RSS8000/P

RADAR THREAT SIMULATORS

KEY FEATURES

- FOR PORTABLE EW TRAINING, TEST AND EVALUATION APPLICATIONS
- PORTABLE LIGHTWEIGHT UNIT
- 100 MHZ TO 40 GHZ COVERAGE
- RUGGED CONSTRUCTION
- COMPLEX EMITTER GENERATION
- WINDOWSTM GUI SOFTWARE
- LAPTOP PC CONTROL
- IN-SERVICE, RELIABLE AND PROVEN TECHNOLOGIES
- AVAILABLE IN TWO MECHANICAL FORMATS; RSS8000/P AND RSS8000/CP COMPACT

DESCRIPTION

The RSS8000/P Radar Threat Simulator offers the latest digital, RF and software technologies for generating accurate signals in an easy-to-use, portable format. Capable of 8 to 80 independent multiplexed emitters, the RSS8000/P offers unsurpassed performance.
Standard capabilities include pulse (including PD) and CW generation.

The DirectorLt® software provides a unique, fast setup method for signal generation. A standard laptop PC provides the user with a single page

fill-in-the-blanks form to program each emitter. Emitters can then be programmed directly or periodically switched on and off using an event script. Emitters can be sequenced together to provide a dynamically changing environment over time. Data is stored on the PC hard disc for re-use.

The RSS8000/P is ideal both for specific operator controlled testing and for lengthy automated system testing, whether at the dockside, flight-line, or test facility.

The RSS8000/P also provides remote control facilities for integration with other equipment. Databases are compatible with larger multi-channel RSS8000/DF systems.

EWST | Ultra ELECTRONICS

SYSTEM

- Laptop PC simulation controller
- C++ / MATLAB® software
- Microsoft Windows™ application
- VME64 bus architecture
- 1000 Mb/s Ethernet control link
- Embedded PowerPC and VxWorks™ OS
- Real-time simulation engine
- Dynamic update of emitter parameters
- Employs live threat databases
- DirectorLT™ static test builder
- Microsoft Excel™-based pattern data entry
- Microsoft Access™ based emitter database
- Database import/export

RF SOURCE/DF PORTS

- Complete 100 MHz to 40 GHz coverage
- Frequency resolution 250 KHz
- Fast tuning internal FLO or synthesizer
- Up to 800 kpps
- >90 dB dynamic range
- <-85 dBm/MHz noise
- <-60 dBc spurious level
- <-60 dBc harmonic level
- Modular banded operation
- 0 dBm RF output (others available)

DIGITAL PULSE GENERATOR

- Up to 80 complex emitters
- Modular DPG card architecture
- Simultaneous FMOP, PMOP or AMOP
- Scan to pulse train synchronization
- Fast synthesizer option

EMITTERS

- 1.1 µs (+PW) to 800 ms PRI range
- 10 ns PRI resolution
- 20 ns to 160 ms and CW PW range
- 10 ns PW resolution
- Overlapping co-pulse emitters
- Modulations:
  - Stable
  - Groups
  - Stagger
  - Doublet
  - Agile
  - Triplet
  - Jitter
  - Burst
  - Sinusoidal
  - Drift
  - Triangular
  - Switcher
  - Sawtooth
  - Dwell
  - Exponential
  - Cycler
  - Periodic
  - Wobble
  - Discrete
  - Sync
  - User defined
- 8k staggered and hopper tables with 512 pattern definitions per emitter and 64k pulse repeats
- Jitter: uniform or Gaussian, up to 99%
- Up to 8 synchronized pulse trains or beams
- Scan patterns:
  - Stable
  - Spiral
  - Lock-on
  - Nodding
  - Circular
  - TWS
  - Helical
  - Lobing
  - Conical
  - Electronic
  - Multibeam
  - User defined
  - Triangular
  - Unidirectional sector
  - Bidirectional sector
  - Unidirectional raster
  - Bidirectional raster
- Scan rates 0.005 to 500 Hz
- 100 µs to 1 s electronic beam dwell period
- Antenna beam patterns:
  - SinX/X
  - Cosine taper
  - CosX
  - Cos2X
  - Cosec2X
  - Isotropic
  - Cosine array
  - User defined
- 0.5˚ to 40˚ antenna beam width
- 0.1˚ beam width resolution
- Antenna coverage:
- Az ±180˚, EL ±90˚
- 90 dB modulation range

ADDITIONAL SPECIFICATIONS

- Event file logging
- Pulse timing sync output
- PDW and video output options
- Portable 19 inch rack mounted format
- Automatic BIT fault isolation to LRU
- Unattended RF calibration
- Remote control of emitter parameters/activity
- 12U and 5U packaged formats
- LAN/IRIG-B/1553B interfacing

Ultra ELECTRONICS

making a difference

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