

MILITARY SYSTEMS

TECHNOLOGY

AIR TARGET SWEDEN AB

leading supplier of scoring systems since 1956.

CRISP AND SONS

Military Swords and Refurbishment

MARONTECH COMMUNICATIONS

highly skilled Marketing and Public Relations Consultancy

MOBILE ATC

Mobile Air Traffic Control Systems Ltd
Rapid Deployment at it's best

NORTHROP GRUMMAN

Unmanned Ground Systems

PLUS...

BREAKING NEWS FROM...

DOK-ING
EXPLOTRAIN LLC
SPINNER
STÄUBLI
WILL-BURT
YDS BOOTS

Image Courtesy of YDS Boots

**OUR FOUNDATIONS IS OUR
TECHNOLOGIES, OUR MISSION IS
EXPANDING YOUR CAPABILITIES.**



Scott Safety are world leaders in the design and development of Respiratory Protection Equipment (RPE). We have a detailed understanding of the physiological and psychological burden RPE can place on users. That is why we test in the field. We apply what we learn there - as well as emerging research and technologies to every design to ensure superior capability, functionality and comfort. Irrespective of whether your requirement is for CBRN protection, Breathing Apparatus for EOD, USAR, Damage Control, Law Enforcement, Fire Fighting or for specialist applications Scott can meet your requirements- Comfortably

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SAFETY

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Welcome to this edition of the Military Systems & Technology newsletter.

As an established web portal for the International Defence & Aerospace Industry, we strive to provide a comprehensive and detailed listing of Military Equipment Suppliers, Products and Services. This newsletter is designed to keep you up-to-date with latest news and events within the Defence Industry's Governing Bodies, Organisations and Companies.

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LEADING SUPPLIER OF SCORING SYSTEMS SINCE 1956.

Air Target has been a leading supplier of scoring systems since 1956. Our acoustical scoring products have been delivered to customers Internationally in more than 30 countries. Acoustical scoring is a method to measure the miss distance between a supersonic projectile or missile and a target. The range of products include: the Mini Marque and Marque scoring stations, Miss Distance Indicators (MDI), uplink command units, sleeve targets, and winches.



Train More Efficiently And Save Money

New scoring stations and MDIs make firing training more flexible and more realistic which is important in modern firing training. By making use of this technology you can save money by reducing ammunition consumption and training time whilst allowing gunners and the weapon system operators get more efficient training.

on or close to the target. The amplitude and the time differences between the different sensors are used to calculate the shortest distance between the target and the projectile (the miss distance), and in what angular position the projectile passed. The scoring data are presented in real time on a colour graphic computer display. Data transmission between sensors and display is via a radio link.

Calculating Projectile Miss Distance

The shock wave generated by a passing supersonic projectile or missile is detected by an array of pressure sensitive sensors installed

Gunnery Training with Acoustical Scoring

Scoring gives the gunner and the weapon system operator real time information in the virtual "scoring board". This information gives a

picture of each round "hitting" the "scoring board". The angular position of the score as well as a score too far off can immediately guide the gunner to improve his direction of fire. The improved results can be verified as they appear on the "scoring board".

Acoustical Scoring Firing Situations

Acoustical scoring is useful for calibers from 5.56 to 5" and above and missiles (rounds need to be supersonic in the target area). Acoustical scoring can be used for all firing situations i.e. AIR to AIR, AIR to GROUND, GROUND to AIR, GROUND to GROUND, and the corresponding naval applications.

LOMAH System

The "LOMAH" system is our latest developed system and has been delivered in large numbers to many customers since 2006.

LOMAH is a calibration free acoustic scoring system suitable for scoring of all supersonic caliber sizes.

Typical areas of application:

- Firing range and combat soldier training SASS-4/9
- Tank Target Scoring System TTSS-4/9
- All type of static and moving targets, including pop-up targets
- Aircraft firing against ground targets ATG

The use of a scoring system will increase the throughput and make the validation of the gunners efficient and very cost effective.

The firing result is presented on a Visual Display Unit (VDU-1) placed close to the gunner. Several target figures are available, such as half and full size soldier figures, or a ten ring standard target. Up to 10 ea. lanes each containing several SASS units can be connected to a Range Office Presentation Unit (ROPU) for presentation of the firing result. The result can be printed as well.

Mini Marque and Marque Scoring Stations

Mini Marque and Marque scoring stations are used for the collection, calculation and presentation of real time firing results from up to six targets simultaneously.

The new scoring stations Marque and Mini Marque can receive scoring data from up to six targets (MDIs) simultaneously. The software is based on Windows NT including a SQL-7 data base. Features include: Up to 40 m scoring range; Up to 6000 rounds/minute.



Miss Distance Indicators (MDIs)

scoring system, sleeve targets, which are soft targets for various applications (radar, laser), and inboard target towing winches.

Zone, 4- and 12-sector models as well as vector models are available for all type of targets and UAVs.

The universal 12 sector MDI gives the possibility to fire at a target (MDI) coming from any direction. The target towing operator/UAV operator can offer any target courses during the same mission.

Uplink Command Unit

This is used to remotely change the MDI frequency and sensitivity. Other equipment includes test equipment to test the complete

Customisation of Acoustical Scoring Systems

Customisation of our products to the customer's requirements is one of our specialities.





MILITARY SWORDS AND REFURBISHMENT

At Crisp and Sons we are renowned for our craftsmanship and expertise in the refurbishment of all military ceremonial swords including those used in state ceremonials and by the Guards of Honour & Palace Guards.

We are the UK's only specialist Military sword manufacturer, Sword refurbishment provider and supplier of British ceremonial Swords and Sword Accoutrements.

Crisp & Sons have a proud tradition of "Quality First and Foremost" and are firmly



committed to preserving British craft and manufacture.

Infantry Officers Sword

Individually made and crafted to order. The 1897 pattern was the final revision of a sword described as "the best fighting sword ever prescribed for the Infantry officer".

The sword features a 32.5" long, straight, spear pointed carbon steel blade. The hilt is nickel plated steel, pieced and stamped with a scroll pattern that incorporates the Royal cypher. The wooden core grip is black dyed fish skin covered with silver plated copper wire.

The Infantry Officers Sword can be carried with either a Nickel dress scabbard or a leather 'Sam Browne' scabbard first introduced for universal use in 1899 on the eve of the South African War.

Royal Artillery Officers Sword

Individually made and crafted to order.

The Artillery Officers sword is based on the 1822 Light Cavalry pattern.

Featuring a 35.5" long slightly curved and spear pointed carbon steel blade. The hilt is nickel plated steel featuring a fluted three bar, half basket. The wooden core grip is black dyed fish skin covered with silver plated copper wire.

The Artillery Officers Sword can be carried with either a Nickel dress scabbard or a leather scabbard available with either 'Sam Browne' fitting or with rings.

Royal Navy Officers Sword

The 1827 pattern Royal Navy sword and finally revised in 1929 with a lighter straight Blade. Carried by today by RN commissioned officers and has also been adopted by other countries including Canada, Australia and New Zealand.

The sword features a single-edged straight carbon steel blade. The hilt is stamped in brass with a fouled anchor and crown, the brass pommel is in the form of a lion and both are 22ct gold plated. The white fish skin grip is bound in gold plated wire.

The scabbard is made of rawhide with 22ct gold plated mounts. Officers of Flag Rank and above carry a more ornate version featuring finely engraved mounts.

Royal Airforce Officers Sword

Designed by Wilkinson sword and adopted by the Air Ministry in 1925. The sword has a single-edged straight carbon steel blade. The hilt is stamped in brass with a cartouche bearing the emblem of the RAF, the brass pommel is in the form of an eagle and both are 22ct gold plated. The white fish skin grip is bound in gold plated wire. The scabbard is made of rawhide with 22ct gold plated mounts. Officers of Air Rank and above carry a more ornate version featuring finely engraved mounts.



Military Sword Refurbishment

At Crisp and Sons we source pieces of quality and character. Our craftsmen then sympathetically refurbish them to their former glory to parade ground specification, a sword that looks every bit as good as the day it was first produced. The result is not only an original piece but one which bears the quality, history and provenance of many of the great names of sword making.

Sword refurbishment offers customers the opportunity to reset the passage of time and have their sword restored to its former glory. We offer a complete in house sword refurbishment process utilising traditional techniques and methods dating back nearly 200 years.

Crisp and Sons are specialists in the refurbishment of British Military Swords and are firmly committed to ensuring the continued service, longevity and provenance of all the quality swords still used in ceremonies and parades today.



HIGHLY SKILLED MARKETING AND PUBLIC RELATIONS CONSULTANCY



We are a highly skilled Marketing and Public Relations Consultancy with over 25 years' experience in the Defence and Aerospace sectors. We are active on a number of worldwide programmes working as a business partner within our client community.

Over the years, we have not just built a list of clients, but have evolved a group of client companies, which has, thanks to them networking between each other, become what we regard as our 'Client Community'.

We do not employ large numbers of people, but over the years we have developed a network of experts in individual fields which allow us to deliver solutions – whatever that solution might be.

Core to our offering are integrity, agility, quality and experience coupled with a strong desire to be part of your team. We work with you to identify your organisation's needs and develop a structured plan of activities agreeing a budget with you and then implementing the programme.

Marontech is focused on providing Marketing and Public Relations consultancy support to clients operating in the defence and aerospace markets; areas where we have expertise and an unmatched portfolio of results.

Clients for whom we devise and manage national and international Marketing and Public Relations campaigns, range from small start-ups to international organisations with headquarters across the globe.

Our expertise ranges from writing trade media releases and articles (technical and corporate,) through creating marketing material, managing your company's presence at major exhibitions, new product launches, running international marketing campaigns, which deliver results, and helping you to develop marketing strategy and plans.





Marontech is a member of the ADS Group and the managing director is a Member of the UK's Chartered Institute of Public Relations.

Our Core Skills Planning and Strategy for Defence and Aerospace

We work with you and your team to develop your marketing strategy and then create and implement the plans to deliver results. Key to this is establishing clear key messages, understanding your customer base and knowing where you want to position your company in the future.

Defence and Aerospace Corporate Marketing

Within our network we can provide independent market research which looks at what your customers' want, what is out there already, and how you are going to reach those customers. We can then work with you to develop integrated campaign capture plans.

Media Relations in the Defence and Aerospace Sectors

The media play a significant role in helping you to spread your message to your customers and stakeholders. We have strong

media contacts and understand their requirements. We prepare and distribute news releases (the emphasis is on news), arrange journalist briefings, prepare and secure placements for feature articles, create media packs for events, develop issues briefing documentation and be there to support you should a crisis occur.

Advertising, Planning and Design for the Aerospace and Defence Sectors

We can prepare advertising plans to raise your profile in your chosen markets or to provide focus for specific campaigns. We make recommendations, provide budget plans and manage the advertising process from initial design through to finished artwork.



Web presence is becoming increasingly important. We work with you to develop the content and maximise its effectiveness so that your company and product solutions are easily visible to potential customers.

Public and Government Relations for the Defence and Aerospace Sectors

In our market sectors, interaction with governments is a core part of any marketing activity. Using our network of experts we are able to put together and implement a government relations programme to help you succeed in winning the business and keep the customer and stakeholder community on your side.

Defence and Aerospace Marketing Communications

Exhibitions, brochures, event management, videos and websites are all tools which have an important part to play in creating an environment where your customers want to do business with you. We have considerable experience in project managing these from beginning to end, including working with you to clearly identify why you are exhibiting for example, how you are going to gain the most benefit from the event or what design should be used for your brochures, videos and website to ensure they fit into an integrated "look and feel" as part of your corporate identity.



Mobile Air Traffic Control Systems Ltd



MOBILE AIR TRAFFIC CONTROL SYSTEMS LTD RAPID DEPLOYMENT AT IT'S BEST



Rapid Deployment are certainly the buzz words in all Military Forces presently, the capability to rapidly establish an airborne infrastructure is an essential part of strategies laid down by Joint Armed Forces worldwide.

The Mobile Visual Control Room (MVCR) or Mobile Air Traffic Control Tower is an integral part of any Joint Armed Forces Aerospace Surveillance and Battle Space Management System. The requirement of an operational airbase is essential to all operations in-theatre very early in any conflict and therefore the equipment used must reflect the requirements of urgency and the possible lack of lifting equipment or specialised vehicles for deployment.

Rapid Deployable ATC Towers

The trailer mounted system is designed specifically for rapid and simple deployment.

The Mobile Air Traffic Control Systems ATC tower is transportable by C-130, C-17 and has undertaken live trials with Chinook helicopter, and can be deployed by 2-4 personnel in an hour. All equipment needed to deploy is carried within the unit and there is no additional lifting equipment necessary.

Mobile Air Traffic Control Systems designed their tower to be trailer mounted so that it can be towed by various unspecified vehicles and removes the single point of failure of a truck-mounted system.

Mobile Elevating Towers

The tower elevates to 7m operator seated height and allows for 3 operators plus 1 supervisor position. The internal fit is designed specifically to meet the precise operational requirements of the end user but be flexible in terms of upgrades and/or additional equipment requirements to cope with local operating conditions.

Features

Mobile Air Traffic Control Systems have specifically designed their mobile system for uncomplicated Rapid Deployment with a minimum of parts.

Whether it is to be used for military applications, a stand-by or disaster relief, it is important that the unit can be deployed quickly and efficiently.

The Systems all feature a new Automatic



Levelling System and remotely controlled deployment that levels and deploys the cabin to full height and locks it in position hydraulically in under 5 minutes.

- The system has been designed to be deployed by 2-4 men in under an hour.
- All equipment needed for deployment is stored within the cabin or trailer system – the unit is completely self contained.
- No need for any special lifting or handling equipment to deploy
- Towers can be run off mains or powered by a generator.
- The Cabin is trailer mounted for reliability, ease of use and flexibility – the cabin can be removed in 15 minutes.
- Multi-level towing positions to cope with variety of different towing vehicles.
- Robust heavy duty trailer system with EBS that automatically adjusts the air suspension to ensure the system remains level when being towed.
- The trailer has adjustable air suspension to increase or decrease ground clearance.
- Simple deployment – ONLY FOUR BOLTS in the entire deployment so less to lose and less FOD.
- C-130, C-17, IL-76 and Heavy Lift Helicopter transportable
- Tower has 3 operating heights, elevating to a maximum of 7m operator seated height.
- Up to 4 operator positions
- Cabins fitted with fully plug and play integrated systems comprising usually of military or commercial air to ground communications, voice switching and recording, meteorological reporting, navigational equipment and ground to ground communications to customer specification.
- 360° vision from all operator positions.

- LED lights throughout including the stairs
- High spec ATC double glazed glass.
- Dual Air Conditioning Units
- Ballistic protection and Bullet Proof Glass options
- Operators can safely evacuate the cabin in under 20 seconds unlike some towers that require an elevator.
- Tower meets all Safety Regulations including Working at Height and evacuation procedures.

All Terrain Truck Mounted ATC

MATC introduced their new 6x6 All Terrain Mobile Air Traffic Control Tower at the World ATM Congress in Madrid 4-6 March 2014. Described as a “game changer in tactical military ATC operations” the 6 wheel drive Mercedes mounted system had a lot of interest. Designed in principal for Middle East and Asian operators, the unit is autonomous with an in-built generator, automatic levelling and an operator height of 7.5 metres and is delivered plug and play. It features an automatic tyre deflation and inflation system to cope with wheel slip on sand or wet conditions whilst maintaining a fast on-road speed enabling quick location and relocation. The cabin is the same as the trailer mounted unit.

Added to this MATC introduced a new Compact ATC Cabin that can be towed and positioned by any four wheel drive. This is aimed at smaller strips and airfields where elevation is not required, it is equipped to the same ATC standard as the other models and has an onboard generator and fuel tank.

NORTHROP GRUMMAN - UNMANNED GROUND SYSTEMS

Northrop Grumman's heritage in unmanned ground systems began with the challenges encountered by UK MoD Explosive Ordnance Disposal (EOD) personnel in addressing the terrorist threat in the early 1970s.

From very simple beginnings, the first Wheelbarrow bomb disposal vehicles were developed and have evolved with advances in technology offering increased capability to the EOD operator. The Wheelbarrow has now

developed to Mk9, and is regarded by EOD specialists' world-wide as the most capable and reliable unmanned vehicle available.

Today multi layered solutions from detection and planning to response and destruction, are designed to offer all EOD team users a modern, fast, reliable and effective solution to combat the latest threats associated with today's modern IEDs.



CUTLASS

- Improved range and video quality up to 1km with fully secured digital wireless communication
- Arm Speed, Terrain Mobility over x4 faster than other UGVs up to 12 (kph) Kerb climb 0.3 (m)
- Stair Climb 37°, Gap Cross 0.5 (m), Self-righting capability, Pitch and roll sensors along with Load cells provide auto stability system
- Tool rack with Automatic tool change for 8 tools/weapons no need to return to control point for new tools.
- 9 degrees of freedom modular arm – the most versatile capability in the world, can be exchanged for a heavy duty arm capable of lifting 100(kg) or handling large weapon shocks.
- All cameras are colour and come with lighting this combined with onboard microphone give superb situational awareness.
- Dedicated data channel for additional sensors (Ethernet speed), tested with multiple CBRN equipment deployment.
- Environmentally suitable for all climates. - 15°C to +60°C dust/rain, vibration, shock certificated, fording depth 0.3(m)

Wheelbarrow Heritage

Today, at our facility in Coventry, we have created a centre of expertise for the systems design, integration and assembly of some of the most trusted unmanned ground vehicles. Our heritage has been built on providing the most capable and recognisable remote controlled bomb disposal platform the 'Wheelbarrow' to the UK Ministry of Defence (MoD).

- Wireless hand controller; joystick vehicle control
- Improved range and video quality
- Dedicated data channel for additional sensors
- Low profile 3 fingered gripper with integral ceramic cutter
- Tested with multiple CBRN equipment deployment
- 7 weapon firing releases – offers a large variety of tool installation without the need to change mid-operation

Explosive Ordnance Disposal (EOD)

The capability of the Wheelbarrow platform and its unmatched performance has directly led to its international success and it is still in active service world-wide as the platform of dependable choice by the most demanding and dedicated EOD/Counter-Improvised Explosive Device (CIED) teams.

Recently, we launched the Wheelbarrow Mk9 as the latest platform with its combined strengths of speed, climbing, lift and payload capacity. This has been enhanced to improve the ease of operator use with digital command links, intuitive touch-screen controls and sensors for improved situational awareness.

F6 Series

- Dual mobility capability
- Manipulator arm with 7 degrees of freedom
- JAUS (Joint Architecture for Unmanned System) software operating system
- Multi-mission tool/sensor mounts with plug and play capabilities
- Rotation: grip rotation – continuous 360°
- On screen graphics showing vehicle orientation, feedback from on-board sensors and errors and failures of joints

HD Series

- Grip rotation 360°
- Common, modular electronics with JAUS



(Joint Architecture for Unmanned System) compliant software

- Moulded front-drive range integrates microphone, speaker, drive camera, firing circuits and LED lighting
- Quick release lithium polymer battery
- New manipulator options with 6 degrees of freedom and quick release gripper/tool system

attachment

ANDROS™ Unmanned Ground Vehicles

As part of Northrop Grumman, Remotec US Inc. manufacture the ANDROSTM range of EOD unmanned ground vehicles. Outside of the Americas, Remotec UK Ltd markets the latest developed ANDROSTM F6 Series Model no. CX (also known as the F6B) and HD Model no. SEL. The larger ANDROSTM F6B platform offers a dual mobility capability: quick release pneumatic wheels for rapid width reduction and patented articulating track to traverse rough terrain.

It has a manipulator arm with 7 degrees of freedom ensuring optimum dexterity and offers screen graphics showing vehicle orientation, feedback from on-board sensors and errors and failures of joints.

The medium sized ANDROSTM HD SEL model is a more compact and robust vehicle that can travel up to speeds of 8.4km/hr and has an extremely durable moulded front-drive range

Titus

- New manipulator design with all internal components provides superior capability, in a quick release, versatile package
- State of the art diagnostics and troubleshooting including on-board diagnostics LCD screen
- Quick-release articulators provide unmatched stair climbing & mobility, or can be removed for narrow spaces.
- Quick release pan and tilt can be removed with a twist of the wrist for low clearance areas.
- Optional tazer and thermal imager
- Integrated 1W or 5W radio for clear audio and video
- Picatinny rails for sensor & payload





integrating a microphone, speaker, drive camera, firing circuits and LED lighting.

CALIBER® Medium to Small EOD/SWAT Robots

Northrop Grumman markets the CALIBER® Mk3 and T5 robots into most of the world for ICOR Technology. The Mk3 is a medium-sized platform that offers towing and dragging capability of a larger robot, but with the speed, agility and dexterity of smaller lightweight platforms.

Mk3

- Strong Rugged and simple to operate
- Claw 360° continuous; 25cm opening
- Unparalleled aiming capability of 2 disrupters using the weapons turret
- Wireless COFDM radio system available
- Command and Control unit has joystick control and 21cm LCD Colour screen for bright and low light conditions.
- Uses recoilless disrupters only

The CALIBER® T5 is a smaller, lighter, narrow robot chassis. It has a single highly agile robotic arm with 5 degrees of movement including a turret, shoulder, elbow, wrist and claw joint. A narrow chassis allows access into cars, buses and planes and its telescoping extension arm can reach into overhead lockers to check for any suspect packages.

- Easy 2 man lift that fits into a boot of a car
- Narrow chassis width will fit down the aisle of a plane, bus and train
- Telescoping arm extension kit allows for full reach of 2.6m allowing easy inspection of overhead compartments or narrow spaces
- Command and control unit has joystick control and 21cm LCD colour screen for bright and low light conditions
- Uses recoilless disrupters only

Mini-CALIBER® Lightweight Modular Robot

The newly released Mini-CALIBER® is a lightweight, modular robot that is man transportable. It has been especially developed for rapid tactical missions to search rooms, hallways, stair wells and confined spaces quickly.

- Lightweight and modular, can be transported by hand.
- Developed for rapid tactical missions, simple to operate and quick to deploy.
- Fast action searching of rooms, hallways and other confined spaces.
- Mission configurable with basic and advanced set up allows for basic and advanced set up.
- CBRNE detectors and sensors can be mounted onto the deck of robot chassis for assisting first responders in identifying hazardous items.
- Rear and front drive Colour IR cameras
- Hand held command and control unit
- 2 way audio (talk/listen)

It has been our privilege to work and partner with the EOD/IED teams and to understand their complex mission objectives in a turbulent and evolving threat environment. We can provide technical solutions from our increasing range of vehicles that can be configured according to the operational requirements of the user including EOD, ground surveillance, hazardous material (HazMat) and chemical, biological, radiological, and nuclear (CBRN) missions. Furthermore we are now providing bespoke system solutions, integrating our unmanned ground vehicles with command and control systems, the TouchTable® collaborative environment and service support vehicles to produce a standalone mobile capability for locating, identifying and disarming explosive and other hazardous devices, collecting forensic evidence and carrying out criminological analyses.

Northrop Grumman Corporation is a leading global security company whose 120,000 employees provide innovative systems, products, and solutions in aerospace, electronics, information systems, shipbuilding and technical services to government and commercial customers worldwide.

Moving into CBRN and Integrated Solutions





SURPLUS AND SHELF LIFE EXPIRED SMALL ARMS AMMUNITION IN OPERATIONAL THEATRES

In any conflict there is a large amount of Small Arms Ammunition (SAA) issued to the troops on the ground which when unpacked cannot be returned to stock. Other issues such as climate and age render the ammunition unfit for front line use and in some cases unfit for training.

This SAA takes valuable resources and manpower to look after it until it is transported from theatre or destroyed. The TRADS 20 built and supplied by EOD Solutions Ltd and Caldo Engineering would solve these issues and be a cost effective way of destroying SAA as it became available.

Container or Trailer mounted the TRADS 20 which has been proven in Afghanistan can destroy up to one and a half tons per day and will need the minimum of resources as it is completely self contained and meets the EU Waste Incinerator Directive for emissions to atmosphere.

The TRADS 20 is totally self contained and requires only diesel to operate. Lime and Urea is supplied with the system and one 20 foot container can hold enough of these materials to work for up to one year. The trailer mounted version can be pulled to FOB and other outstations and camps so it also reduces the need to transport SAA in theatre. The TRADS 20 is ahead of its rivals as it requires only two personnel to work it with a small number of personnel for unpacking and searching the scrap to ensure all the ammunition is destroyed. The system is currently working in Afghanistan and has proven to have a good reliability and production record. Average cost per day is approximately £200 plus labour. Daily and routine maintenance is elementary and can be undertaken by anyone with a rudimentary knowledge of engineering. Full training and first site commissioning is included in the cost of the system and a company technician will remain for the first two weeks to ensure the personnel who work the system are completely at home with the system.

EOD Solutions Ltd in conjunction with CALDO Engineering have supplied machines to Bosnia, which was funded by the UK MoD, also in Albania, funded by US Dept. of State and now in Afghanistan with the British forces in Camp Bastion. A TRADS 20 is currently working in Camp Leatherneck with a US company and another is currently waiting installation in Bagram.



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World Leading UGV Company Makes UK Debut at Security and Policing 2014



Unmanned vehicles for fire fighting, EOD, Counter IED, Route Clearance, Humanitarian Demining and Catastrophe Intervention (including HAZMAT & CBRN) from leading international UGV designer, DOK-ING Ltd, will be up for discussion for the first time in the UK at Policing and Security. The company made its debut in partnership with Lutra Associates during the show held at Farnborough in March 2014.

Speaking in advance of Security and Policing 2014 Lutra Chief Executive, Tim Otter, said "DOK-ING bring a robust, practical product range and imaginative solutions to their chosen areas of specialisation and interest. Wherever we have raised DOK-ING's capability and product range in the UK, military or civil, we have been met with enthusiasm and interest.

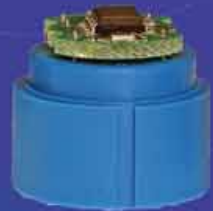
"The reaction in the international market has been similar. DOK-ING has developed a reputation for delivering effective solutions such as the US Army's M160 route clearing system in Afghanistan," added Otter. "Robust, quality, flexibility, simple to operate, effective and value for money are words ingrained in their corporate culture. By attending Security

and Policing we will give their innovative engineers the chance to interact with customers and end users. The result will be new applications and designs for new and existing equipment. Lutra's is helping to bring these ideas into reality as new products and concepts."

DOK-ING and Lutra announced their partnership in January this year. Under the terms of the agreement Lutra is providing assistance with support in the UK and international markets, and assisting with product concepts and design.



AirBorn continues to be at the forefront of interconnect technology, providing solutions for revolutionary prosthetic limbs, and medical applications that demand high reliability connector products.



Make the Connection

One CompanyWelcome to AirBorn

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Explotrain Celebrates Product Launch of New IED Simulation Technology

Compressed Air Simulator Adds New Dimensions to Training Capabilities

Fort Walton Beach, FL: Explotrain® LLC announced the introduction of their pneumatic IED Simulator, the Model XP-360™, as a complementary non-pyrotechnic technology to their X-0™ Series of Explosive Blast Simulators. The XP-360 utilizes either compressed air or CO2 and a patented technology to release over 400 cubic inches of air in less than five milliseconds. The result is a tuned shockwave effect and loud simulated explosive blast offering unique training capabilities.

Explotrain's president, C. Dean Preston, said, "We are very excited about the increased training opportunities this IED Simulation technology provides for our customer. You

can now simulate explosive effects both indoors and inside vehicles making the XP-360 ideally suited for active shooter and MOUT based scenarios. The impact of the shockwave also adds a new haptic dimension to training methods allowing you to train your students in a more psychologically effective manner".

Since the development of their training system and Model X-01™ Explosive Blast Simulator in 1999, Explotrain has invented and produced much of the technology used to train troops in the areas of Explosive Ordnance Disposal and IED Defeat. The XP-360 is available for purchase through various government contracts or by contacting

Explotrain directly. The pneumatic non-pyrotechnic technology used in the XP-360 will provide military and law enforcement training instructors new methods to further increase the realism and effectiveness of their efforts.

About Explotrain LLC: Explotrain LLC is a small business based in Fort Walton Beach, FL. Explotrain has produced state of the art explosive and IED simulation since their founding in 1998. Their patented technologies are the choice of military and law enforcement training installations worldwide.



UNPARALLELED GRIP IN ALL CONDITIONS



"All grip, no slip" - MacWet gloves more than live up to their billing, the tactical range is already used by law enforcers and armed forces around the world. Offering a comfortable, breathable feel, the gloves ensure maximum grip consistently. With an extremely high level of sensitivity, they allow for fine adjustment of equipment in the field which can save valuable seconds.

MacWet's unique Aquatec® fabric responds to both moisture and climate change, ensuring maximum grip, sensitivity, feel and comfort at all times. In all weather conditions ranging from intense heat to pouring rain, they are designed to perform at the highest standard. Their unique technology draws moisture away from the hand to the outside of the glove in order to increase grip even further.

After testing MacWet gloves on exercise in the Falkland Islands, Lieutenant Corporal Michael McMurtry said that:

"With weather conditions in the field similar to those of the Brecon Beacons, the MacWets really had their work cut out. From the offset of the trial, I thought these gloves were superb. They are so lightweight and thin that they make tasks such as changing mags and administrating yourself in the field simple. Being so fine, however, can often pose the danger of damage to the material under pressure.

But the MacWets do not seem vulnerable to rips and tears, and I found them to be very durable and hardwearing on unforgiving rock and shingle. Being thin means that even if soaked they dry within minutes when placed on a radiator back in camp or even when left on the user's hands on a windy day. Most gloves currently on the market are bulky and uncomfortable, causing a negative impact on your movement. However, the way MacWets' Aquatec® fabric responds to both moisture and climate change means users benefit from maximum grip and comfort at the same time.

All in all, the MacWets are an awesome piece of kit for soldiers who mean business. They come highly recommended."



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GLOVES



www.macwet.com

Ku Band Ortho Mode Transducer – Expansion of the SatCom Product Portfolio



In the past few months, the focus of our satellite communication portfolio was on different C band and Ku band rotary joints. Various models both for C band and Ku band were presented which were specifically tailored to this purpose both in terms of technical features and costs.

C band and Ku band Rotary Joints

Since SPINNER supplies both rectangular as well as circular waveguide rotary joints for the Ku band, it was only consequent to offer the waveguide components which are usually located in between as well. The BN 960802 presented in this issue is an Ortho Mode Transducer (OMT) for the Ku band which is equipped with a band-stop filter for transmit frequencies at the receiver side.

Ortho Mode Transducer (OMT)

Components of this kind are part of satellite communication systems and are used as



polarization duplexers which separate or combine transmit and receive signals. The common circular waveguide port with a standard diameter of 19.05 mm (= 0.75") is used as antenna port which carries both transmit and receive signals by means of two orthogonal H11 modes.

The transmit signal is fed to the axial R120/WR75 rectangular waveguide port and transformed into the appropriately polarized H11 mode inside the OMT with exceptionally low reflection and loss. The orthogonal waveguide port provides the receive signals and is arranged perpendicularly to this.

The monolithic design of the OMT produced on high-precision CNC machining centers is the basic requirement for lowest possible mechanical tolerances resulting in excellent electrical parameters. The isolation between the rectangular waveguide ports achievable by polarization discrimination, for example, is a quality feature which is essentially the result of production accuracy. Values of at least 40 dB are ensured over the entire range of 10.75 GHz to 14.50 GHz (measured without band-stop filter); typical values in series production are between 50 and 60 dB.

In interaction with the band-stop filter, which is located at the orthogonal waveguide port

for the receive signals and selectively rejects the frequency range between 13.75 GHz and 14.5 GHz, isolation values of 85 dB in the transmit frequency range can be guaranteed (typical: >95 dB).

The material used is, of course, the same seawater proof chromated aluminium alloy as used for our rotary joints. The components are marked by means of abrasion-proof laser engraving. In order to avoid electro-chemical corrosion, all hardware parts and tuning elements are completely made of stainless steel or are properly galvanized to ensure the maximum service life of the components.

Unnecessary soldering and contact spots which are exposed to the transmit signals are completely avoided; this way loss is reduced and the power rating consequently enhanced. It goes without saying that this design is also superior in terms of lowest possible intermodulation.

Typically, there is an excellent broadband VSWR of typically 1.05 (1.10 guaranteed within a transmit frequency range between 13.75 GHz and 14.5 GHz) at the axial waveguide port, whereas the insertion loss towards the round waveguide door is only a few hundredths of a dB (guaranteed value: 0.10 dB).

In the standard version, the band-stop filter at the receive path is adjusted to a stop band of 13.75 GHz to 14.5 GHz which results in a VSWR value at the orthogonal waveguide port of below 1.20 in a range between 12.25 GHz and 12.75 GHz as well as below 1.25 between 10.75 GHz and 12.25 GHz. The attenuation of the receive signals is below 0.25 dB and typically around 0.2 dB. Specific tunings of the band-stop filter as well as customer-specific circular waveguide flanges are possible on request.



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ABOVE AND BEYOND



Stäubli multi couplings improve productivity, safety and the environment in Perkins diesel engine test cells

Stäubli multi-couplings manufacture the secure, automatic, leak free connections operating at the heart of Perkins impressive engine testing facilities at their Peterborough factory.

For well over 75 years, Perkins has led the field in the design and manufacture of high-performance diesel engines. A programme of continuous development, allows them to offer one of the most advanced and comprehensive ranges. Acquired by Caterpillar in 1998, together they are the world's largest diesel engine manufacturer, supplying major equipment manufacturers in the construction, power generation, materials handling, agricultural and general industrial markets.

Perkins pride themselves on hot testing every engine they produce (they also cold test each engine too!). This requires a bank of test cells where the engine can be connected to coolant, fuel, oil, electrics and an exhaust line which allows each engine to be run up to the designed speed. Perkins operated no less than 68 engine test beds, each one manually operated, calling for laborious and slow connections to be made to each engine. Health and safety of operatives and

environmental aspects were also a concern in the cells with the risk of hot oil escaping and the chance of a fire in the confined space of the test bed – a new safer and automated solution was required.

In 2001, Perkins embarked on a project to replace their existing engine test facilities with new state-of-the-art automated systems that provided a clean working environment, eliminated any chance of environmental harm and would be capable of accommodating the growing production volumes on the 4 litre and 6 litre engine lines, in total the project was a £25 million investment.

Essential to the new system was automating the connections required by each engine, removing any chance of poor or incorrect connections and eliminating any leaks. The new cells also must be able to test and monitor the electrical systems increasingly being used on diesel engines and provide data sets for each engine that could be accessed, analysed and supplied to the customer when required.

This project was the largest upgrade implemented at the Peterborough plant and

called for a top quality facility, flexible enough to cope with the numerous variations in equipment and layout being applied to the standard engine design. When planning the connections, previous good working experience of using Stäubli mono connectors made it natural to involve Stäubli in this multi coupling application too.

Stäubli analysed the connection requirements and recommended using tailored sets of multi-coupling plates with the socket side located on the engine test cradles and the plug side on the test beds. Similar solutions had been produced by Stäubli for use in the motorsport sector as well as being extensively used in the automotive market for example by Renault at their Cleon factory in France.

Assembling an array of quick release connectors onto a single multi-coupling plate provides quick and simultaneous connection of all services e.g. coolant, oil, fuel, pressure transducers, electrics and data. It is the most significant single improvement in productivity that can be applied to engine test beds.

Stäubli MCS multi-couplings are configured



for each specific application. Experienced Stäubli engineers review requirements to determine the precise specification for the plate. This takes into account the type of fluids in use, their pressure and temperature as well as the electrical connections (amperage, voltage, number of pins etc.) required and the type of valving and seals needed and the size envelope available and positioning on the unit. Their wide experience in the connection of fluids and gases and the facility to incorporate and develop electrical connections with their sister company, Multi-Contact, places Stäubli in a unique position, able to supply full function multi-coupling solutions.

From this data Stäubli designs and manufactures a specific multi-coupling plate drawing on products from their wide range. This will include modular quick release couplings and electrical connectors, guiding and centring components as well as connection and locking systems. Extra connectors can be added to give spare capacity or to allow for future modifications. In the Perkins application Stäubli SPH series connectors were selected for the fluid lines

and REA series for the electrical connections.

The use of multi-couplings dramatically improves safety as well as productivity. Clean break connectors ensure no loss of fluid or ingress of contamination on disconnection and help maintain a clean and safer working environment. Connection can only be made in one position, eliminating any risk of circuit inversion and mis-connection. Guidance pins on the multi-coupling ensure that the engine is located precisely in the correct position on the test bed. Inclusion of the electrical connections on the plate removes any tangle of leads around the engine that can often be a problem.

The 68 manual test beds at Perkins were replaced with 12 cells on the 4 litre line using 52 engine pallets. The productivity of the test beds improved dramatically. Production levels of 125,000 engines/year calls for a testing rate of 37 per hour – a rate easily achieved by the new facility. Floor to floor times for each engine through testing are now of the order of 15 mins compared with hours on the old system and the working environment and safety aspects have been

improved out of all recognition.

Some of the engine pallets have now been operating through the test cells for several years, testing close on 1 million engines, Stäubli's connectors have operated faultlessly.

The test facility has performed so well that a similar system on the 6 litre engine line has been installed. Six test cells and 20 test pallets have each been equipped with Stäubli multi coupling plates, capable of testing the increasing production volumes of engines.

Frank Perkins who started the company would approve; his motto was 'Where there is no vision the people perish' certainly vision was essential to the objective of producing a world best engine test facility at Peterborough; Stäubli multi couplings have played a vital part in bringing this vision to reality.

STÄUBLI

Westwire Harnessing Achieves AS9100 Rev.C Certification

Westwire
HARNESING

March 2012 - Westwire Harnessing achieved certification to AS9100:2009 (Rev C) Quality Management System (QMS) for Aerospace and Defence organizations. Certification to this standard places Westwire Harnessing in an elite class of supply chain manufacturers that are registered to this rigorous Aerospace and Defence standard.

The AS9100 quality standard is based on ISO 9001 guidelines, as well as additional stringent requirements specific to the Aviation and Defence industries. Among other changes, revision C brings the standard in line with ISO9001:2008 and expands the scope of coverage to include land and sea-based systems for defence applications.

"The AS9100 Rev C certification, coupled with our ISO9001:2008 registration, sets us apart from our competition. Westwire Harnessing has always taken pride in delivering quality products to the military and commercial markets. In achieving the prestigious AS9100 certification, we look forward to increasing our business within the Aerospace and Defence markets. Our Quality Management System supports and encourages a company culture of customer satisfaction, teamwork, and continuous improvement,"

Dominic Hammond
Business Development Manager
Westwire Harnessing



Will-Burt Introduces AntennaMast™ AM2 - Man-Portable Aluminum Tripod Mast System

The AntennaMast line of portable tripod and field masts offers five distinct payload elevation solutions

March 10, 2014

A new man-portable, tripod mast payload elevation solution, the AntennaMast model AM2 was introduced at the 8th annual Border Security Expo in Phoenix, Arizona USA on March 18th. The AM2 is an entirely new mast engineered and manufactured by The Will-Burt Company, the world's premier provider of telescoping mast and tower elevation solutions. AM2 joins Will-Burt's AntennaMast line of portable tripod and field masts whose introduction is being supported by the launch of a new web site, www.antennamast.com. This new site delivers complete product specifications and drawings along with the ability to create and submit an RFQ directly to Will-Burt.

The AntennaMast AM2 is an aluminum tripod mast designed for ease of use while delivering payload deployment flexibility and rugged reliability. The AM2 can elevate up to 4 antennas and/or sensors to 49 feet (15m). The available EZ Raze™ payload elevation system with safety brake allows the operator to elevate and lower payloads

simply by turning the crank on a winch. Mission speed is improved with payload interfaces and accessories that require no tools for assembly. These same interfaces can be used with all five elevation platforms offered in the AntennaMast family.

"The AM2 is the perfect addition to the AntennaMast family of portable tripod and field masts," states Jeffrey O. Evans, President, CEO and Chairman of The Will-Burt Company. "The five unique mast systems of the family ensure that one does not need to settle for a 'one size fits all' approach – an optimized elevation solution will be delivered by AntennaMast."

The AM2 further diversifies the capabilities of the AntennaMast family. The family is made up of the lightweight composite, Ranger masts which are the lightest man-portable tripod masts available. They deliver quick transport and deployment up to 60 feet (18.3m). The QEAM Quick Erecting Antenna Mast comes as both a lightweight composite field mast and a heavy duty aluminum field mast that can reach heights of 112 feet (34m) and elevate up to 180 lbs. (80 kg). Both QEAM systems have automatic locking collars that allow a payload to be deployed at any height. The Hurry-Up Mast rounds out the family. It is a push-up field mast that can be deployed to heights of 25 feet (7.6 m) in less than one minute. All AntennaMast products are backed by a two year limited manufacturer's warranty.

"The search for the ideal combination of performance, mission flexibility and overall

value were the drivers of the AM2 product development," said John Stroia, Will-Burt's Chief Operating Officer. "The experienced Will-Burt team that designed the AM2 listened to our customers and has delivered a product that meets their needs."

About The Will-Burt Company:

The Will-Burt Company (www.willburt.com), located in Orrville, Ohio, USA, is the world's premier manufacturer of telescoping mast and tower elevation solutions – the world's one stop shop offering virtually every payload elevation solution from one source – for military, fire, cellular, broadcast, entertainment and other applications. Will-Burt also designs and manufactures military and other shelters made of all-composite materials that deliver higher performance at lower life cycle cost than metal or partial composite shelters. Will-Burt's LINX security solutions provide integrated access control and intrusion detection certified to protect critical assets. Will-Burt also offers a variety of manufacturing services backed by an ISO 9001:2008 certified quality system. Incorporated in 1918, Will-Burt is 100% employee-owned and is classified as a small business.

ANTENNA MAST
by Will-Burt

NCT

eXplosive Asia

6-8 May 2014

NCT eXplosive Asia 2014 - Siem Reap, Cambodia

The third edition of Asia's leading C-IED and EOD event, NCT eXplosive Asia 2014, will take place at Le Meridien Angkor in Siem Reap, Cambodia and is organised in full partnership with the Cambodia Mine Action and Victim Assistance Authority (CMAA). Taking place in a country littered by landmines and UXOs, NCT eXplosive Asia will discuss and elaborate solutions to this enduring threat for Cambodia, the region and the rest of the world.

Event Highlights

- Two-days of conference and trainings with high-level speakers from Southeast and Central Asia, the Middle East as well as military representatives and decision-makers from I(N)GOs, Europe and the USA
- Live EOD demonstration, exhibition and delegates from all over Asia
- The leading C-IED and EOD event in Asia covering the topical issue of C-IED and demining in post-conflict regions
- Taking place at an outstanding location just next to the magnificent temples of Angkor Wat

Featured Speakers

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H.E. Brig. Gen. Yentieng Puthira

Secretariat of the National Counterterrorism Committee, Cambodia

Maj. Gen. Ker Savooun

Director of Peacekeeping Operations Department, National Center for Peacekeeping Force, Mine and ERW Clearance, Cambodia

Maj. Gen. Theam Bunseng

Commissioner General of the National Police, Ministry of Interior, Cambodia

Lt. Gen. Krisda

Director, Thailand Mine Action Center, Thailand

Paul Heslop

Chief of Programmes, UNMAS

Chris McNicol

C-IED Task Force, Department of Defence, Australia

Prof. Andrzej Maslowski

Institute of Mathematical Machines, Poland

Mohammad Sediq Rashid

Director, Mine Action Coordination Center MACCA, Afghanistan

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YDS Boots a perfect fit for PARAS'10.

YDS Boots are delighted to become the title sponsor of the PARAS'10 endurance events which take place at military bases Colchester and Catterick during 2014.

YDS Boots are Europe's largest manufacturer of Police and Military footwear in Europe and are currently supplying the British Armed

Forces. The authentic military event consists of a 10 mile running race and a TAB race which must be run in military boots.

As an established supplier of specialist footwear to uniformed services including military, fire and police sectors, YDS is building awareness for their military boot retail range available in the UK. The YDS Boots slogan and ethos 'Step Forward' is very compatible with the values of PARAS'10 'Stand by Go' and makes for a very strong partnership in promoting the races and the brand.

Steve Hall, Sales and Marketing Director of YDS says 'PARAS'10 is an excellent fit for the YDS Boots brand, we are thrilled to be part of something that has such military authenticity. We hope more people will get to learn about what YDS Boots has to offer whilst we actively promote the PARAS'10 events'.

YDS Boots will be running a social media campaign in the run up to the PARAS'10 events where participants can enter competitions, see boot recommendations, get giveaways and receive other advice and tips about the events.

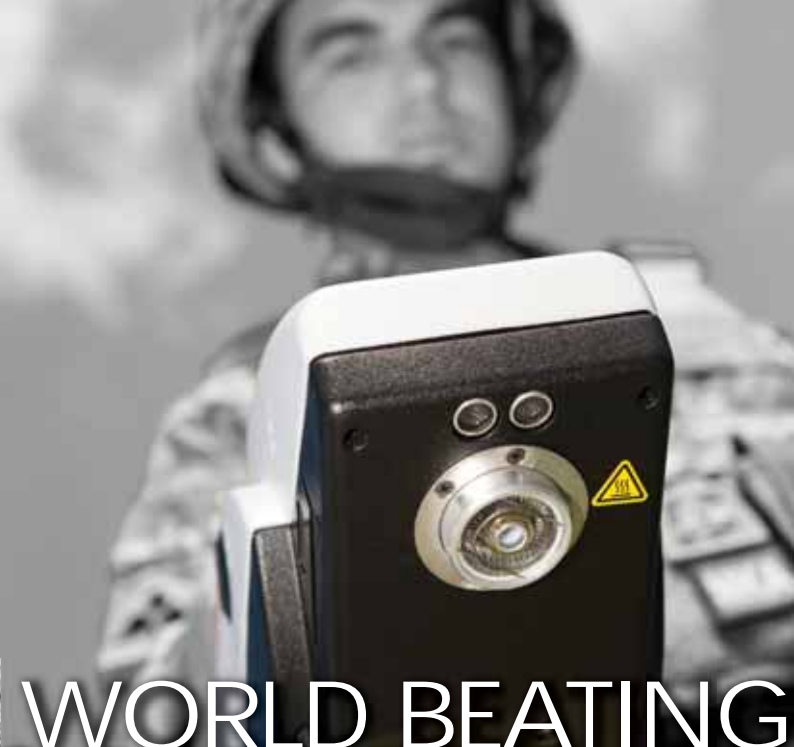
YDS Boots will also be present at the PARAS'10 in Colchester on Sunday 18 May 2014. The event is organised by the Parachute Regiment Charity RCN 1131977 and benefits soldiers and families.



For more information about YDS Boots see www.ydsboots.co.uk
For more information on PARAS'10 see www.paras10.com

For more information email Stephen Cooper on director@paracharity.org or call **07946 531139**

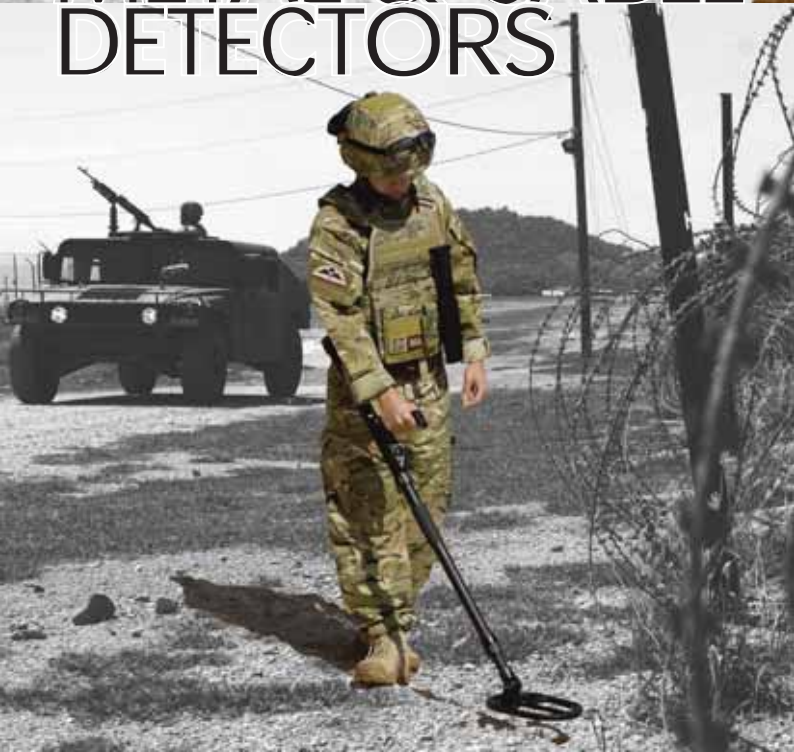




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