

∨ RBS - Complex

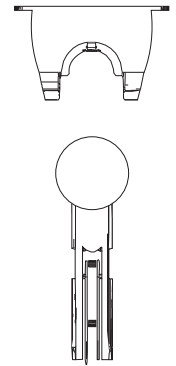


The  
**Future**  
Is Bearing Down >

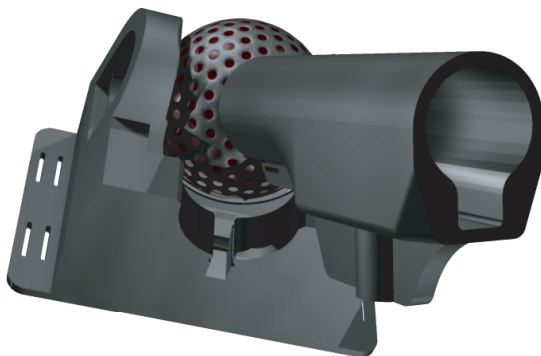
## Dark Horse has answers...

The United States Army Land Warrior program started over 14 years ago when an Army study group recommended the service look at the soldier as a complete weapon system. Land Warrior has worked to become a first-generation, modular technology system for individual infantrymen. WOASI is a revolutionary technology for Land Warrior. With a miniature, low-power Global Positioning System and Inertial Registration Device, RBS Complex is a completely novel approach to a Weapon Orientation Sensor. Real-time orientation data is now available to riflemen on the ground.

- RBS Complex generates radical size, weight and power savings for the future Soldier-as-a-System
- The Warfighter's rifle now can interface through a novel infrared wireless connection to his bodyworn ensemble
- RBS Complex is a fully embedded approach that permits the Warfighter to conduct both training and mission rehearsal, using only his operational system(s) with no extra training-specific hardware, while fully deployed in a combat environment
- Current tracking systems have not been designed or optimized for being man-wearable and portable
- Dark Horse Arming Constructs is preparing to prototype and demonstrate a totally new tracking system
- Dark Horse Arming Constructs has satisfied the need for a man-wearable embedded dismounted training system
- RBS Complex is a key enabler of Augmented Reality technologies for the Ground Combatant



Tracks  
weapon  
orientation  
and shares  
power and  
data without  
imposing new  
hardware



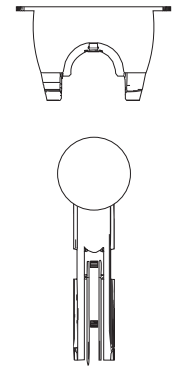
- GPS Geolocation
- Low-Power
- Soldier Orientation
- Weapon Orientation
- Infrared
- Lightweight
- Portable
- AR Enabled

## RBS Complex works...

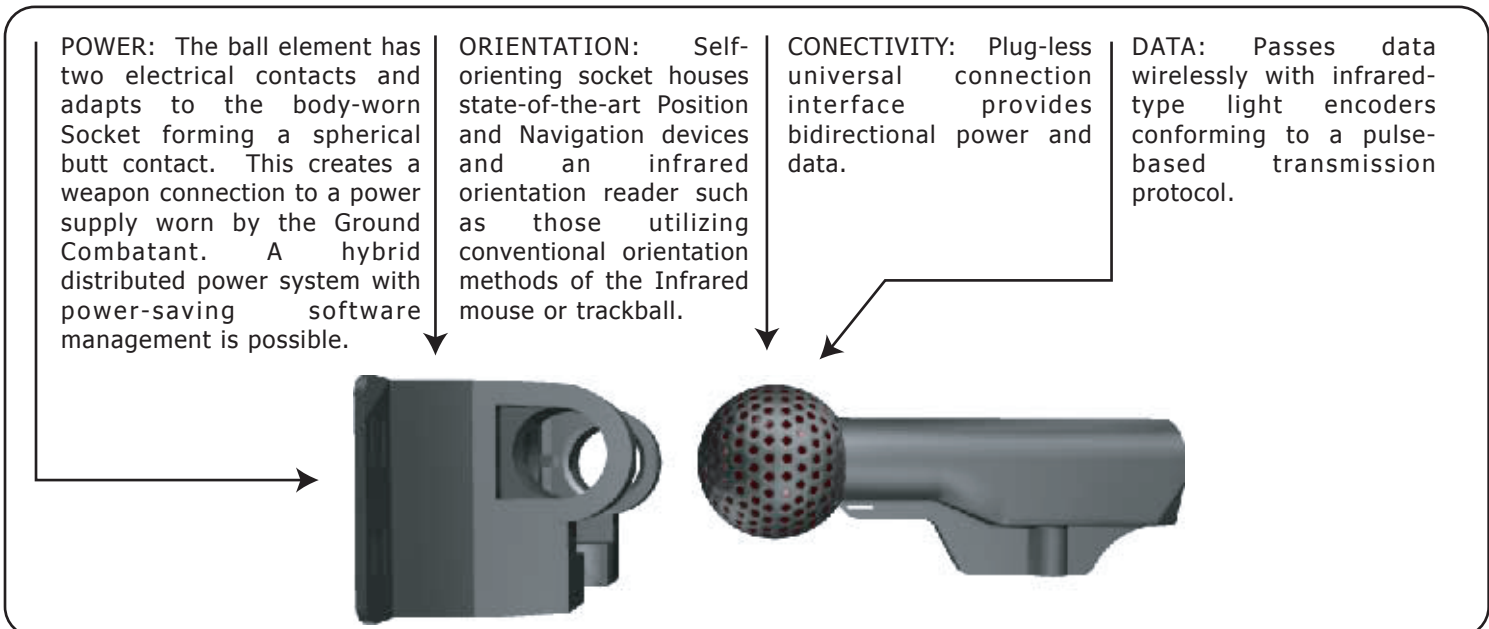
RBS Complex takes Dark Horse's "snap-fit" ball-and-socket joint a step further. In the "Complex" version, the Rifle Ballstock becomes a small, lightweight, low-power weapon orientation sensor. Additionally, RBS Complex employs a first-of-its-kind infrared communications interface, yielding simultaneous two-way passage of data and electrical power. The RBS Complex evolved from RBS Basic by adding a technology known as "Weapon Orientation and Systems Integration," or "WOASI." WOASI is a groundbreaking step towards Soldier-as-a-System performance.

Together, the Warfighter gets a rugged, multipurpose, high-tech connector that saves him weight, cost and power compared to the competition.

- Designed for small arms weapons, RBS Complex incorporates a small, low power COTS GPS/inertial instrument sensor assembly
- Dark Horse Arming Constructs technologies allow Army, Marine and Special Operations Command programs to seamlessly leverage a single opportunity -RBS Complex- across operational, testing and training communities
- In addition to joining the rifle and bodyworn computer systems, RBS Complex is a low cost, man-wearable, motion tracking system that is capable of being used by an embedded man-wearable virtual or Augmented Reality system<sup>1</sup>
- WOASI offers an overall improvement in Soldierborne system architecture
- RBS Complex meets emerging requirements for an Augmented Reality Tracking System



The Warfighter gets a rugged multipurpose high-tech connector that saves him weight, cost and power

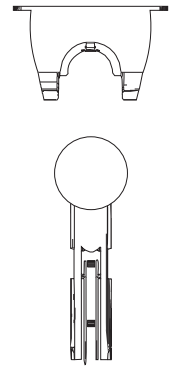


<sup>1</sup>Augmented Reality is the injection, blending and realistic presentation of virtual information and objects into the Warfighters field of view

## Integrating the future...

The United States Army's Land Warrior acquisition strategy CAN move forward to closer integration of the weapon and wearable system, seizing critical reductions in weight and cost. Aside from near-term advantages over cabled or radio wireless connections, RBS Complex is a key long-term battlefield Augmented Reality enabler. WOASI is a fully embedded approach to training, mission rehearsal, and most importantly- combat operations.

- RBS Complex is a miniature, low power global positioning system (GPS)/Inertial Registration Device for use as a weapon orientation sensor
- With real-time operation, RBS Complex provides precise position to within 1 meter, and attitude to within 1 milliradian, in three-dimensions
- RBS Complex is compatible with the Land Warrior Navigation Suite
- Weapon Orientation and Systems Integration, or "WOASI," tracks the Warfighter's head and weapon movements in 6 degrees of freedom
- RBS Complex generates the needed data for any bodyworn Augment Reality System, adding geolocation to the orientation of the user's head and weapon
- Dark Horse Arming Constructs has designed a small, lightweight, low power sensor assembly suitable for mounting on a Ground Combatant's small arms weapon for gaining absolute positioning and angular reference



RBS Complex is  
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battlefield  
Augmented  
Reality enabler

# RBS Complex Architecture

