

TEST, TRAINING & SIMULATION

SSI

SYNTHETIC STIMULUS INSTRUMENT

DENSE, COMPLEX, REALISTIC SIGNAL ENVIRONMENT FOR TEST AND EVALUATION

The SSI (Synthetic Stimulus Instrument) is a phase-coherent, wide-band Direct-Digital Synthesizer (DDS), which provides 500MHz of instantaneous bandwidth, enabling threat generation of today's most complex emitters. The SSI is the common RF source for all A²PATS® signals and can be configured to run in either of two distinct modes of operation. The two modes of operation enable the capability to generate over 2 MPPS in radar mode (mode 1) or 32 simultaneous communication emitters (mode 2) per SSI, creating a dense, complex, realistic signal environment for test and evaluation.



INDUSTRY LEADING NOISE REDUCTION AND (SFDR)

The SSI has been designed with industry leading noise reduction and spurious free dynamic range (SFDR) with over 70 dBc of SFDR. The -SSI frequency range encompasses 0.5MHz-40GHz, making it the most capable DDS source on the market. Our SSI is in its 5th generation of a technology refresh and is backward compatible to existing A²PATS[®] installations with minor retrofit kits.

KEY SPECIFICATIONS

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

BANDWIDTH
500 MHz

NOISE FLOOR
-90 dBm/MHz
(No signal present)

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

PULSE DENSITY
Over 2 MPPS or 32 simultaneous
communications emitters

RF SOURCE
Up to 8 SSIs per port

TESTING
Direct Injection

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

**PHASE RESOLUTION/
ACCURACY**
0.022°/1.7° RMS

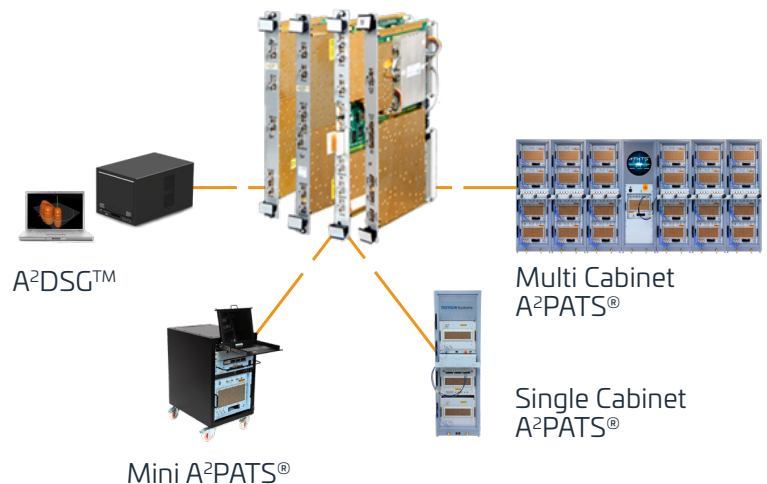
CHIRP RANGE
500 MHz - 40GHz

SPURS & HARMONICS
-70dBc (max)

**FREQUENCY
RESOLUTION /
ACCURACY**
Resolution: 0.0625 Hz
Accuracy: 0.1 Hz

KEY BENEFITS & FEATURES

- > 500MHz of instantaneous bandwidth
- > Multi-signal capability:
 - Radar Mode: 4 simultaneous CW plus pulsed emitters in a 500MHz bandwidth
 - COMMS Mode: 32 simultaneous COMMS emitters
- > Ultra-wide frequency range .5 MHz to 40 GHz
- > Superior Spectral fidelity
- > Accommodates all fielded A2PATS system features and incorporates capability expansion
- > Backward compatible to existing A2PATS installations
- > Commercially available with implementing software for industry and military applications



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**SCAN FOR
PRODUCT DETAILS**

