

01: SPECTRA'S SLINGSHOT UNIT ALLOWS OPERATORS ON THE MOVE TO COMMUNICATE SECURELY BY SATELLITE USING JUST THEIR UHF OR VHF PERSONAL RADIO AND AN OMNIDIRECTIONAL ANTENNA

BRITISH SYSTEMS



01

Report by  
**BOB MORRISON**

# SPECTRA SLINGSHOT

## MAN-PORTABLE GLOBAL COMMUNICATIONS

*The Spectra Group will be familiar to some of our readers who have worked for military contractors or Non-Governmental Organisations in often hot and distant lands or deployed as part of a small military team on operations or peace support missions in remote areas. Created in 2002 by a former Royal Signals communications specialist at the end of a 22-year career with the British Army, the company quickly rose to prominence as a specialist provider of satellite communications for those working far from base in areas as varied as oil and solar power supply through to humanitarian aid assistance.*

commercially, but over 1500 units have been procured by more than fifteen armies ranging from Central and North America to Europe to North Africa and the Middle East to the Far East.

**C&S** recently visited the Herefordshire company to learn more about SlingShot, which we had previously spotted at one of the defence expos, as although many of its military users can be quite secretive due to the nature of their missions or operations the system itself not a secret. Basically, it consists of a small and robust box of electronic tricks, known as an **Appliqué unit**, weighing less than 800 grammes (1.75lbs) with battery pack, connected to an omni-

**F**or those readers who have not encountered it, the **Spectra Hostile Area Deployment Environment (SHADE™)** system is aimed at small teams requiring rapid deployment delivery and availability of 24/7, plug-and-play secure voice

and data services across any available bearer. However, it is the unique **Spectra SlingShot** unit developed and put into production just three years ago by the ex-SNCO founder of the group that is creating big waves, as not only is this lightweight 'bolt-on' comms package now being widely used

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02



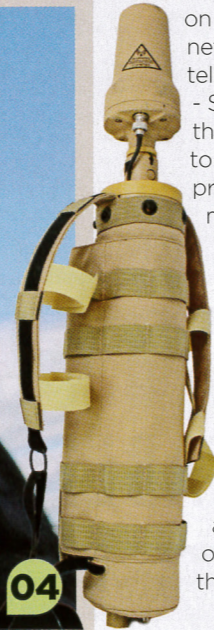
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directional antenna which is screwed into the antenna port of the operator's VHF or UHF radio to turn it into a satellite communication device.

Of course details of some of the electronics inside the SlingShot casing which make it work are commercially sensitive, so even if we understood it we could not reveal precisely what is involved, but the system itself is so easy to use that even a comms dumbo like myself could pick it up in seconds. If the operator knows how to use their own personal radio and is able to screw an

antenna onto it, all they need to do is insert the SlingShot between the two, tune the radio to the given frequency and start talking. Two LED lights on the SlingShot casing confirm that radio and antenna are connected, a third LED illuminates while they are transmitting, and a red LED comes on if there is a problem; a covert version with LED cut-out is also available for those military users who need to use the system covertly.

One beauty of SlingShot is that it uses previously spare capacity



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on three of the **Inmarsat** network's geostationary telecommunications satellites - Spectra worked closely with the communications company to develop the capability - to provide global coverage pretty much everywhere on the planet, though for technical reasons coverage at the Poles is reduced. Another beauty is that because the Appliqué is only a conduit for the radio communications, which can be encrypted or unencrypted as required by the user, full security can be maintained as the messages are conveyed between users or bases in geolocations around the globe.



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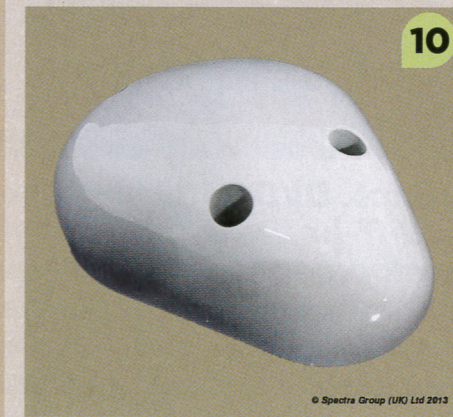


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A third beauty is that, unlike conventional military manpack satellite communications that require the operator to halt and assemble a bulky antenna and then locate the position of the satellite in the sky, the SlingShot omnidirectional antennae allow instant communication on the move via satellite. Three different types of omnidirectional antenna are available, including a burger-like low profile circular version with magnetic base for affixing to the top surface of a vehicle or a streamlined teardrop shaped unit for light aircraft or helicopter use, in



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02: ELITE UK FORCES SIGNALLER USING A TRADITIONAL SATELLITE ANTENNA TO COMMUNICATE WITH HIS BASE IN ANOTHER COUNTRY DURING A NATO EXERCISE [© BOB MORRISON]

03: THERE IS NO NEED TO STOP AND LOCATE THE SATELLITE WHEN USING SLINGSHOT AND THE SYSTEM IS LIGHTER THAN CONVENTIONAL SATCOM UNITS

04: ULTRA-LIGHTWEIGHT MATERIALS ARE USED FOR THIS EXTENDIBLE AND RETRACTABLE ANTENNA MAST WHICH STRAPS TO A DAYSACK TO ALLOW COMMS ON THE MOVE

05: BOTH CIVIL AND MILITARY VERSIONS OF THE APPLIQUÉ UNIT CAN BE SUPPLIED - THESE ARE VHF BUT UHF VERSIONS ARE ALSO AVAILABLE

06: THE SLINGSHOT APPLIQUÉ UNIT, SPARE BATTERY AND LEADS FITS INTO A SMALL PALS/MOLLE POUCH - JUST PLUG INTO PERSONAL RADIO AND ANTENNA THEN TRANSMIT

07: CLOSE-UP OF THE STANDARD SLINGSHOT OMNIDIRECTIONAL ANTENNA WHICH USED TO COMMUNICATE VIA INMARSAT ACROSS OR BETWEEN COUNTRIES OR CONTINENTS

08: A LIGHTWEIGHT LOWER PROFILE MAGNETIC CIRCULAR OMNIDIRECTIONAL ANTENNA SEEN HERE ON AN SF QUAD CAN BE USED FOR VEHICLE OPERATIONS IF SO DESIRED

09: HERE THE OMNIDIRECTIONAL ANTENNA IS MOUNTED ON A LIGHTWEIGHT GROUND SPIKE - SECURE OR INSECURE COMMS ARE DETERMINED BY THE RADIO NOT THE SLINGSHOT

10: THIS SLINGSHOT ANTENNA IS FOR MOUNTING ON AIRCRAFT - THERE IS NO DOPPLER EFFECT IF USED THROUGH THE ROTOR DISC - THE SYSTEM WORKS UP TO 220 KM/HR

11: A CARRY-ON PACK IS AVAILABLE TO ALLOW AN OPERATOR TO TAKE THEIR COMMS SYSTEM FROM VEHICLE TO BOAT TO AIRCRAFT

be maintained at up to 80mph / 130km/hr when travelling by vehicle, up to 40knots in a maritime environment and up to 220km/hr from inside an aircraft. For more on this simple but fascinating system, which is also available to companies on monthly lease, see [spectra-group.com](http://spectra-group.com)