Wolfhound

Information Brief

MAJ Archie L. Williams, Jr.
APM Prophet
Aberdeen Proving Ground, MD

6 JAN 2011

Agenda

- PM Prophet Key Points of Contact (POCs)
- Wolfhound Program Overview
- System Overview
- Concept of Operations

PM Prophet Key Personnel

- LTC James Ross – PM Prophet – (732) 427-1479
  - Jim.ross@us.army.mil
- Daniel Tartaglia – DPM Prophet – (732) 427-1981
  - Daniel.tartaglia@us.army.mil
- MAJ Archie Williams – APM Prophet – (410) 306 - 4183
  - archie.l.williams@us.army.mil
- Larry Bacon – Prophet Chief Engineer – (732) 532-5092
  - Laurence.bacon@us.army.mil

PRODUCT MANAGER PROPHET

Wolfhound

CUSTOM BACKPACK

VEHICLE MOUNT

FIXED SITE

HANDHELD ANTENNA

Description

Wolfhound is a man-portable SIGINT capability supporting kinetic operations in the CENTCOM AOR. The system is composed of three networked, man-packable nodes that are capable of detecting, identifying, and direction-finding conventional voice communications. The manpack configuration is the primary mode of operation; however, the system may also be configured for mounted and fixed/stationary operations.

JUONS CC-271 (Total requirement : 657)

- CC- 271: 59 Systems (Complete as of May 2010)
- MOD 1 - 200 to SOCCENT (125 for CJSOTF-A)
- MOD 2- 40 to SBCT
- MOD 3- (ONS 10-11066) 241 to Army
- MOD 4 – Increases Marine Requirement from 50 to 117

Program Status

- Program transitioned from CERDEC to PEO IEW&S on 13 August
- SECDEF memo (SEP 2010) directed urgent procurement of Wolfhound
- PM Prophet awarded a Letter Contract in NOV 2010 worth $42 million to BAH for production (FFP) of 385 systems and associated FSR Support in OEF (CPFF)
- CERDEC (I2WD) delivery order (S3 DL 30) production ends 16 DEC; 45 remaining systems will be delivered to CJOA on/about 26 DEC
- Production under PM Prophet Letter Contract commences JAN 2011
- Delivery rate OEF will be 55 per month until JUONS requirements are fully met
- Transition of FSR support to new contract currently ongoing
- CDRT recommendation from OEF was to sustain as QRC instead of nominating for a POR

Support Concept

- Currently 5 in-theater FSRs supporting Wolfound (1 x LNO in BAF , 2 x FSRs in RC-E, 2 x FSRs in KAF (RC-S and SW)
- FSRs execute fieldings and new equipment training and refresher training
- FSRs are capable of conducting fault isolation, testing, and performing certain repairs
- FSRs will increase to 10 by March 2010
- PM Prophet is working on the way ahead to implement a spares program in theater

Monthly Fieldings

USFOR-A J3 publishes a monthly FRAGO directing where Wolfhound shipments will be fielded

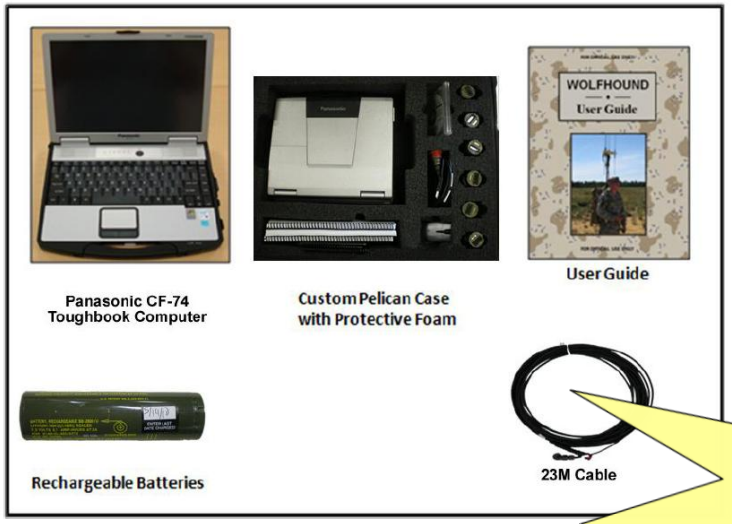
Wolfhound JUONS CC-271

Requirement	Receiving Org.	Number Req'd	Amount Delivered As of 5 JAN	Remaining Systems to Field
Original requirement	**CJTF 82**	**59**	**59**	**0**
Modification 1	**SOCCENT**	**200**	**200**	**0**
Modification 2	SBCT	40	27	13
Modification 2	USMC	50	37	13
Modification 3 (ONS 10-11066)	Army	241	28	213
Modification 4	USMC	67	0	67
Total		657	351	306

Projected Fielding Schedule

	JAN 11	FEB 11	MAR 11	APR 11	MAY 11	JUN 11
Produce	33	55	55	55	55	55
Deliver to OEF	33	55	55	55	55	53

What is Wolfhound?



General Capabilities

- Detects/ exploits RF signals of interest
- Provides real-time SA and DF
- Easy-to-use GUI (not MI-specific)
- Handheld Display
- Deployable in four configurations (Rucksack-mounted, handheld, vehicle mounted, fixed site)
- Can be used as standalone or networked together
- Delivers accurate line of bearing (LOB) to target
- Supports find-fix-finish operations

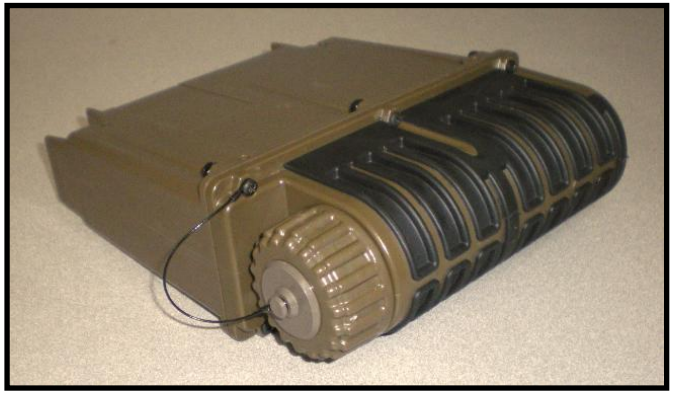
System contains :
- 3 x Collection Nodes
- 1 x Mission Configuration Laptop
- 1 x Battery Recharger
- Associated Cables

The Wolfhound core system features the following:

- Audio receiver to detect, monitor & digitally record
- Digital compass to provide operator/weapon orientation
- On-board DF processor & internal antenna array
- GPS antenna/receiver for reference to target
- Touchscreen LCD display
- Integrated microprocessor to control system functionality
- Wireless card for optional WLAN operations
- USB memory stick to upload mission parameters / download post-mission data
- Battery pack (~ 6+ hours)

Wolfhound- Major Components

Host Component (HC)

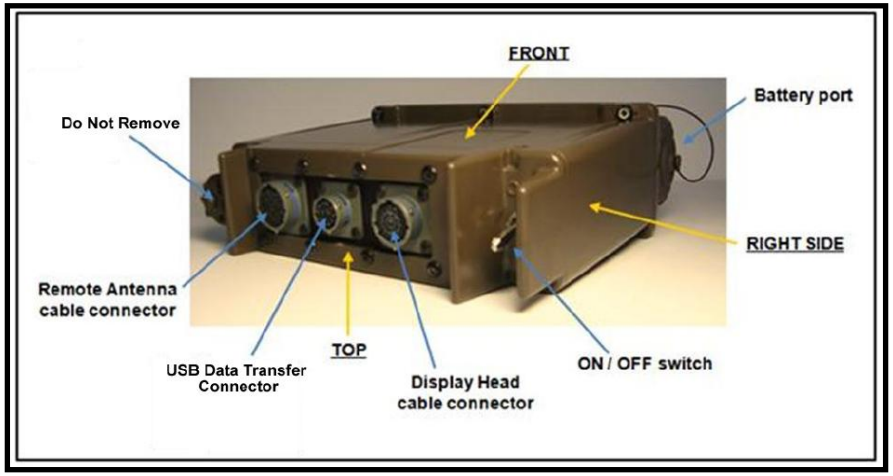


WOLFHOUND "Brain" Contains:

- AR-8200 RF Processor
- Single Board Computer
- DF Board / Processor
- Wireless LAN transceiver
- USB Flash Drive/ Mission Load

The HC Supports:

- Remote Antenna
- Display Head
- ME2 Wireless Router



Wolfhound- Major Components

ME3 Wireless Router

ME3 Wireless Router

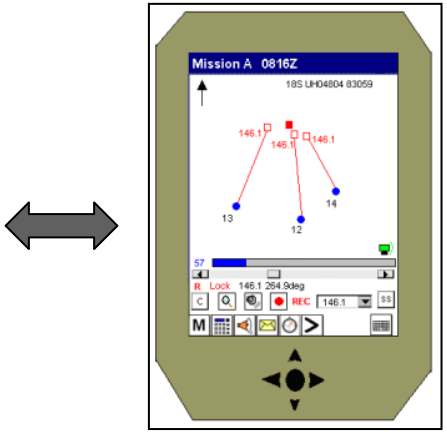
- Required only for Cooperative Mode Operations
- Allows Wolfhound nodes to communicate with one another
- One control: ON/OFF switch
- Run-time: ~24 hours on fresh BB-390A/U rechargeable battery

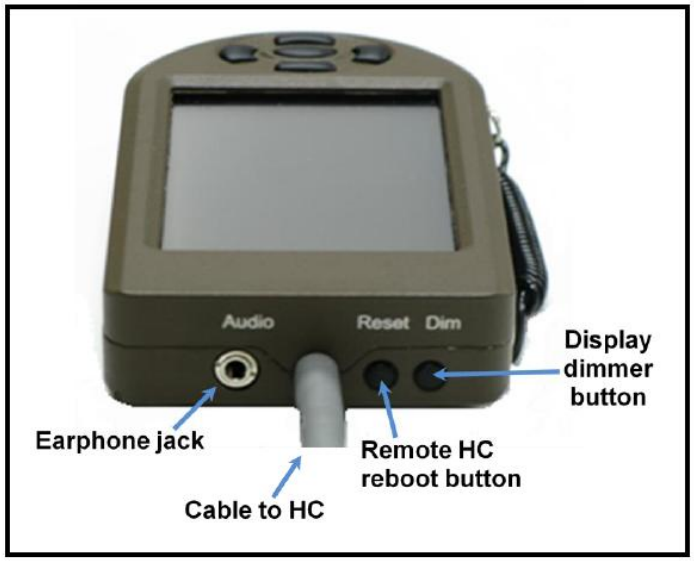
Wolfhound- Major Components

Display Head

Display Head features:

- Interactive touch-screen
- Earphone jack for real-time monitoring
- Dimmer Button
- Remote Reset Button
- Tethered Stylus





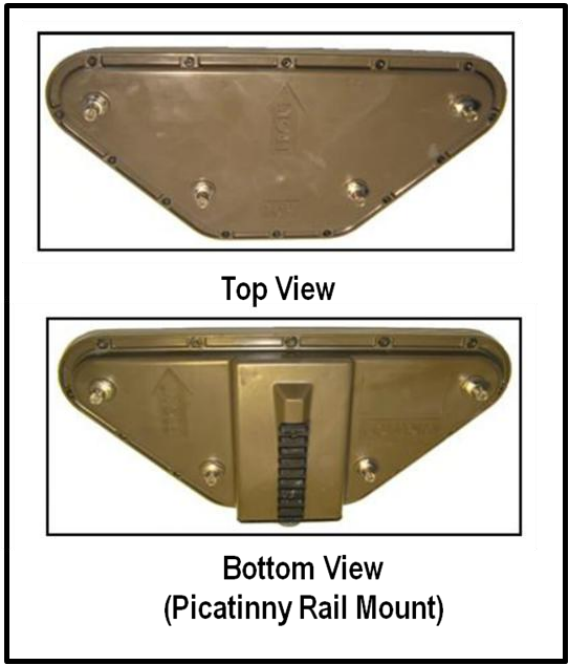
Display Head allows operators to view lines-of-bearing (LOBs) to RF emitters

Wolfhound- Major Components

Remote Antenna (RA) and Remote Antenna X (RAX)

The RA and RAX enclosures contain:

- Digital Compass
- GPS Antenna and Receiver
- BNC Connector Mounts to support DF whip antenna array



RAX top and bottom views

Three cabling options to the RA facilitate four system deployment configurations

Wolfhound CONOPS for Hunting/Tracking depend on whether a single system is used in Stand-alone Mode or multiple units are networked together in Cooperative Mode

Concept of Operations (CONOP)

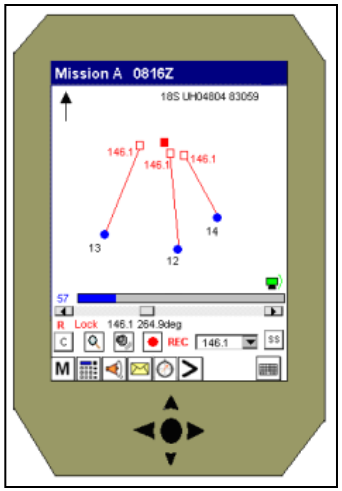
Wolfhound CONOPS for Hunting/Tracking depend on whether a single system is used in Stand-alone Mode or multiple units are networked together in Cooperative Mode

Stand-alone Mode CONOP:

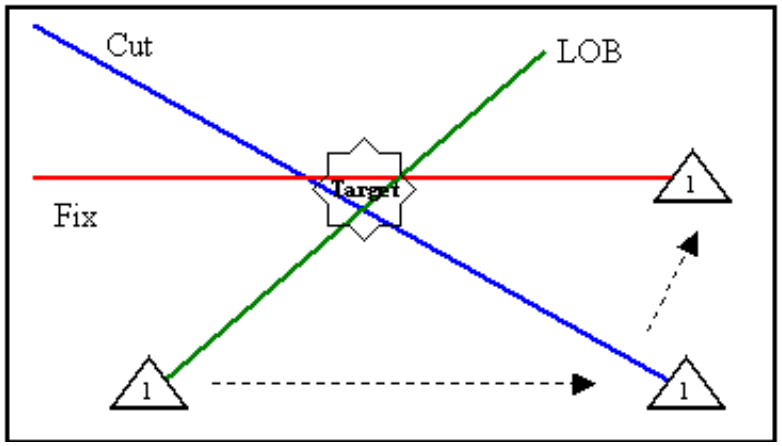
- Lone operator detects a target and vectors around it
- Wolfhound generates a line-of-bearing (LOB) to the target and displays it on the touchscreen LCD each time it detects a transmitted signal
- As the operator vectors and the target continues to transmit, more LOBs are generated (Continued)

Stand-alone Mode CONOP (Cont.):

- Eventually, LOBs will cross one another on the LCD
- The intersection of the LOBs represents the location of the target emitter



LCD Display



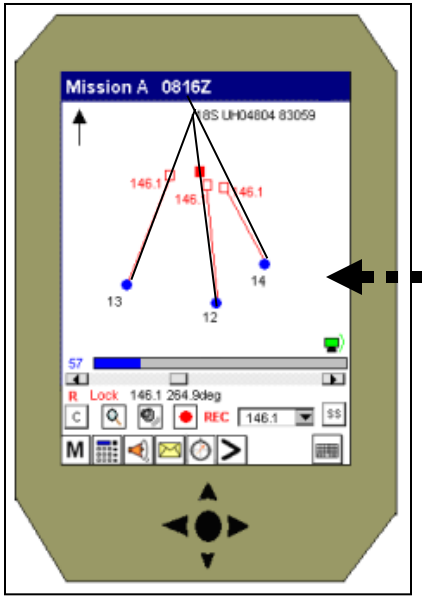
Example of an operator vectoring around a target

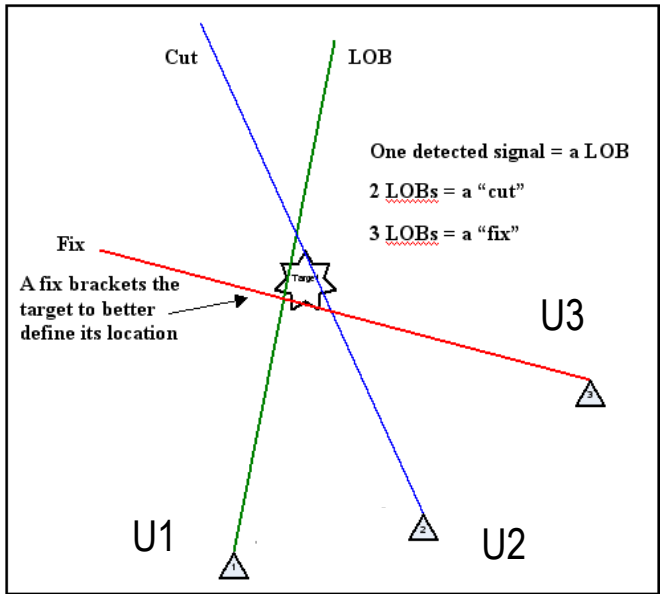
Cooperative Mode CONOP:

- Wolfhound-equipped operators, networked via wireless router to each other, coordinate to “fix” a signal of interest
- Each operator vectors to a different position around the target
- When the target transmits a radio signal, all networked units record the LOB-to-target from their respective position

- All LOBs concurrently appear on each system’s LCD
- With just one or two signal bursts, enough LOBs are generated to “fix” the target (Continued)

Cooperative Mode CONOP (Cont):





Example of three operators around a single target.

With a single radio transmission, three LOBs are generated at once.

How Can the PEO IEW&S LNO Help?

•Understand Wolfhound fielding requirements (JUONS 271 and the MODs)

•Maintain SA on Wolfhound fielding activities; Wolfhound is #6 on USFOR-A list of top twenty material priorities

•Notify PM Prophet of any negative issues that may arise

•Provide government representation as needed and top cover for Wolfhound FSRs

•Assist FSRs in coordinating fieldings with USFOR-A, RCs, and BCTs