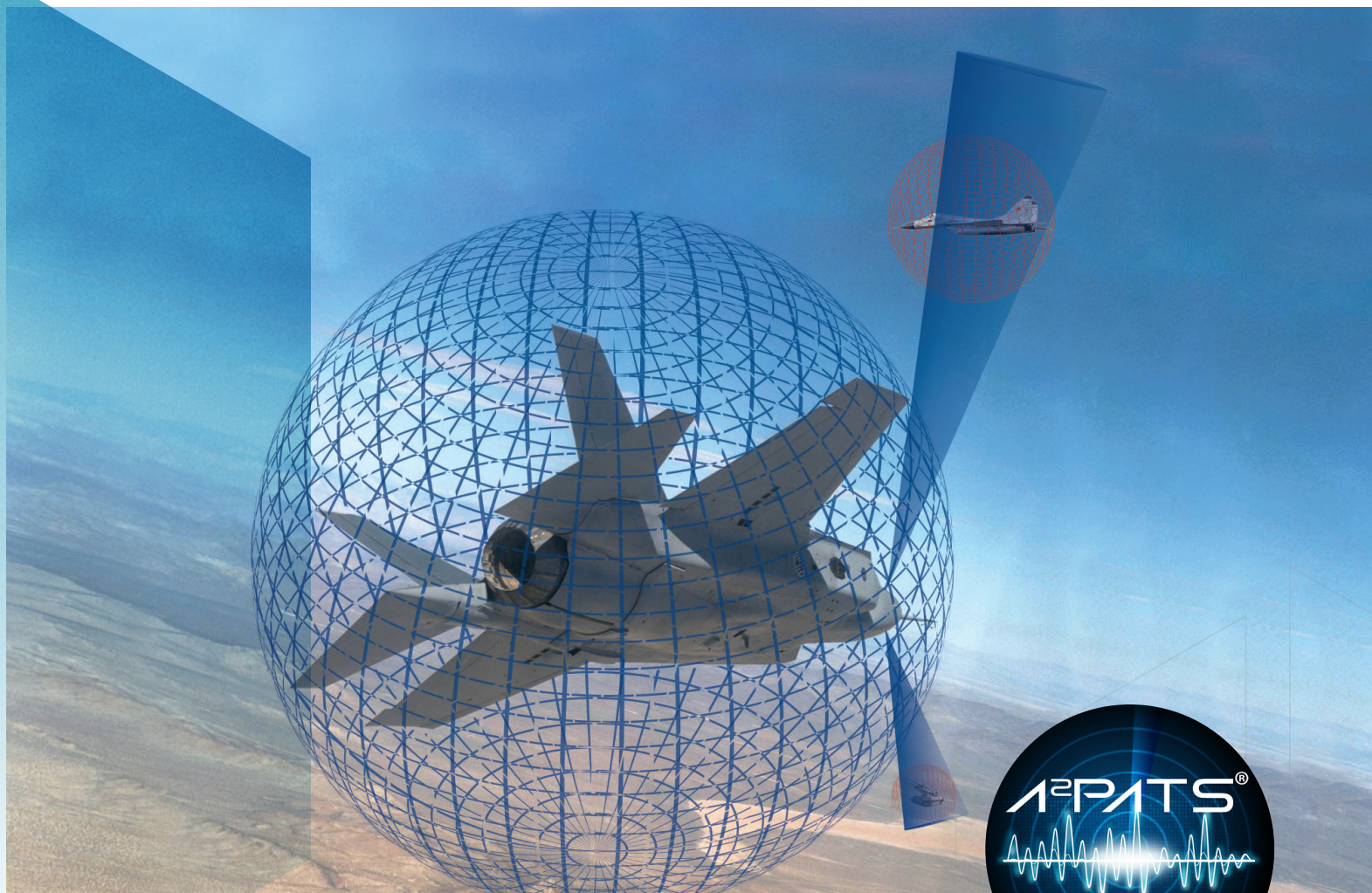


# A<sup>2</sup>PATS<sup>®</sup>

## FAMILY OF PRODUCTS



### STATE OF THE ART, TECHNICALLY ADVANCED, AND FULLY MODULAR ELECTROMAGNETIC ENVIRONMENT SIMULATOR

Our A<sup>2</sup>PATS<sup>®</sup> product line is designed to replicate highly complex signals generated by radars, weapons, and modern comms across the entire electromagnetic spectrum. The A<sup>2</sup>PATS generates this dense environment at RF with the correct phase, amplitude, and time of arrival for precise, accurate testing in the lab, range, or chamber. The generated RF supports two modes of operation for ELINT and COMINT signals with streaming IQ.

*Our A<sup>2</sup>PATS Family of Products are NEWEG Compatible and use a common set of hardware and software.*

[TextronSystems.com](http://TextronSystems.com)



**TEXTRON** Systems

► PUSHING PAST POSSIBLE



# A<sup>2</sup>PATS<sup>®</sup> SINGLE AND MULTI CABINET CONFIGURATIONS

Signals across the battlespace evolving at a rapid pace. Textron Systems' A<sup>2</sup>PATS provides the ability to stimulate and test next generation threats and highly complex emitters to keep our customers prepared for current and future missions.



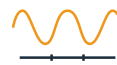
SINGLE CABINET



MULTI-CABINET SYSTEM

## FEATURES & BENEFITS

- > Simultaneous simulation of phase, amplitude and time angle of arrival
- > Easy setup, installation and relocation
- > Designed for easy system expansion through addition of Textron Systems' commercially available SSI modules
- > Reconfigurable architecture to meet test requirements
- > Continuous, real-time background alignment keeps the system within the tolerance for lower support cost and higher operational availability
- > Direct-to-port Direct Digital Synthesis (DDS) RF Generation



**OPERATING FREQUENCY RANGE**  
500 KHz - 40 GHz



**PULSE REPETITION INTERVAL**  
375 ns to 10 s  
Resolution: 20 ps  
Accuracy: +/- 1 s



**MAXIMUM POWER**  
-5 dBm typical



**SSI CAPACITY**  
Single Cabinet: Up to 16 SSIs (2 MPPS per SSI)  
Multi-Cabinet: Up to 256 SSIs (2 MPPS per SSI)



**PULSE WIDTH RANGE**  
24 ns to 1 s  
Resolution: 20 ps  
Accuracy: +/- 1 ns

# A<sup>2</sup>DSG™ PORTABLE & AFFORDABLE SOLUTION FOR COMPLEX SIGNAL GENERATION

Our Advanced Architecture Desktop Signal Generator (A<sup>2</sup>DSG™) provides a small, affordable, portable signal generation capability for signal development, signal test and signal verification and validation (V&V) of pulse based and communications signals of interest. Our unique, plug-and-play architecture uses direct digital SSIs as the RF source for all signals. The configurable A<sup>2</sup>DSG and Intuitive 3D graphical user interface with enhanced visualization provides all the capability sized for your needs and is affordably priced to complement any budget.

## FEATURES & BENEFITS

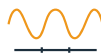
- > Allows for long-periods of simulation time with no external calibration procedures
- > Varying numbers of identical SSIs in each port enable stringent testing scenarios with pulse densities exceeding four million pulses per second
- > Ability to generate peer and near-peer complex signals
- > Easy setup, installation and relocation
- > Capable of generating complex intrapulse modulations
- > Operator defined transmit/receive antenna patterns
- > I & Q Vector Modulation
- > Affordable and cost effective test solution



**RF SOURCE**  
Textron Systems SSIs  
Up to 2 SSIs



**PULSE DENSITY**  
Up to 4 MPPS



**OPERATING FREQUENCY RANGE**  
500 KHz - 40 GHz

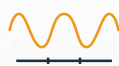


**OUTPUT POWER**  
+5 dBm typical



## MINI A<sup>2</sup>PATS®

In addition to the capability of the A<sup>2</sup>DSG, our Mini A<sup>2</sup>PATS can scale up to 8 SSIs and produce over 16 MPPS for highly complex and dense scenarios. *Standard and ruggedized options are available.*



**OPERATING FREQUENCY RANGE**  
500 KHz - 40 GHz



**PULSE DENSITY**  
Over 16 MPPS



**MAXIMUM POWER**  
-5 dBm typical



**FREQUENCY RESOLUTION/ ACCURACY**  
Resolution: 1 Hz  
Accuracy: +/- 0.1 Hz

# INCLUDED SOFTWARE

## DYNAMIC AND STATIC SCENARIO SOFTWARE

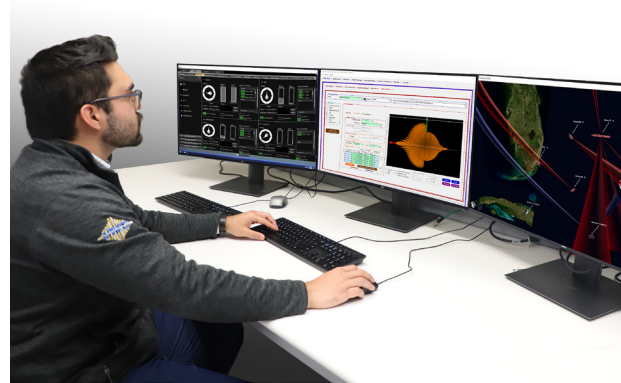
Visualization and simulation of complex scenarios and emitters in 2D or 3D detailed views that provide full situational awareness for the operator. The software supports the capability to model complex system behaviors in an intuitive user interface with a user experience conscious design.

## THREAT FILE TRANSLATION TOOL

Import your legacy or government owned threat database of emitters using our translation tool into the model builder software to visualize and edit as appropriate.

## A<sup>2</sup>DATABASE

Store A<sup>2</sup>PATS data in a Relational Database. Import and Export elements/objects, Backup and Restore data, manage repositories, user groups, and administrative actions.



# OPTIONAL ACCESSORIES

## ADVANCED ARCHITECTURE DATA RECORDER/INJECTOR (A<sup>2</sup>DRI)/SERVER (A<sup>2</sup>DS)

- > Ability to Capture, Store, Playback, Inject and Convert PDWs across multiple interfaces.
- > Dynamically Enhanced Streaming I&Q.

## EXTERNAL RF

- > Ability to accept analog signals from an external RF source into the A<sup>2</sup>PATS digital architecture. Signals are replayed with the appropriate phase, amplitude, time and doppler angle of arrival, based on scenario parameters and platform relative motion.

## RF SCORING TOOLS

- > Validate RF pulse train and RF pulses generated by the SUT (RF Countermeasures or Electronic Attack). This innovative tool digitizes RF signals in the form of PDWs and I-Q data.

## HIGH FIDELITY IADS

- > Provides simulation of user-defined scenarios in which the multiple nodes of an Integrated Air Defense System (IADS) are engaged. Simulation incorporates IADS reactive behavior based on the effectiveness of jamming radars, traditional Comms and Modern Comms.

## EMULATOR TOOLS

- > A stand-alone scripting station with the additional capability to predict pulse demand on an A<sup>2</sup>PATS system and provides scenario feedback to the user prior to running the simulation live.