# Intelligent EW Systems for Complex Spectrum Operations

## **ADEP**<sup>™</sup>

Dynamic Engagement Products for Configurable Operational Response & Advanced Range Solutions

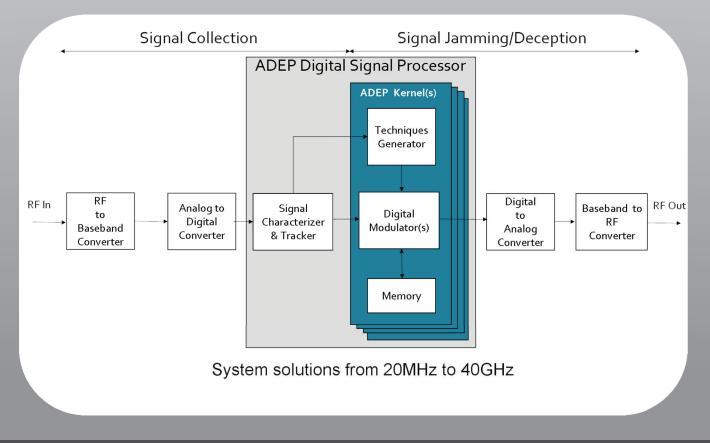




## SPEC Agile Digital Effects Processor (ADEP<sup>™</sup>) Product Family



### **ADEP System Architecture**

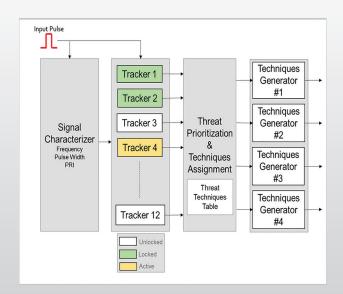


#### **ADEP Threat Classification and Engagement**

- Classify (track or filter) up to 12 targets simultaneously
- Discriminate based on frequency, pulse width, PRI and amplitude
- Techniques assigned to individual targets
- Prioritized engagements
- Engage up to 4 targets simultaneously
- User confirmation of target classification
- Agile modes available

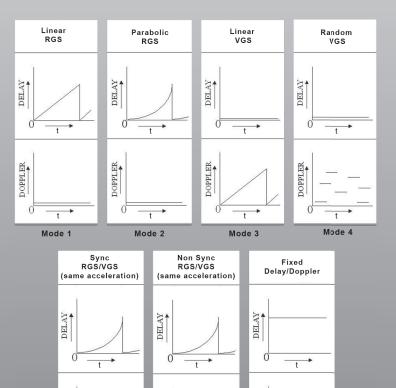
DOPPLER

t Mode 5



ADEP EA/EP Coherent Techniques Generation

#### **Classical DRFM Techniques**

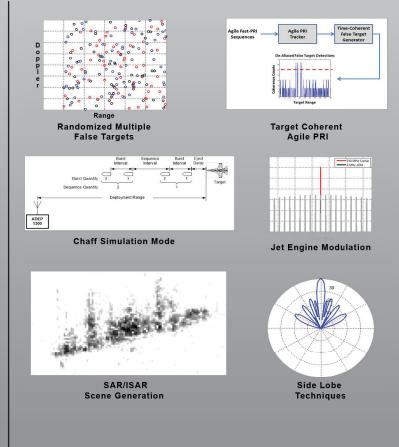


DOPPLER

Mode 6

DOPPLER

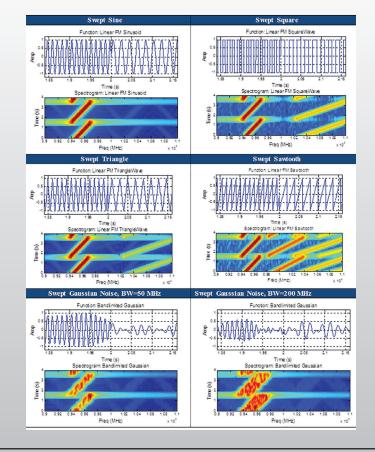
Mode 7



**Advanced DRFM Techniques** 

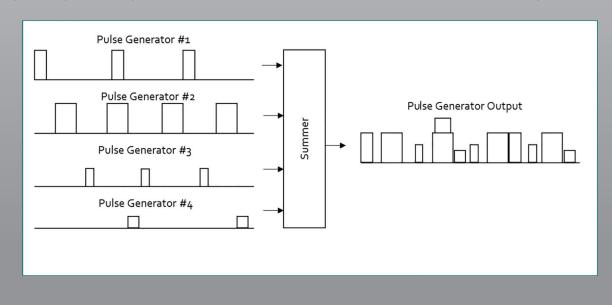
#### ADEP Radar/Comms Non-Coherent Jamming

- Modulation Types
  - Swept sine wave
  - Swept square wave
  - Swept triangle wave
  - Swept sawtooth wave
  - Swept Guassian noise
- User has full programmable control for CW & pulse AM, FM, PM and noise modultation techniques

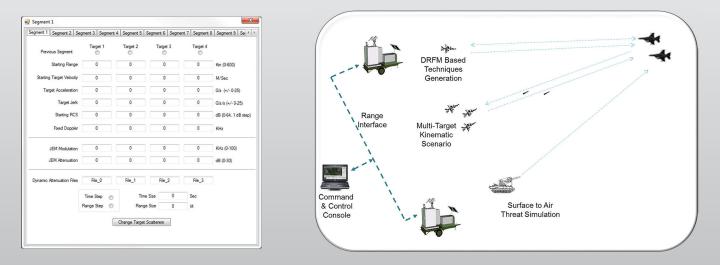


#### **ADEP Radar Simulation**

- Multi radar pulse generation within instantanous bandwidth
- User programmable relative start time, pulse width, PRI, frequency, amplitude, and scenario driven customization
- Optional power amplifiers and directional antennas for threat simulation or deception

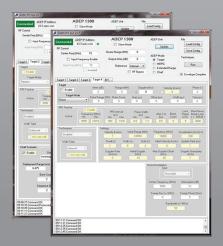


- PC Windows based scripted Target Profile scenario execution
- Target Profiles are groupings of "Segments"
- Each Sement specifies "Events" that occur at specific time or ranges
- Event parameters include: target range, velocity, acceleration, jerk, RCS, Doppler, Swerling, environmental dynamic attenuation, and scenario driven customization



#### **ADEP Remote Control and Monitoring**

- Dynamic system control of all product features can be performed locally or remotely
- Remote Windows based monitoring of input/output, techniques, spectrum, and integrated effects
- Remote recording of streamed PDW data



1021201107208 # 302		ADEP IP Address			Append
Rehesh Rate (nSec) 50 💠	Pause Display				Select File
Oscope Spectrum					
PRI (µS) 20 Bulk Delay (µS) 0.00	Frequency (MHz) 9999.685574 Pulse Width (µS) 1.01	TARGET 1 Mode: PRI Stretched Pulse Technique: None	Enabled	Output Total Delay (µS) 0.00 Attenuation (dB) 0	Frequency (MHz) 0.000000 Walk Direction
0.00 µs					
9999 685574 MHz 0.000000 MHz 1.01 µs					
elrout				-0.4-1	
PRI (µS) 20 Bulk Delay (µS) 0.00	Frequency (MHz) 9999.685574 Pulse Width (µS) 1.01	TARGET 2 Mode: PRI Stretched Pulse Technique: None	Enabled	Total Delay (µS) 1.00 Attenuation (dB) 0	Frequency (MHz) 0.000000 Walk Direction
1.00 µs					
9999 <mark>.605574 MHz</mark> 9.000000 MHz					$\square$
1.01 µs					
PRI (µS) 20 Bulk Delay (µS) 0,00	Frequency (MHz) 9999.685574 Pulse Width (µS) 1.01	TARGET 3 Mode: PRI Stretched Pulse Technique: Linear RGS [ In ]	Enabled	Total Delay (µ5) 5.00 Attenuation (dB) 0	Frequency (MHz) 9999.685574 Walk Direction Forward
5.00 µs					
9999 685574 MHz	9999,688574 MHz Hald				
PRI (µS) 20 Bulk Delay (µS) 0,00	Frequency (MHz) 9999.685574 Pulse Width (µS) 1.01	TARGET 4 Mode: PRI Stretched Pulse Technique: Parabolic RGS [Out.]	Enabled	Output Total Delay (µS) 10.00 Atternuation (dB) 0	Frequency (MHz) 9999.685574 Walk Direction Forward
e					
9999 685574 MHz		9999.685574 MHz Hold			
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www.spec.com

