

### Features

- High-speed scanning, monitoring and geo-location of narrowband signals in the 2 -3000 MHz band
- Utilizes tactical radios for communications infrastructure
- Supports single- or multi-node operations
- Android-based Controller with GUI
  - Worn on forearm or mounted on chest
  - Employs swipe/tap gestures for navigation
- Flexible targeting control with audio/video alerts
- Mapping of collaborative DF/TDOA & team member positions for enhanced situational awareness
- Compatible with MOLLE system's PAL webbing and modular pouches
- Mission-based log files
- Dedicated tuner features high-speed scanning & low noise figure



### DESCRIPTION

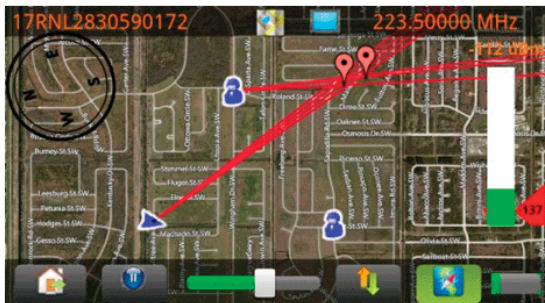
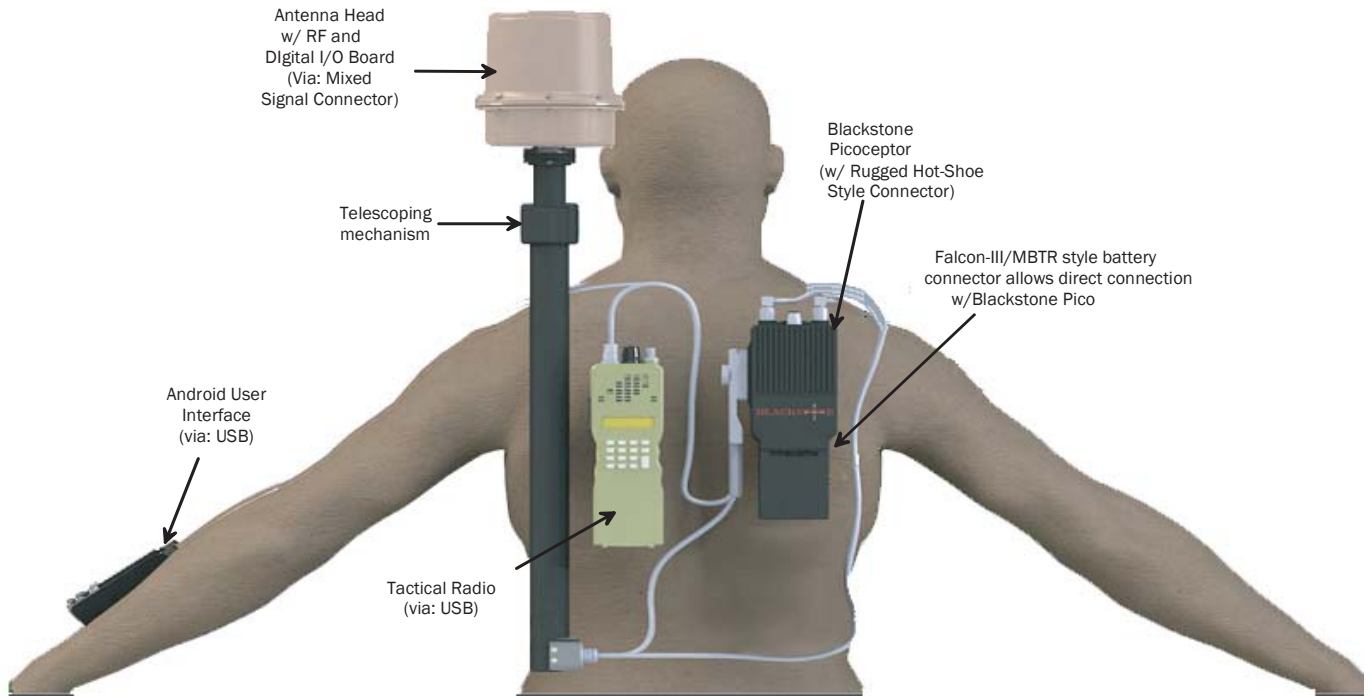
The DRS Blackstone Body-Worn DF/TDOA System provides unmatched performance in a small, operator-friendly, mission-flexible package. It can rapidly detect and locate a wide range of threat signals, monitor signals of interest, and support real-time analysis to provide mission-critical intelligence to the warfighter. The system's light weight, low power consumption, field programmability, and multiple deployment configurations make it extremely well suited for a wide range of demanding operational scenarios. Based on a collapsible small form-factor DF antenna and a low-SWaP ruggedized Dual Channel Picoceptor, this sensor can easily be integrated into existing MOLLE/PALS webbing chest rigs. The Blackstone system seamlessly attaches to a tactical radio for internode and squad communications. The Blackstone System utilizes ruggedized Smartphone

Technology for configuration, command and control of the system. It also displays parameters of intercepted signals and the positions of team members overlaid on a geo-referenced map. This provides situational awareness.

### EXTERNAL INTERFACE SUPPORT

- Telescoping small-factor DF antenna assembly
- Tactical radio (not supplied)
- Scorpion H2 Android Controller
- Falcon-III/MBTR style battery connector
- External SAASM GPS (not supplied)
- Single octopus cable connects all system elements
- TCP/IP over USB-OTG based on RNDIS protocol

# DRS's BLACKSTONE BODY-WORN DF/TDOA SYSTEM



Android-based GUI Enhances Situational Awareness



Smartphone System Controller Worn on Forearm or Chest Mount Pouch



DF Antenna Head



Ruggedized Picoceptor

**Blackstone System Specifications**

<b>Parameter</b>	<b>Specification</b>
Frequency Range	
DF (full specification).....	100 - 800 MHz
DF (reduced specification) .....	2 - 100 MHz and 800 - 2000 MHz
TDOA capable.....	2 - 3000 MHz
Frequency Accuracy	
Without GPS.....	± 1 ppm
Under GPS discipline .....	± 5 ppb
DF Accuracy.....	7 degrees RMS (combined AOA + compass bearing error)
Geolocation Accuracy .....	Within 200 m at 2 km standoff
DF Tuner Sensitivity .....	-105 dBm
Demodulation Sensitivity.....	-104 dBm, 10 kHz bandwidth
Modulation Types.....	AM, Narrowband FM, Wideband FM, USB, LSB, CW
Frequency Resolution .....	1 Hz
DF of Frequency Hoppers .....	Yes, <50/sec
Instantaneous IF Bandwidth .....	6 MHz
Linearity - IP3 .....	7 dBm typical, -5 dBm minimum
Scan Rate.....	500 MHz/s minimum, 2 GHz/s maximum
Tuning Resolution .....	1 Hz
Tuning Speed .....	< 500 microseconds
Number of Channels.....	Two
Channel Resolution.....	1 Hz
Dynamic Range.....	90 dB instantaneous, +46 dB gain control
BITE/System Health Monitoring .....	DF BIT, Temperature, Voltage, Scan Monitor
I/O .....	1xUSB 2.0 Host/Device + 1xUSB 2.0 Host
Optional I/Os.....	SAASM (RS-232, 1pps) + additional USB 2.0 Host
Command and Control .....	Via Android-based Blackstone GUI.
	Simple navigation and control using swipes and single touch
Data output .....	Scan (up/down frequency reports), DF (w/std deviation), and audio logs in XML format
GPS Input .....	Default is internal GPS. External GPS option is available using RS 232 and 1pps input. Accepts external SAASM GPS
Navigation .....	Built in Map/Navigation system in Blackstone GUI
Internal Storage .....	up to 48 GB
Time Stamp .....	Yes

**Mechanical & Environment**

**Parameter**

**Specification**

Maximum RF Input without Damage.....	+30 dBm
Vibration.....	Meets MIL-STD-810G 514.6 Vibration, Procedure I, Category 24, Test I, Minimum Integrity
Shock .....	Meets MIL-STD-810G 516.6 Shock/Drop, Procedure IV, Transit Drop, Man-Packed
Operational Altitude .....	Up to 15000 feet
Operational Temperature .....	-20 to +60°C
Storage Temperature.....	-40 to +85°C
Operating Power.....	External DC power or directly powered using Falcon-III/MBTR style battery or 2590/5590 battery
Power consumption .....	Less than 15 watts
Cooling Type.....	Convection, Passively Cooled

**System Size and Weight**

Item	Dimensions (inches)	Weight (lbs.)	Comment
DF Antenna Head	5.9 H x 5.7 Diameter	2.3	
Telescoping DF Antenna Mast	25.75 L x 1.75 Diameter	2.7	Collapsed length
Android User Display	5.3 x 2.7 x 0.4	0.5	DRS Scorpion H2
Battery (Falcon-III/MBTR Style)	2.8 x 1.6 x 3.4	0.7	5-Hour Mission Duration
Battery (2590 Style)	4.4 x 2.45 x 5.0	3.1	13-Hour Mission Duration
Harris 152 Tactical Radio	1.7 x 2.5 x 9.2	2.4	Supplied as GFE
Ruggedized Pico	6.8 x 3.5 x 1.8	2.1	



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