



SINGLE-CHANNEL RECEIVER TESTBED



MITRE

DESCRIPTION

The Single-channel Receiver Testbed (SCRT) is a flexible platform for evaluating anti-jam (AJ) digital signal processing (DSP) algorithms. The SCRT provides L1 and L2 channels of high-fidelity digital complex data received from any FRPA-type antenna and produces 12-bit digital In-phase and Quadrature (I/Q) samples at either 8, 16, or 32 MSPS with commensurate GPS signal bandwidth.

THE SCRT

- 1) allows recording of raw real-time data for off-line processing
- 2) provides a standard interface to allow other organizations to easily design and evaluate in real-time, digital AJ processing systems
- 3) allows real-time evaluation of single antenna aperture AJ DSP algorithms
- 4) can be configured as an RF-to-RF appliqué

The SCRT allows easy insertion of custom made AJ technologies and facilitates seamless testing with any antenna/receiver combination. SCRT has been used for evaluation of AJ technologies (or combinations of AJ technologies) both in the laboratory and in field tests. Anti-jam technologies tested to date include: Frequency Domain Interference Suppressor (FDIS), amplitude domain processing (NONAP), polarization nuller and FDIS with a receiver implementing Deep Integration.

FEATURES

- ▶ Two 19" rack mounted units
- ▶ Separate L1 and L2
- ▶ Support up to 90 dB J/S
- ▶ C/A compatible
- ▶ P(Y) compatible (no crypto)
- ▶ RF-to-RF appliqué mode:
 - 4 dB noise figure
 - Adjustable RF gain
- ▶ Built-in LNA for passive antenna
- ▶ Sampling rate: 8, 16, or 32 MSPS
- ▶ 12-bit I/Q input/output data (TTL)

- ▶ VME form factor

APPLICATIONS

Low-cost evaluation of anti-jam DSP algorithms

FOR FURTHER INFORMATION CONTACT:

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