

Oto's Hitfact on Pandur II

The Oto Melara Hitfact 105-mm anti-tank turret (bottom) has recently been put through its paces in Portugal onboard a Pandur II medium armoured fighting vehicle (see our supplement shipped with this issue of Armada International). The 8 × 8 vehicle, used by the Portuguese army and originally a troop carrier, was produced in Austria by Steyr. Shooting tests were declared successful and encompassed all scenarios including on-the-move firing against a moving target. The mobility aspects of the vehicles thus equipped were also explored and this included clearing a mud-filled trench and the steep slope of a dried-up gravel riverbed. The Hitfact turret is also available with a smooth-bore 120-mm gun. The turret structure is of all-welded ballistic aluminium with add-on steel armour plates. The Hitfact guns (whether rifled 105 or smooth 120) are stabilised, it almost goes without saying. The turret is electrically driven and extensively draws on experience garnered by the company with the Centauro turret. Downscale, Oto Melara also produces the Hitfist. This two-man turret (commander on port and gunner on starboard) can mount either a 25 or a 30 mm calibre gun and, like the Hitfact, is of welded aluminium construction able to receive steel add-on armour plates although composite material plates are provided to complement protection. The latest Hitfist fire control system is day and night capable and manages the stabilised and electrically powered weapon system.



Further down the calibre range is the single-operator Hitrole (above). This exists for both land and naval applications and can be home to 7.62 or 12.7 mm weapons. The idea of the concept is to provide under-armour protection to its operator. Standard sight is optical although low-light television or infrared camera options are available.



Ram-air Gigafly GPS Fly-by

Airborne Systems has recently completed a test drop of its Gigafly modified ram-air parachute with an 8165-kg payload from 17,500 ft above mean sea level. The test was one element of a US Army Natick development programme designed to study the use of a modular design for guided airdrop of heavy cargo. Airborne Systems has two heavy-payload systems; the Megafly and Gigafly, designed to carry between 6800 and 19,000 kg using GPS navigation. The two modular



systems are assembled using five separate sections that, when complete, create a unit as long as the wingspan of a Boeing 747 (more than 64 metres).

New Nomad With WWAN

A new line of rugged handheld computers from Trimble was announced on 7 January 2009. The 800X Series Nomad offers three new models that provide wireless wide area networking capabilities, digital photography, bar code scanning and integrated quad-band GSM cellular data transmission. The 800X series computers send and receive real-time data and SMS messages, access the Internet and e-mail at up to 1 Mb/sec through a built-in high-speed wireless data modem that



connects to Edge networks. The 800XE includes bar code scanning capabilities at three scans/sec and a 2.0 mega-pixel digital camera.



Put a Foot into a Haix

Germany's Haix has developed the Airpower P9 Desert tactical boot for the more sandy regions of the globe. Designed specifically for the armed forces the P9 boasts a combination of high-quality two-mm-thick leather and Gore-Tex XCR System nylon

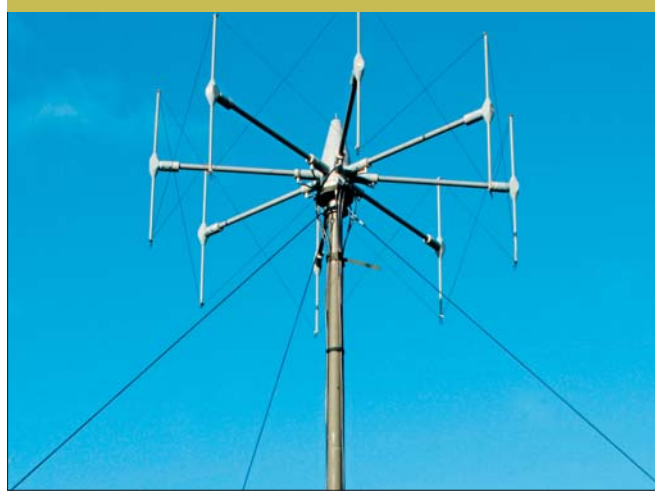
fabric built around the company's proprietary Haix Climate System that takes advantage of even the smallest movements to push perspiration out through the shaft of the boot. A patented orthopaedic arch support technology called the Haix AS System provides continuous support whether in tedious standing/walking or high-mobility conditions.

50,000 Falcons Unleashed!

Harris has recently celebrated the shipment of the 50,000th Falcon III AN/PRC-152(C) JTRS-approved SDR hand-held radio – purportedly the world's most widely deployed JTRS hand-held.

Catching the Smaller Ones

Thales Air Systems has provided Armada editors with an update of its Homeland Alerter 100 passive coherent location sensor. The mobile version of the system fits into a commercial van or 4 x 4 vehicle and is quickly set-up and made ready by a party of two in less than two hours. The Homeland Alerter 100 system is unique in its surveillance technique as it analyses the reflection of local FM signals (radio stations) that naturally illuminate any incoming aircraft to paint a picture of a certain arena's airspace operations. Stealthy and low-flying aircraft are no longer hidden from view as the system monitors airspace in 360° radius out to 100 km. Real-time tracking of aerial targets is achieved through ellipsoid and Doppler measurements. The system is completely pas-



sive, therefore creates no ECM issues nor ecological deployment restrictions and can be deployed where normal radars cannot.

The system was recently (2008) tested by Finland, and both Norway and France have bought the Homeland Alerter 100 system in the

past. Interestingly enough, development began more than 17 years ago and the first system was demonstrated in 1998, although it exploited waves reflected from television frequencies. Future developments are likely to include digital television and UHF band emissions.

Protecting the Sniper's Eye

Revision Military Eyewear has developed a Deluxe Shooter's Kit for its Sawfly eyewear system. The kit includes a set of vermilion lenses that reduce glare effects present under cloudy or hazy conditions or those illuminated by artificial (halogen and fluorescent) light sources. The increased contrast helps the shooter find and select his target in high glare/reflection environments. Revision's Sawfly eyewear meet US military eyewear ballistic impact resistance requirements and

are claimed to exceed ANSI Z87.1 high-velocity impact performance by 300%. Updated information received from Revision just as this issue was going to press reports the launch of the company's 'next-generation' eyewear system – the Sawfly-TX (pictured). The TX was developed with ultra-thin arms to ensure compatibility with ear-pro and communication headsets. Input from US military special forces personnel led to this specifically engineered design that maintains the seal between headset and ear, resulting in minimal noise leakage. The Sawfly-TX features Pro lens-



es (top) which were designed for high-activity missions and Max-wrap lenses for high-threat environments where maximum lateral coverage gives added protection.

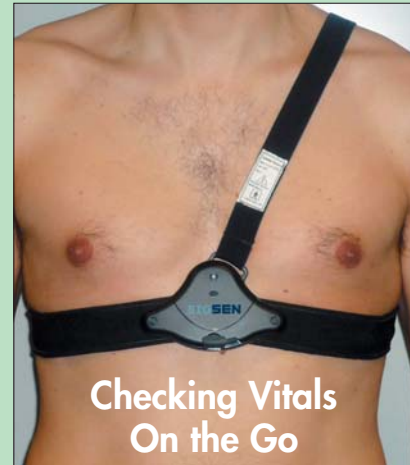
Penning a Clean Drink

Ensuring troops are constantly supplied with clean water is the bane of military logisticians worldwide. There has emerged a plethora of backpack, bag and bottle hydration systems, but when these run dry finding even a cup of potable water can be a nightmare to a dehydrating soldier. Hydro-Photon of Blue Hill, Maine has developed a small, portable, hand-held water purification wand that uses ultraviolet light to 'sterilise' any clear water for drinking. The Steripen Protector effectively destroys more than 99.9% of bacteria, viruses



and protozoa in up to one litre of water with each use. It is surprisingly simple to use: the operator selects the water volume by pressing the 'on' button once or twice (depending on quantity), immerses the UV lamp and stirs. A green LED signals the correct dose has been applied and the water is fit for drinking. The Steripen

weighs a slight 103 grams with batteries and can purify one litre of water in 90 seconds. The Steripen is used as an instructional tool at two US Air Force Sere (Survival, Evasion, Resistance and Escape) schools and is listed in the US Navy Parachute Riggers manual and the Soasi (State-Of-the-Art Survival Item) programme.



Checking Vitals On the Go

Keeping track of a soldier's vital signs while he's clearing a building would be an obtrusive and daunting, not to mention dangerous, task. Spain's Sener has launched a real-time vital sign monitoring system for 'the combatant of the future'. The Biosen physiological condition remote monitoring system is a non-intrusive device that transmits an individual's cardiac rhythm, respiration rate and temperature to a PC, PDA, mobile phone or tactical radio through an integrated wireless transmitter. Sener and the Spanish Ministry of Defence have signed a contract for the Combatant of the Future programme to include Biosen systems as a line item.

Tetra THR9 from Eads

Eads Defence & Security has added another notch into its hand-held radio portfolio with the introduction of its THR9 Tetra radio. The THR9 features a high-resolution QVGA display with distinctive graphical icons and symbols and easy-to-read text display for a quick-view update on the unit's functions. Two PTT keys allow the user to assign one key to a command group (for example) and another to an operational group or network. The unit also has a vibrating alert for silent notification of incoming calls or messages, a repeater function to help in range extension and a Java platform architecture for loading organisation-specific applications.

Hope Glides for Diehl

Late 2008 Diehl BGT Defence reported the first fully-operational demonstration of its GPS/INS-guided glide missile Hope, with a successful drop from a German Air Force Tornado. The medium-range missile was developed by Diehl in co-operation with the German Air Force Command Staff and Weapon System Command as a capability analysis project. The Hope was designed for use from the Eurofighter, as it enables the aircraft to engage heavily-protected targets from increased stand-off ranges.

Kaya On the Otokar Display

Making its public debut at the IDEX 2009 exhibition, the Kaya from Otokar was designed to thwart the increasing threat of buried mines and yet provide a high level of cross-country capability. The Kaya was developed on the Unimog 5000 chassis, with the armoured cab and crew compartment designed as two separate units. Otokar employed specialised software to simulate mine blasts under the hull and wheels during the design period - actual mine blast tests were carried out according to standard Nato protocols.



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Unattended Surveillance Systems

Surveillance with traditional means (observers and sentinels) is a personnel-intensive task. A number of systems automatically alert of the presence of intruders and can actively defend a perimeter.

Air Refuelling Aircraft

Airborne refuelling aircraft are often the poor child in an inventory. However, very few long-haul missions would be possible without them. The current fleets are getting long in the tooth and are in need of replacement.

Convoy Protection Vehicles

Convoys carry troops, weapons and supplies... and also refugees. This is the reason why they are easy prey. Suitable escorting and defending vehicles are necessary to protect them, including from top attacks.

Cyber Warfare

Certain intelligence agencies have created teams of intelligence and computer specialists (and hackers) to protect communication assets and to chase-down information and financial assets of 'terrorist' organisations and 'bad guys' in general. This is the battlefield of the future, or rather, today.

2007-09 Light Armoured Command Vehicles

The past three years have seen a dramatic shift in requirements for these vehicles, particularly in terms of protection and mobility. This article shall examine the types that have recently been devised or are in the making.

Drone Update

The regular unmanned aircraft update of events that have unfolded since the previous issue of Armada International.

Complete Guide Modern Soldier Systems

A number of nations are completely overhauling the equipment of their soldiers to enable them to fight in an increasingly hostile environment. The warrior thus becomes a digital system involving helmet sights, gunsights, communications, information receivers, video, environmental awareness devices, drones, weapons and so forth.

Armoured Troop Transports (Wheeled)

How safe is safe? Even the most heavily armoured vehicles now get overturned by buried or roadside bombs. While not penetrated by blast effects, the sheer acceleration and decelerations cause casualties. A few manufacturers are introducing new protective systems, often implying a full vehicle redesign.

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