NAVY Transition Assistance Program

Distribution Statement A - Approved for Public Release. Distribution Unlimited (Approval # 197)

N07-110 - HYPRES. Inc.

Multi-input Synchronous Digital-RF Receiver

NEED & CUSTOMER REQUIREMENT

Need: Tolerating high levels of interference, including those from co-located RF transmitters in close proximity on board ship, is a long standing problem for building wideband and sensitive naval signals intelligence (SIGINT) receivers. For direction finding (DF) systems, there is a need to DF in this harsh environment.

Value to the Warfighter: The SSEE program needs technology solutions that allow it to accomplish the mission and offer the best performance available to the warfighter. Implementation of an All Digital RF technology will allow collection of previously undetectable signals and more precise direction finding(DF) resulting in substantial savings in size, weight, power and cost.

Operational Gap: Meeting SFDR and system sensitivity for wideband shipboard collection and DF systems are a challenge and very often specifications are compromised because of the intense signal environment and close proximity of antennas during operational scenarios.

Customer Specifications: Navy collection systems such as SSEE require in excessive of 100 dB spur fee dynamic range (SFDR) and SNR exceeding 90dB to operate in the harsh shipboard signals environment for detection of the signal of interest and accurate DF.

Technology Description: All Digital RF technology resolves the critical co-site interference problems with an improved high dynamic range analog-to-digital converter while maintaining high sensitivity for reception of weak signals-of-interest (SOI) for Navy collection and DF systems. Having the ability to directly digitize at or near the antenna, results in a vast improvement in signal quality and sensitivity for SIGINT receivers to process SOI.

SPONSORSHIP of original SBIR/STTR Topic

SYSCOM: SPAWAR

Transition Target: Shipboard Signals Exploitation Equipment Inc.X

Original Sponsoring Program: PMW-120 / Ships Signal Exploitation Equipment Increment F / ACAT II

TPOC Phone Number: 619-553-5987

TECHNOLOGY DEVELOPMENT MILESTONES (SBIR/STTR)

Milestone	TRL	Risk	Measure of Success	TRL Date
Phase I-Design dual-input ADC	2	Low	Chip tests OK per test plan	September 07
Phase I-Develop multi-input MCM	3	Low	MCM tests OK per test plan	December 07
Phase II-1st year Develop dual-input synchronous delta ADC chip	3	Moderate	Chips performed per test plan	March 2010
Phase II-2nd year Integrate System and Test	4	Moderate	Passes test plan parameters	March 2011

Open contract: N66001-09-C-0118 ending March 16th, 2011

TECHNOLOGY TRANSITION OPPORTUNITIES (PHASE III)

Other Potential Applications: Besides Navy SSEE program targeted by this phase II, HYPRES all digital RF technology is being considered for other SIGINT applications, MILSATCOM, JTRS and the commercial wireless. For example, the Army, as a result of recent over the air demonstrations, is considering HYPRES all digital RF for the Worldwide Global Satellite (WGS) ground segment.

Business Model: Argon ST is the prime contractor for SSEE Inc. E/F and HYPRES is part of their team. Once all digital RF achieves a TRL-6 or higher thru shipboard demonstrations, HYPRES will enter the pre-production phase and license the technology to Argon ST or other future primes contractors.

Objective: The company seeks relationships with primes, Government program offices and equity investors for transition to major acquisition program(s)

Company: HYPRES. Inc. **Contact:** Michael DeZego **Email:** mdezego@hypres.com **Phone:** (914) 592-1190x7794