

SANmilitary Product portfolio

Camouflage Systems

Static & Mobile Multispectral Camouflage Net

Applications

Provide protection against radar & thermal cameras while keeping mobility of vehicles

Features

Custom made fitting

Visual protection 380-760 nm

Near Infrared Protection 760nm-1200nm

Anti-radar Feature 3-5 μm & 8-12 μm

Low weight (composite materiel)



SANmilitary Product portfolio

Camouflage Systems

Anti radar materials & Personal camo.

Applications

Provide protection against radar & thermal cameras while keeping mobility of vehicles

Features

Double-sided use Different color and pattern on each side

Visual protection 380-760 nm

Near Infrared Protection 760nm-1200nm

Anti-radar Feature 3-5 μm & 8-12 μm

Low weight (composite materiel)



SANmilitary Product portfolio

Weapon Systems

Remote Controlled Stabilized Naval Gun System - STOP

STOP is a new generation, cost-effective, medium caliber weapon system for naval platforms. The system provides lightweight, versatile and effective means of force protection for applications ranging from capital ships to patrol craft. STOP has exceptionally high hit and kill probability with an impressive firepower. Comprising of a two-axis stabilized turret containing an electro-optical sensor suite and fire-control software, STOP is capable of acquiring targets and engaging them autonomously either via the ship's Combat Management System or by use of own sensors. The optical sensor suite of STOP provides enhanced situational awareness and the ability to identify

Features

- * High hit probability
- * Dual ammunition feeding
- * Remote gun control unit enabling gunner protection against counter fire
- * Automatic target tracking
- * Low radar cross-section
- * Automatic slewing to targets assigned by the C3I system, radar and/or target designator
- * Two-axis stabilized turret
- * Automatic ballistic computation
- * Long range and high sensitivity sight system composing of infrared, daylight TV cameras and laser range finder enabling detection and recognition of targets day/night under various weather and terrain conditions
- * Manual back-up mode
- * Video recording unit
- * No platform penetration (except cable laying)
- * Modular system structure enables flexibility in system configuration according to customer needs and facilitates easy maintenance.

Technical Data

- * Gun : 25mm Gun (Dual-feed)
- * Elevation Angle : $-15^{\circ}/+60^{\circ}$
- * Traverse Angle : $nx360^{\circ}$ (with Slip Ring)
- * Ready-to-Fire Rounds: 200 (std.)
- * Power : 24 V DC



SANmilitary Product portfolio

Weapon Systems

GAU-19/A Gatling Gun Integrated STAMP (Stabilized Machine Gun Platform) - STAMP-G

STAMP-G is a stabilized and remotely operated weapon system, suitable

Features

- * Applicable to a variety of guns with different calibers (12.7mm GAU-19/A Gatling Gun, 7.62mm/12.7mm Machine Gun, 40mm MK19 Grenade Launcher)
- * Effective against asymmetric threats
- * Easy to integrate
- * Remote control
- * Automatic target detection and tracking
- * Two axis stabilized turret
- * Automatic ballistic application
- * High hit accuracy
- * Day/night operation under various weather and terrain conditions
- * Automatic slew to targets assigned from the radar, target designator
- * Modular structure for upgrades and options
- * Manual back-up mode
- * No deck penetration (except cables)
- * High reliability



Sub-Units

- * Turret
- * Gun Control Unit
- * Fire Control Computer
- * Commander Control Unit
- * Sight System
- * Thermal Camera
- * TV Camera
- * Laser Range Finder
- * Gun Re-cocking Unit
- * Target Tracker
- * Video Recording Unit
- * Machine Gun Interface Unit
- * Batteries and Charging Unit
- * Slip ring

Technical Data

- * Weight (w/o Gun and ammunition)
- * Above Deck : 280 - 300 kg
- * Below Deck : 60 -80 kg
- * Gun Options (Interchangeable):
- * 12.7mm GAU-19/A Gatling Gun (3 Barrel)
- * (Rate of Fire: 1250 rpm),
- * 12.7 mm M2HB Machine Gun
- * 7.62 mm Minimi Machine Gun
- * 40 mm MK19 Grenade Launcher
- * Elevation Angle : -150/+550
- * Traverse Angle: n x 3600 (With Slip ring)
- * Traverse and Elevation Speed (max.): 600/s
- * Ammunition Stowage (12.7mm) : 500 rounds
- * Power Supply : 28 V DC



SANmilitary Product portfolio

Weapon Systems

Stabilized Advanced Remote Weapon Platform RWS – 30MM SMASH, STAMP-L & STAMP

Depending on the operational requirements, SARP can be equipped with 12.7 mm machine gun, 40 mm machine gun. Through its extensive surveillance and remote control capabilities.

STAMP

- * 12.7mm M2 Machine Gun
- * 7.62mm Machine Gun
- * 40mm MK19 Mod 3 Automatic Grenade Launcher
- * Weight: < 250 kg (without gun and ammunition)
- * Weight (Under Deck): < 70 kg
- * Elevation: -15° / +55°
- * Azimuth: n x 360° (with Slip Ring)

Fully qualified and compliant with multiple nations' performance requirements, STAMP system is built for operation in marine environmental conditions. The fielded STAMP system provides exceptional capabilities against counter asymmetric threats. It is well suited for naval ships, fast boats and patrol crafts of all types and classes.



STAMP-L

- * 12.7mm M2 Machine Gun
- * 7.62mm Machine Gun
- * 40mm MK19 Mod 3 Automatic Grenade Launcher
- * Weight: < 215 kg (without gun and ammunition)
- * Weight (Under Deck): < 70 kg
- * Elevation: -15° / +55°
- * Azimuth: n x 360° (with Slip Ring)

STAMP-L is the extension of the highly successful RCWS Family. The extended functionality includes the all-in-one EO unit (Thermal Camera, Day TV Camera, Laser Range Finder).



30mm SMASH

- * 30mm MK44 automatic cannon
- * Weight: < 1150 kg (with gun, without ammunition)
- * Elevation: -15° / +55°
- * Azimuth: n x 360° (with Slip Ring)

SMASH is a remotely operated stabilized weapon station fitted with 30mm Mk44 Bushmaster-II Canon. High Accuracy Stabilized Gimbal (HASG) which can rotate in elevation and azimuth axes relative to turret is integrated to SMASH System. HASG gives the gunner independent surveillance capability and increases the engagement capability at long distances. The availability of having two ammunition types simultaneously gives the flexibility to configure the system to engage targets beyond 3,000 meters.



SANmilitary Product portfolio

Weapon Systems

Stabilized Advanced Remote Weapon Platform RWS – SARP

Depending on the operational requirements, SARP can be equipped with 12.7 mm machine gun, 40 mm automatic grenade launcher or 7.62 mm machine gun. Through its extensive surveillance and remote control capabilities, SARP enhances situational awareness of the operator in his proximity while the vulnerability to attacks is decreased drastically.

Features

- * Shoot-on-the-move capability for stationary and moving targets
- * Day and night imaging
- * Automatic target tracking
- * Gyro aided stabilization
- * Laser Range Finder for accurate ballistics
- * Computer based fire control functions
- * Fired rounds counter
- * Last ammunition warning
- * Manuel operation and control
- * 400 rounds for 12.7 mm ammunition
- * 1000 rounds for 7.62 mm ammunition
- * 96 rounds for 40 mm grenade launcher
- * Operating temperature; -32°C to +55°C
- * Complies with MIL-STD-461E for EMI/EMC



Complies with MIL-STD-810F for environmental conditions

Mechanical and environmental:

- * Outer platform : < 165 kg (without ammunition, gun and armor)
- * Inner units : < 50 kg
- * Turret height : < 75 cm
- * 360° rotation in azimuth axis (with slip ring) and -30° to +60° in elevation axis

Weapon Options

- * 12.7 mm M2HB Machine Gun - NSV Machine Gun
- * 7.62 mm FN MAG58 Machine Gun - M240 Machine Gun & MG3 Machine Gun
- * 40 mm MK19 Mod3 Automatic Grenade Launcher



SANmilitary Product portfolio

Weapon Systems

Stabilized Advanced Remote Weapon Platform RWS – DUAL SARP, SARP-NSV & CLAW

Depending on the operational requirements, SARP can be equipped with 12.7 mm machine gun, 40 mm automatic grenade launcher or 7.62 mm machine gun. Through its extensive surveillance and remote control capabilities, SARP enhances situational awareness of the gunner in his proximity drastically.

SARP-NSV

- * 12.7mm NSV Machine Gun
- * Weight: < 165 kg (without armor, gun and ammunition)
- * Weight (Under Deck): < 50 kg
- * Height: < 75 cm
- * Width: < 110 cm
- * Elevation: -30° / +60°
- * Azimuth: n x 360° (with Slip Ring)

SARP-NSV is a remotely operated stabilized weapon platform which can be fitted with 12.7mm NSV machine gun. In addition to the existing features of SARP, SARP-NSV provides the opportunity to integrate 12.7mm NSV machine gun onto a remote weapon station platform.

DUAL SARP

- * Primary Weapon Options:
- * 12.7mm M2/M3 Machine Guns
- * 40mm MK19 Mod 3 Automatic Grenade Launcher
- * Coaxial Weapon Options:
- * 7.62mm M240 Machine Gun
- * 7.62mm FN MAG 58 Machine Gun
- * 7.62mm MG3 Machine Gun
- * Weight: < 175 kg (without armor, gun and ammunition)
- * Weight (Under Deck): < 50 kg
- * Height: < 80 cm
- * Width: < 120 cm
- * Elevation: -30° / +60°
- * Azimuth: n x 360° (with Slip Ring)

The DUAL SARP is an extension of the existing Remote Weapon Station Family which includes the use of two weapons.

Depending on the operational requirements, DUAL SARP can be equipped with 12.7mm machine gun or 40mm automatic grenade launcher as the primary weapon, and 7.62mm machine gun as the coaxial weapon

CLAW

- * Primary Weapon Options:
- * 25mm KBA Automatic Cannon
- * Coaxial Weapon Options:
- * 7.62mm M240 Machine Gun
- * 7.62mm FN MAG 58 Machine Gun
- * Weight: < 1.700 kg (with armor, gun and ammunition)
- * Height: < 60 cm
- * Width: < 155 cm
- * Elevation: -10° / +50°
- * Azimuth: n x 360° (with Slip Ring)

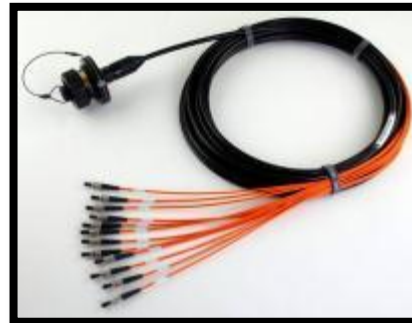
CLAW is a remotely operated stabilized turret for 25mm automatic cannons. The platform combines high-precision reconnaissance and engagement capabilities with effective firepower while keeping the operator and system under armor away from counter fire. In addition to the main armament, coaxial 7.62mm machine gun has been integrated to the turret.



SANmilitary Product portfolio

Cables

- * Aerospace Cable Assemblies
- * Wire Harnesses
- * Fibre Optic Cable Assemblies
- * RF/ BNC Cable Assemblies
- * Electro-Mechanical Assemblies



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SANmilitary Product portfolio

Shelter Systems

designed and manufactured for the intended use of both military and civilian applications. Shelter geometry is formed by riveting of the special panels which are manufactured with its own design and advanced technology. In accordance with the user requirements, the panels can be fabricated as armoured. In accordance with the user requirements, electromagnetic shielding is the result of the special design and manufacturing processes. Shelter peripheral units can be designed according to user needs (including electronic solutions) and can be integrated to the system. Interior design of the shelter is completed according to the user requirements. Required system-level qualification tests are performed according to international or military standards and certification of the system is completed before the delivery of the systems.

Features

- * Satisfies NATO "6516/SHCPE/86-88" standards
- * Compatible with EMI (Electro Magnetic Interference), EMC (Electro Magnetic Compatibility) requirements
- * Compatible with RFI (Radio Frequency Interference) requirements
- * Compatible with EMP (Electro Magnetic Pulse) requirements
- * Compatible with TEMPEST requirements
- * Compatible with CBRN (Chemical-Biological-Radiological-Nuclear) Protection requirements
- * Standard or Customized design, fabrication and integration
- * Increased user safety with mechanical and electrical component designs
- * Operation under any environmental conditions
- * Naval, air and land transportability according to Military Standards
- * Replaceable corners
- * Uninterruptible power supply
- * Blackout Lamps

Specifications & Types available

- * NATO-6516/SCHPE/86 - Allied Command Europe-Standard Shelter Technical Specifications.
- * MIL-STD-1472F - Human Engineering Design and Criteria for Military Systems.
- * NATO-I, NATO-II, NATO-III
- * ACE-I, ACE-II, ACE-III
- * ISO 20
- * ISO 1161 - Freight Container Corner Fittings- Specifications

Shelter configurations;

- * Expandable Shelter
- * Customized Shelter



SANmilitary Product portfolio

Mine Protected Seats

* Mine protected seats to be used in armoured vehicles

SEATING FEATURES:

- The seats meet the standard MIL-STD-1472G
- Easy assembly and disassembly from the vehicle
- Low weight
- Cushions can be made custom design
- Seats can be easily adapted to various vehicles and its variants

SEATING OPTIONS:

- Safety belt, Static 5 point or retractable 5 point
- Fire retardant cushion cover
- Foldable seating pan
- Foldable back rest
- Removable head rest
- Foldable arm rest



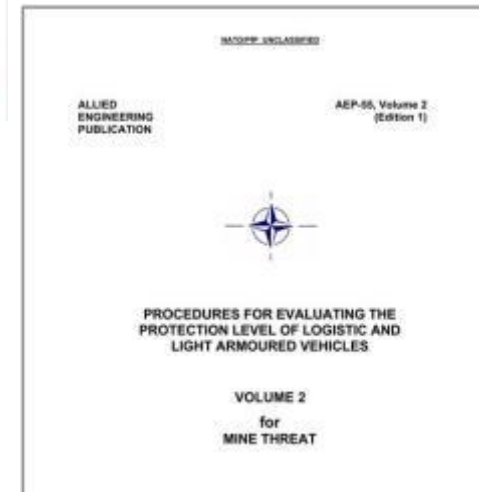
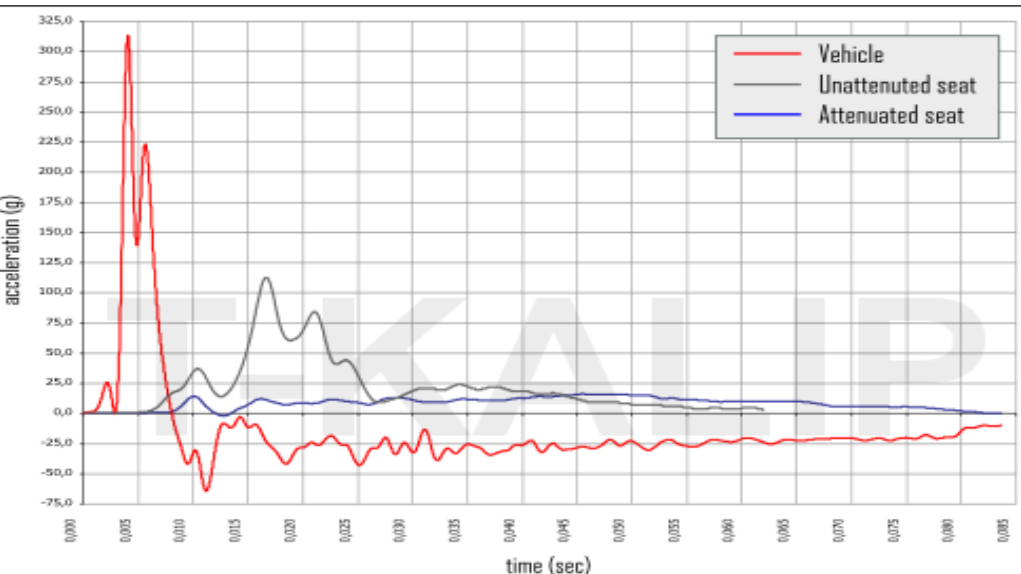
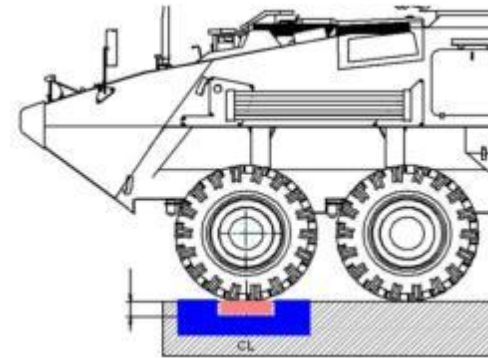
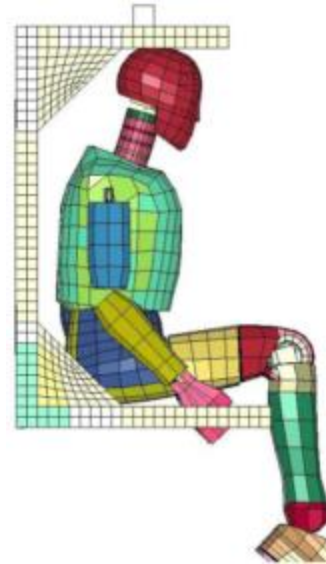
SANmilitary Product portfolio

Mine Protected Seats

- Tested on drop tower tests with Hybrid III Test dummies.
- Very high repeatability in attenuating performance during the tests
- Our seats are subjected to vehicle mine blast tests at STANAG 4569 protection levels based on requirements in NATO AEP-55 Vol. 2 standard.

The results were successful for all protection levels and our DRI (Dynamic Response Index) values remained below 17,7

- Tested in mine blast tests with Hybrid III Test dummies.
- Unfortunately, we are not allowed to share mine blast test data since such data treated classified or confidential by the armor vehicle manufacturers.



SANmilitary Product portfolio

Add-on armour

- * Autoclave Moulding – AS 9100 RevC
- * Vacuum Infusion – ISO 9001:2008
- * Light RTM
- * Vacuum Bagging



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SANmilitary Product portfolio

Add-on armour

- * Application on:
- * Vehicle Armouring
- * Anti-Radar materials integration
- * Military Land Vehicles
- * Unmanned Aerial Vehicles
- * Helicopters



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SANmilitary Product portfolio



Fire suppression system

- * Detection and Suppression Fires and Explosions
- * on board Armored Vehicles, Ships and Airplanes
- * Optical Infrared and UV Fire and Explosion Detection
- * Fire and Explosion Suppression fast enough to save human lives
- * Multi-zone Electronics Controllers
- * Molotov Protection
- * OUTSIDE-ENGINE- WHEELS
- * Special Aluminum 100 Bar& 8.5 lt. cylinders
- * Special suppression agent Special nozzles
- * Multi Zone Electronic Control



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SANmilitary Product portfolio

Weapon Systems

Anti-Tank - Missile Launching System

Anti-Tank Missile Launching System is a versatile defensive and offensive weapon system that provides high effectivity against ground targets in day/ night and adverse weather conditions thanks to its computer controlled fire control subsystem designed to limit the operator's task. It is a remotely controlled and stabilized Weapon Platform carrying 4 Anti-Tank Guided Missiles (HELLFIRE, JAVELIN, KORNET-E, OMTAS etc.).

Features

- * 2/4/8 ready-to-fire missiles
- * Dual axis gyro stabilized totally sealed turret for target surveillance, acquisition and shoot-on-the-move capability
- * Computer controlled passive surveillance, acquisition and tracking sensors featuring Infra Red (IR) and Video imagers
- * Fire control computer providing automated system functions such as:
 - * Automatic slewing of turret to the target coordinates pre-assigned by Command and Control System if exists
 - * Automatic target tracking
 - * Automatic target-in-range warning if the target is within the missile firing range
 - * Remote Weapon Control Unit enabling the operator protection and allowing the system to be operated from inside the vehicle nx360°
 - * Capability to be integrated to Command and Control System



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SANmilitary Product portfolio

Next Generation Main Battle Tank Upgrade Solutions

Next Generation MBT Upgrade Solution"; for heavy MBTs including Leopard 2 and M60; which meets all mid life upgrade requirements while bringing the combat performance of the MBTs beyond all of the existing MBTs.

Upgrade Features

- * Fire Control System
- * - Fire Control Computer
- * Automatic Target Tracker
- * Gun/Turret Stabilization
- * Advanced Coincidence Algorithms
- * Language Support
- * - Gunner's Periscope
- * Thermal Sight Unit
- * Day Sight Unit (Direct Optics + CCD)
- * Laser Range Finder
- * Stabilized Head Mirror
- * - Commander's Panoramic Periscope
- * Thermal Sight Unit
- * Day Sight Unit (CCD)
- * Laser Range Finder
- * Stabilized Head Mirror
- * - Electrical Gun & Turret Drive Units
- * Remote Weapon Station
- * Battlefield Management System (C4I)
- * Situational Awareness System
- * Inertial Navigation System)



Improved Fire Power

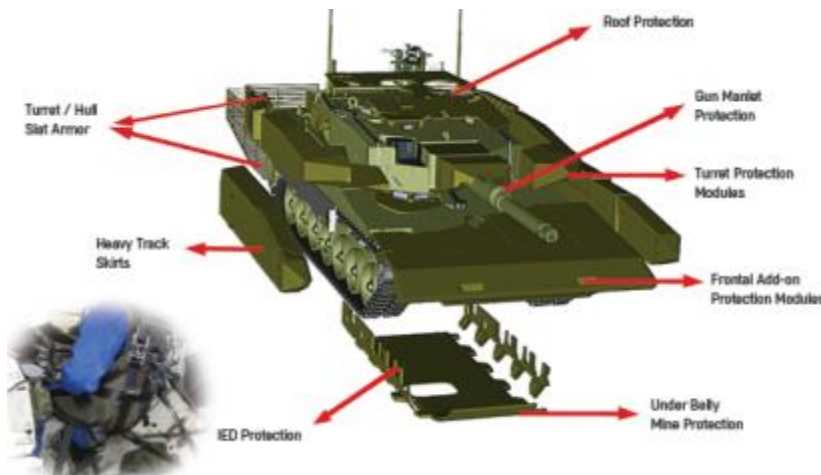
- * Next Generation Fire Control System
- * Electrical Gun and Turret Drives
- * Remote Weapon Station

Improved Protection with

- * Add-on Ballistic Protection Modules
- * Add-on Mine Protection Modules

Improved Survivability with

- * Battlefield Management System
- * Laser Warning Receiver System
- * Driver's Sight System
- * Fire Suppression System



SANmilitary Product portfolio

Weapon Systems

IGLA - Missile Launching System

IGLA-Missile Launching System is a fully automated very short range air defense weapon system using IGLA(S) missiles against fixed and rotary wing aircrafts, remotely piloted vehicles, unmanned aerial vehicles and cruise missiles based on qualified Pedestal Mounted Air Defense System.

Features

- * Fully autonomous Weapon System
- * Simultaneous firing of two missiles to one target (Salvo Firing)
- * High performance against physically small targets
- * Fast reaction time
- * Shoot-on-the-move capability
- * Operation in day/night or adverse weather conditions
- * Infra-red and TV Cameras
- * Laser Range Finder
- * Fire control computer providing automated system functions such as:
 - * Turret slewing to the target coordinates
 - * assigned by air defense C3I System
 - * Automatic target tracking
 - * Target type recognition
 - * "Target in Range" information
 - * IFF sub-system interface
 - * Detachable System Control Unit enabling the control of the system 50 meters away from the vehicle
 - * Light-weight, modular, autonomous turret which can be integrated on various types of carrier vehicles



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SANmilitary Product portfolio



Video Multiplexing Unit (VMU)

Video Multiplexing Unit (VMU) is a custom designed product for Land

Vehicles which can multiplex video coming from 8 different cameras to 3 analog monitors in several configurations.

Features

- * Control Interface: MIL-STD-1553 / CAN BUS / Ethernet
- * Video Multiplexing and Video Output: Up To 12 channels PAL/NTSC video input, 3 channel Composite video output.
- * Disk Capacity: 2GB



Remote Control Unit

Remote Control Unit, the user interface of Altay tank's Battlefield Identification Friend and Foe (BIFF) system, has a modular architecture enabling seamless integration with any other system that can be remotely controlled via Ethernet, CAN or RS-422 interfaces thanks to its OLED screen with 64x128 px resolution and input units. The system has 8W power consumption even under the condition that all panel illuminations are on and satisfies all the qualification requirements for ground vehicles.

Features

- * 64x128 OLED Display
- * Ethernet (10/100)
- * RS422/RS232
- * MIL-STD-1472
- * MIL-STD-810
- * MIL-STD-461

Weight : 2,5 Kg

Size : 190mm / 170mm / 60mm



SANmilitary Product portfolio

Fire Control Systems

Fire Control Systems for Self Propelled/Towed Howitzers, Mortars and Multiple Launch Rocket Systems combine fire direction, fire control and communication systems, which provide the capability for rapid deployment, relocation, accurate gun laying and integration into the fire

Technical Specifications

- Fire planning and fire mission execution in digital environment
- Continuous location and gun heading measurement by means of Inertial Navigation System
- Rapid deployment and relocation
- Fast & accurate ballistic calculation
- Automated and precise launcher laying
- Selective firing of the rockets
- Data communication with Fire Support C4I Systems via Digital Radios
- Integration with Artillery Meteorological Systems
- Display of battlefield information on a digital map
- Mission oriented, menu driven graphical user interface
- Automated leveling

System Units

- Fire Direction and Fire Control Computer
- Firing Unit
- Manual Launcher Control Unit
- Inertial Navigation System
- Leveling System
- Power System
- Digital Radio
- Servo Motors and Driver Unit
- Ground Meteorological System



SANmilitary Product portfolio

Handheld Fire Control Computer

Portable computer designed for standalone ballistic calculation for any field artillery system including mortars. Conducting three fire missions simultaneously Calculating firing data up to 9 units for each missile NATO Armaments Ballistic Kernel (NABK) used for ballistic calculations.

Features

- * Intel ATOM E660T/1.3GHz processor
- * 1GB DDRAM
- * >16GB uSATA flash disk (SSD)
- * 5.0" 800x480 TFT LCD, LED Backlight, Resistive Touch Screen
- * 2xUSB 2.0.
- * 1x10/100Mbps Ethernet
- * 1xRS232/RS422
- * 1xCAN Bus and Audio Interface
- * Internal GPS and Internal Wi-Fi (Optional)
- * Numeric keyboard, bezel keys, micro joystick
- * Windows 7 Embedded Operating System
- * 2xHigh capacity, heater integrated Li-Ion battery block (Hot Swap)
- * 10-32Vdc power input (MIL-STD-1275D protected)



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SANmilitary Product portfolio

Launcher Remote Control System

Launcher Remote Control System is designed to facilitate integration of Missile Launcher pod's to target platforms without requiring a software/hardware modification on platform/mission management computer. With its fault protected user interface for pilot/gunner and RS422/CAN/Ethernet data channels, LRCS can directly communicate with Launcher Electronic Units. With these specifications, it is very cost and time effective solution for launcher integration programs.

Features

- * 128x64 pixel resolution OLED Display
- * 4-way joystick
- * 2 toggle switches for power line control
- * Power status LEDs
- * FPGA & DSP based architecture
- * MIL-STD-810F
- * MIL-STD-461E

Weight : 3 Kg

Size : 120mm/150mm/220mm



Missile Data Acquisition and Recording Unit

The system is developed for the missile platforms to acquire and record the digital data provided by the platform's avionics and analog data provided by the measurement sensors and transmits the data via platform's datalink. MIDASU is adaptable to the platforms requiring new interfaces by means of its modular structure seamlessly and cost effectively. MIDASU has a rugged Data Storage Unit which collects valuable data for further engineering studies without being damaged by hit impact.

Features

- * Reliable data acquisition/transmission capability during the flight tests and design verification activities of the missiles and other similar airborne platforms on field and in laboratory
- * Digital data acquisition and recording capability for various channels
- * Capable to pack and record the partition of DVI video 640x480
- * "Field Programmable Gate Array" (FPGA) based design
- * PC software capable for configuration loading, data analyzing and real time data monitoring



SANmilitary Product portfolio

Missile Interface Unit

Having free scale PPC P2041 architectural design, Missile Interface Unit (MIU) exhibits a device profile that is eligible to be the integral part of all missile integration projects with its MIL-STD-1553 BC/BM/RT, G Ethernet, discrete I/O, current sources and serial ports.

Features

- * Controlling missiles via communication bus and discrete I/Os
- * Providing operational and firing voltages of the missiles
- * Low power consumption
- * Internal MIL-STD-1553 Bus Network
- * Environmental conditioning in accordance with MIL-STD-810F/G
- * EMI/EMC Characteristics in accordance with MIL-STD-461E
- * Power Characteristics in accordance with MIL-STD-704F and MIL-STD-1275D
- * MIL-HDBK454B compliant manufacturing
- * Built in Test (BIT) Capability

Power Characteristics

- * Power Consumption: 50 W (MIU Only)
- * Input: 28 V DC
- * Output: 1000 Watt

Interface

- * 11 x RS-485 /232 /422 selectable UART
- * 32 x Discrete Input
- * 20 x Discrete Output
- * 4 x MIL-STD 1553 Interface
- * 6 x 1 Gbps Ethernet Interface
- * 2 x 10/100 Mbps Ethernet Interface

Processor

- * Freescale Qor IQ Processor
- * 800 MHz dual core
- * Flash Memory
- * RAM

Operating System

- * Linux – QNX



SANmilitary Product portfolio



Missile Video Decoding/Encoding Unit

Missile Video Encoding/Decoding consists of two units. The first unit is Video Encoding Unit (VEU) which compresses video coming from source (seeker etc.) and transmits via data link or umbilical cable to the Video Decoding Unit (VDU). VDU is on the missile launcher control unit and/or launching system. The second unit VDU is on the Launcher Control Unit and/ or Launching System. This unit receives the compressed video sent by VEU and provides the video data to the MFD.ACMI System is mounted on F-16 and similar airborne platforms in external pod form and provides efficiency in A/A and A/G training of pilots and rehearsals..

Features

- * Packs various video data supplied by the missiles to fit in limited data transfer budget
- * RS-485 digital video output on VDU (JPEG2000 format)
- * Digital video input on VEU on DVI format
- * RS-485 digital video input and RS-170 video output on VEU
- * Capability to select the data source on VEU
- * RS-485 interface for configuration and software/ firmware uploading to VEU and VDU
- * Short delays during the data transfer operations
- * "Field Programmable Gate Array" (FPGA) based design
- * Low power consumption
- * Compatibility with military standards

Video Input

- * Grayscale DVI video, configurable resolution
- * 720p 30Hz DVI video, configurable resolution

Video Output

- * RS – 170

Serial Interfaces

- * VEU : Data link, RS-485
- * Umbilical cable / Launching system : RS-485
- * Configuration :RS-485 input
- * VDU : Missiles and data link : RS-485
- * Configuration : RS-485 input

Power Characteristics

- * 4-32 V DC and less than 5W power consumption Military Standards
- * (Assembled With The Upper Unit/System)
- * Environmental conditioning in accordance with MIL-STD-810F
- * EMI/EMC characteristics in accordance with MILSTD-461F

Physical Specifications

Dimensions

- * PC/104 form factor
- * VEU: less than 120 x 100 x 15mm
- * VDU: less than 125 x 100 x 20mm

Weight

- * VEU: less than 100 g
- * VDU: less than 100 g



SANmilitary Product portfolio



Digital Data Recorder

DDR has the capability of recording digital control data, video and audio signals at various platforms.

MIL-STD-1553B, ARINC429, CAN and Ethernet data buses can be given as examples of the digital control data types.

Video interfaces can be PAL, NTSC, RS170, RS343, DVI, SDI or Display Port.

The digital control data can be accessed via direct communication with data buses or it could be by means of a central control computer. The video and audio data received by DDR is recorded after processing high efficiency compression algorithms.

Features

- * • High Resolution video and audio recording (PAL/ NTSC/RS170)
- * • Avionic data bus recording over MIL-STD-1553 and ARINC-429
- * • High speed data recording over Ethernet
- * Simultaneous playback of recorded data
- * Control over MIL-STD-1553, Ethernet, serial interfaces and Discrete I/O
- * Event Marking
- * Secure data erase interface
- * Removable SSD (512 GB)
- * Ground support computer for maintenance
- * Ground debriefing station
- * Up to 512 GB SSD Based Removable Disk
- * Up to 4 Channels MIL-STD-1553
- * Up to 4 Channels PAL/NTSC/RS170 Video recorder interface
- * Up to 3 Channels DisplayPort Video recorder interface
- * Up to 2 Channels HDMI Video recorder interface
- * Up to 2 Channels SDI Video recorder interface



	Control Interface	MIL-STD-1553 Interface	Video Recording and Playback	Audio Recording and Playback	Discrete Inputs	Discrete Outputs	Disk Capacity	Dimensions	Weight	Power Requirements	Compatibility with Military Standards
DDR-100 (UAV EO)	MIL-STD-1553	2 Channels Dual Redundant	-	-	-	-	Up to 512 GB	122x174x110 mm	Digital Recording (Ind: 2280 gr Removable Media: 15360 gr)	28V / 25.5 W	-
DDR-200 (FMS WINGAC)	MIL-STD-1553	2 Channels Dual Redundant	3 Channels 30fps/25fps Full Resolution (720 x480/720x576) NTSC / PAL, RS 170 Recording 1 Channel Full Resolution NTSC / PAL, RS 170 Playback	1 Channel Recording	Record, Event Mark and Delete	Record, RPM Full, Standby, BT Status	Up to 512 GB	122x174x110 mm	3760 gr	28V / 26 W	Environmental Conditions: MIL-STD-883C
DDR-300 (UAV SAG)	Ethernet (2 Channels Capable Ethernet Recording)	-	-	-	-	-	Up to 512 GB	122x174x110 mm	3290 gr	28V / 16.3 W	EMC/EMC: MIL-STD-461
DDR-400 (POS)	Ethernet	2 Channels Dual Redundant	2 Channels 30fps/25fps Full Resolution (720 x480) NTSC / PAL, RS 170 Recording 1 Channel Full Resolution NTSC / PAL, RS 170 Playback H264-4 Compression	-	Record All, Event Mark, Play, Channel Select, Scan Forward, Scan Reverse, Seek to Event Mark, Seek to Next File, Seek to Previous File, Delete, Secure Erase, Frame Freeze and Remote ON/OFF	Standby, Play, Record, RPM Full, RPM Fullness Ratio, SDI Plugged and SDI OK Status	Up to 512 GB	122x174x110 mm	3760 gr	28V / 26 W	Indirect Effects of Lightning: RTCA DO-160
DDR-500 (HELICOPTER)	MIL-STD-1553	4 Channels Dual Redundant	4 Channels 30fps/25fps Full Resolution (720 x480/720x576) NTSC / PAL, RS 170 Recording 1 Channel Full Resolution NTSC / PAL, RS 170 Playback H264-4 Compression	2 Channels Recording 2 Channels Playback	Record, Event Mark and Delete	Playback, Record, RPM Full Status	Up to 512 GB	122x174x110 mm	4430 gr	28V / 33 W	Power Characteristics: MIL-STD-704
DDR-1000 (AIR PLATFORM)	MIL-STD-1553 and Ethernet	4 Channels Dual Redundant	1 Channel HDMI or 1 Channel SDI video recording resolution up to 1080p60 / 60Mbps (4 Channels 30/25fps Full Resolution (720x480/720x576) NTSC / PAL, RS 170 Recording with different playback options)	2 Channels Recording 2 Channels Playback	Record, Play, Event Mark, Delete, Secure Erase	Record, Play, Standby, RPM Full Status	Up to 512 GB	122x174x110 mm	4480 gr	28V / 34 W	ESD: RTCA DO-160E