multi-Throw) switches, limiters, requirements.

## STANDARD AND CUSTOM DESIGNS

Stellant PST's engineers will work with you to create a product that fits your system's needs using combinations of amplifier modules, switches, switched attenuators, filters, and limiters configured to fit your available space. By reducing the number of interconnections, the system designer saves SWaP as well as component count to improve reliability (at a lower cost).

Our commitment is to focus on designs that will meet customer requirements for reduced size without compromising performance. Employing our design methodology using surface mount techniques in T/R Switches, Limiters, and other RF Control products have proven our capability to support the next generation airborne, shipboard and ground based applications.

## CONTROL COMPONENTS

Stellant PST formerly Hill Engineering control components and integrated assemblies are a specialty on to themselves. We design and develop high power multi-throw/multi-pole control devices while integrating LNAs and Limiters into these designs. These high speed high power front-ends routes jamming signals to channelized antenna paths while protecting sensitive receivers from high power signals common to the battlefield environment.

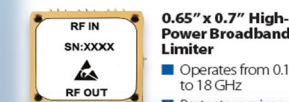
High speed switching provides agility to handle frequency hopping and/or multiple threats in diverse bands while protecting the receiver from all threat signals.



**0.59" x 0.63" High Power T/R Switch**  
 ■ Handles 3kW of power  
 ■ Operates from 150 MHz to 2500 MHz



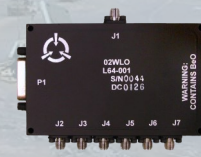
**0.532" x 0.246" x 0.129" High-Power Limiter**  
 ■ Operates from 20MHz to 6 GHz  
 ■ Handles 10W CW power



**0.65" x 0.7" High-Power Broadband Limiter**  
 ■ Operates from 0.1 GHz to 18 GHz  
 ■ Protects receiver capability



SP4T Switch



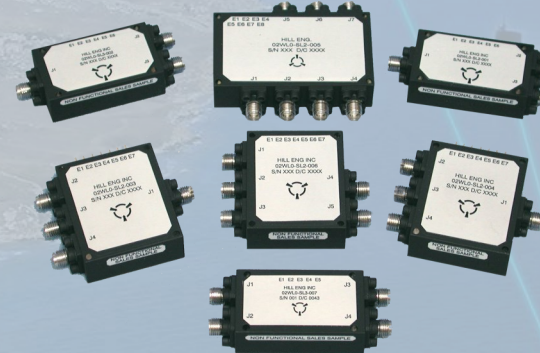
SP6T Switch



Limiters



SP2T Switch



Airborne Switch Suite



## HIGH POWER AMPLIFIERS

Our lineage dates back to the 1970's and continues to revolutionize the solid-state RF amplifier industry today. Our designs maximize amplifier performance by achieving higher power density, greater efficiency, improved thermal management, and size reductions. Stellant closely aligns itself with our RF device partners to be ahead of market trends in the aerospace and defense sectors. This arrangement allows us to evaluate the best devices for the specific application. We also produce custom products for highly specialized medical, satellite, and R&D laboratory markets.

Our design process starts with understanding the customer's requirements. Close relationships develop between the engineering teams, building a solid base for a stable specification, product development, and ending in program success! Our dedicated team approach utilizes common industry design tools for RF, thermal, and CAD simulations, allowing for seamless and collaborative information exchanges.

Our Teams are led by experienced Program Managers who take ownership and ensure customer commitments are satisfied and are communicated throughout the organization. They are our customer's single point communication conduit, ensuring the team moves together to meet the project goals.

Our processes are well documented and adhere to ISO 9001 quality standards. After sales support is maintained by our dedicated customer service department. They are a phenomenal group of seasoned RF professionals who maintain and support our products, even some that were fielded more than 30 years ago.



**Model BMC928958-1000**  
1000 Watts, X-Band, Pulsed  
Solid State Power Amplifier Module

- High Output Power Dynamic Range
- RF Input & Output Sample Detectors
- Pulse Width and Duty Factor Protection
- Thermal and Load VSWR Protection
- Optional Digital Interface for Control & Status Monitoring



**8kW to  
16kW  
Available**

**X-Band Transmitter**  
TWT replacement

- Reconfigurable/Custom Packaging
- Air, Ground, or Ship Applications



**BHED1939-50**  
1-3GHz, 50W



**BME69189-100**  
6-18GHz, 100W



**BME58278-100**  
500-2700MHz, 100W



**BME69189-50**  
6-18GHz, 50W



**BPHEd27457-400**  
25-450MHz, 400W

# Together, We Can Go Farther!

Stellant Systems is a partner for civil, military, and commercial organizations whose missions seek to ensure a safe, aware, and connected world.

We are a premier manufacturer of critical spectrum and power amplification systems for defense, space, medical/scientific and industrial customers worldwide.

## History of Innovation

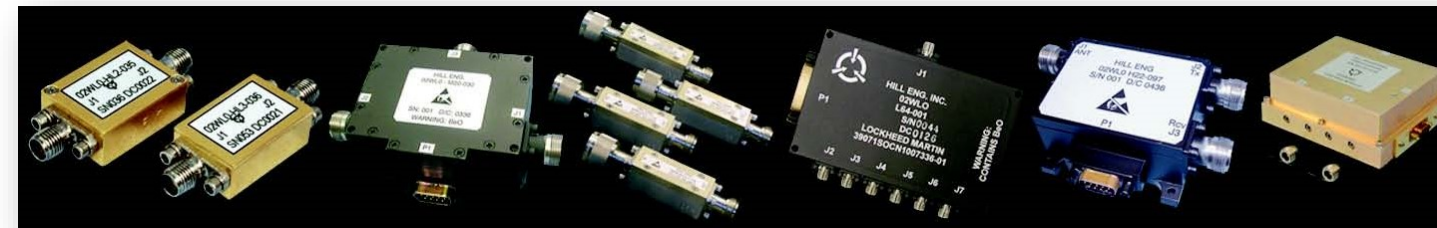
Our business started as Charles Litton's Engineering Laboratories in 1932 (Redwood City, CA) and Howard Hughes' Electron Tube Laboratory in 1959 (Culver City, CA).

Along the way, there have been multiple acquisitions and consolidation of divisions that operated under larger organizations such as Sylvania, Loral, GM Hughes, Sperry, GE, RCA, Boeing, L3Harris and COMTECH — to name a few.

This heritage is preserved and continues today as Stellant Systems.

## Our Business

- \* Approximately 1100 employees
- \* 5 manufacturing facilities — all ISO 9001:2015, AS9100:2016, DCMA certified
- \* ONLY Vertically Integrated Space TWTA supplier in the world
- \* ONLY manufacturer of space-qualified TWTs in the USA



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Two locations have state of the art Class 100,000 Hybrid Chip and Wire clean rooms, offering the manufacturing capabilities to die/bond and ball bond, wedge bond, and bond pull every product. These facilities offer both low rate prototype runs and higher volume manufacturing. Our manufacturing facility includes assembly areas, in process and final inspection space and a significant amount of test equipment for 100% low-level and high power testing of every product we manufacture.

The key objectives of our quality system are to ensure that the acceptance, workmanship, performance, delivery, and reliability standards of our customers are met. Our operators, technicians, and inspectors are trained and certified in accordance with IPC-A-610 Acceptability of Electronic Assemblies. Solder operators are trained and certified in accordance with IPC/EIA J-STD-001.

## Power Systems Technology

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Melville, NY 11747

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46,000 sq. ft.  
ISO 9001:2015 &  
AS9100:2016

417 Boston Street  
Topsfield, MA 01983

T: 978-887-5754

8,000 sq. ft.  
ISO 9001:2015

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