DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY
SPECIAL OPERATIONS COMMAND (AIRBORNE)
FORT BRAGG, NORTH CAROLINA 28310

REPLY TO
ATTENTION OF:

AOFD-CDT 1 December 2010

SORSE Warfighter Assessment, (SWA), Firestorm: iHAMRH

1. Executive Summary. SORSE attended a brief demonstration on iHAMRH at Camp Roberts during CBE 11-1 in November 2010. iHAMRH is a light weight, hand held DF system. iHAMRH uses the Trimble YUMA receiver along with a plane of 4 antennas mounted on a hand held (pistol grip) base.

2. Background and Technology Description. iHAMRH uses simple technology of a receiver built into a Trimble YUMA receiver along with specific software that allows the user to locate the Line of Bearing (LOB) of a signal from a known frequency. Once a frequency (using a common inventory scanner) is known it is entered into the YUMA. iHAMRH operates in the ICOM frequency range. (140-144 MHz) The iHAMRH then shows a signal bar on the right of the display once that frequency is active. The user turns 360 degrees. The turn needs to be no longer than 5 seconds. The display then indicates on the screen the strongest signal strength and at what azimuth degree. 4 Antennas are used on the frame that are cut (telescopically shortened or lengthened) based on the target frequency.

3. Assessment Participants. The following personnel were present for the evaluation:

Michael Gailey	MSG	SORSE
Lee Johnson	MSG	SORSE
Robert Heffley	SFC	SORSE

4. Assessment Methodology. A SORSE Soldier took the system on a hill top at Camp Roberts. From there a pre-determined frequency was entered into the YUMA. When the indicator bar was active, the Soldier turned 360 degrees. The highest signal strength indicated a magnetic degree of 144. The transmitter was approximately 2kms from the system. Based off a map and other map sources indicated the target was actually at 147 degrees. The test continued every 500 meters out to over 5kms. The degree of offset maximum was 4 degrees with 2 occasions hitting within 1 degree. As a SOTA Soldier, this type of quick and easy to use

hand held device is amazing. It out performs anything I have ever seen or used. One thing to note, the signal strength actually got stronger as the target moved out at further distances. Questions were asked if the user would prefer it to be a scanner as well. The answer was no for 2 reasons. 1: SOTA's teams have plenty of scanners that would perform frequency sweeps at a higher rate, and 2: this device needs to be signaled out as a DF system only. This will allow the user to receive a frequency from a Soldier with a scanner, allowing the scanner to continue on with its mission allowing the iHAMRH to concentrate on the DF mission. The back azimuth of the actual target does not display as strong as the actual azimuth. It is the second strongest signal, based off of the antenna array.

5. Conclusions and Recommendations. iHAMRH has the ability to replace any other hand held, even vehicle or tripod mounted DF system in the SOF system. System upgrades, to include hearing the target voice where it now only picks up the signal. This will ensure that the proper ICOM is targeted for DF. The YUMA receiver has a large enough screen that another receiver could be implemented in it to possibly show UVA video feed. This would allow the user to send a UAV on the LOB from the system to try and pinpoint the target. Firestorm will have the updates and recommendations at Avon Park, Florida during CBE 11-2 February 2011.

7. Point of contact for this memorandum is MSG Lee A. Johnson at (910)396-4670 or email at below addresses.

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