# MISSION-CRITICAL



**INTEROPERABLE** NATO STANAG 4695 Soldier Power Connectors

# ANNOUNCING STAR-PAN<sup>™</sup> NG

Next-Generation STAR-PAN Multiport USB Hub, Cable, and Power Management System

MAY 2023

## ANNOUNCING STAR-PAN<sup>™</sup> NG

## Next-Generation STAR-PAN Multiport USB Hub, Cable, and Power Management Systems

Glenair next-generation STAR-PAN NG hub and cable systems incorporate a broad range of new capabilities in direct response to requests from JTACs, special operations forces, mission commanders, and other military specialists. Design innovations in STAR-PAN NG have resulted in higher current-carrying capabilities, greater versatility in power input support, and real-time plug-and-play USB device integration. The STAR-PAN NG hub and cable series offers a number of new interface improvements and circuit board innovations including:

- A new 8A per-pin power connector design in the same dimensional package as our original 5 amp series 807 NATO STANAG 4695 push-pull connector. The new connector design features a retractable pin number 7 for backwards-compatibility to legacy devices.
- Previous generation STAR-PAN hubs have dedicated power ports for battery power, auxiliary power, and radio power. New STAR-PAN NG Universal Power Ports (UPP) may be used interchangeably for any format of input or output power. The Universal Power Port interface supports both higher voltage input power and managed 5V output power to charging devices.
- STAR-PAN NG now incorporates an advanced host port with native USB-C "negotiation" and power integration—meaning power pin assignments are in conformance with the new standard, are backward-compatible to previous USB iterations, and deliver higher overall power levels. Daisy chaining of multiple EUD devices for power input is also enabled via the new host port and circuit board.
- Ongoing support of evolving USB protocols requires keeping pace with higher data rates, in this case support for the new USB 3.2 Gen 1 5Gbps standard. STAR-PAN NG X Base Station, our new 10-port "walk-on, walk-off" vehicle / soldier hub features board upgrades and interconnect interfaces in accordance with this new data rate standard.

- Versatile 1, 2, 3, and 4 PAN port-equipped hub configurations
- Universal Power Ports with embedded power charging
- Integrated MISSION MANAGER for plug-andplay device integration
- Circuit board level USB-C power integration and delivery
- Precision-machined hub bodies, IAW MIL-STD-810 harsh-environment, IP67 dust/water resistant
- Support for 5Gb/s data transmission (STAR-PAN NG X Base Station only)
- Standard NG solutions and custom configurations

Export of STAR-PAN<sup>™</sup> outside of the U.S. is controlled by the U.S. Department of Commerce Export Administration. See individual product pages for details. Consult factory for technology / hardware licensing information.

## WARFIGHTER-TOUGH STAR-PAN NG



Next-Generation Multiport USB Hub, Cable, and Power Management Systems

## **STAR-PAN NG SOLDIER HUB SELECTION GUIDE**



STAR-PAN NG 1/2 our smallest hub with one EUD port, one pan port and two universal power ports



STAR-PAN NG 2/2 the next step up with one EUD port, two pan ports and two universal power ports



### **STAR-PAN NG 4/4**

Next-generation design with one EUD port, four pan ports and four Universal Power ports

## STAR-PAN NG 3/3

Next-generation design with one EUD port, three pan ports and three Universal Power ports

## **PUSH-PULL QDC Nett Warrior Power and Data Connectors**

Series 807 Mighty Mouse NW micro miniature connectors for dismounted soldier battery charging, radio, and PAN applications

Today's warfighters demand quick battery charging and reliable radio operation. Glenair pioneered the original 6-pin Nett Warrior connector, as well as a secondgeneration 7-pin series with USB-C power integration and delivery. Now Glenair is introducing a signature 10 Amp Crown Ring contact-equipped version for highercurrent applications that easily integrates into US / NATO, Nett Warrior, and STAR-PAN hub and cable systems. Contacts are capable of carrying 10 amps of current across 3 separate channels with less than 30°C of temperature rise. Electrical resistance remains consistent across 2000 mating cycles. Best of all, Glenair has integrated the new 10 Amp contact connectors into our next-generation STAR-PAN NG platform, ensuring intelligent, system-wide handling of warfighter electronic equipment—for both 10 Amp-capable devices as well as lower-power legacy hardware.

Glenair STAR-PAN NG hubs and cables—now equipped with 10 Amp Crown Ring contact receptacles—are smart devices capable of managing next-generation high-power equipment as well as lower-power legacy devices.

## SERIES 807 MIGHTY MOUSE NW CONNECTOR LINE

All designs backward-compatible with current and legacy Nett Warrior hardware

- Original 6-pin Nett Warrior plugs and receptacles
- Backward-compatible 7-pin series with USB-C power integration and delivery
- New 10 Amp receptacles for higher-current soldier battery, radio, and PAN C4ISR equipment



## US ARMY AND NATO QUALIFIED

## **Nett Warrior Connectors**

For STAR-PAN hub systems, Nett Warrior C4ISR hardware, next-gen and legacy radios and batteries



Panel-

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receptacle

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Lightweight, next-generation hub and cable systems enabling situational awareness, comms, and improved power management

Ruggedized soldier-worn electronics have revolutionized mission effectiveness. But radio communications, GPS/navigation, video downlink, and squad network computing have added significant mission weight to the ground soldier and tactical squad ensemble. Glenair STAR-PAN NG 1/2 and STAR-PAN NG 2/2 data hub and power distribution systems enable ground soldiers, special operations squads, and other tactical units to make the most of communication and computing devices, improving situational awareness and reconnaissance, while optimizing battery power monitoring and distribution performance.

Next-generation STAR-PAN NG systems incorporate powerful new capabilities in direct response to user requests and battlefield requirements, including higher-current USB-C power integration, the elimination of dedicated auxiliary, radio, and battery power ports in favor of a new Universal Power Port model, an expanded-capability Host / EUD port, and integrated MISSION MANAGER plug-and-play device integration.

NEW STAR-PAN NG NEXT-GENERATION FEATURES

- High current connectors
- Universal Power Port
- USB-C power integration and delivery
- Mission Manager device integration

- Compliance to both US and NATO STANAG 4695 connector interfaces
- Smart battery power management, builtin SMBus battery monitoring
- BMA-agnostic hardware
- Hot-swappable power sourcing, radio-supplied backup power support
- Water immersion IAW MIL-STD-810, IP67-rated dust/water resistant
- Intuitive equipment hookup and operation

## WARFIGHTER-TOUGH STAR-PAN NG 1/2 and STAR-PAN NG 2/2



Lightweight Hub Systems for Improved Ground Soldier Situational Awareness and Battery Power Management

### NEW NEXT-GENERATION STAR-PAN NG 1/2 AND STAR-PAN NG 2/2 FOR DISMOUNTED INFANTRY AND SPECIAL FORCES

- Full support for all soldier radio types:
  - L3HARRIS [AN/PRC-117G, AN/PRC-152A, AN/PRC-163, AN/PRC-167]
  - THALES [AN/PRC-154 Rifleman, AN/PRC-148 JEM]
  - Domo Tactical Communications (DTC) [SOL8SDR-H]
  - ELBIT [PNR-1000, MCTR-7200HH1
  - Silvus Technologies [SC4200, SC4400]
  - Bittium [Tough SDR Handheld<sup>™</sup>]
  - TrellisWare [TSM Shadow<sup>™</sup>]

**INTEROPERABLE** 

NATO STANAG 4695 **Soldier Power Connectors** 



**STAR-PAN NG 1/2** our smallest hub with one EUD port, one pan port and two universal power ports



**STAR-PAN NG 2/2** the next step up with one EUD port, two pan ports and two universal power ports

EXAMPLES OF SUPPORTED RADIO / C4ISR DEVICES USED IN STAR-PAN NG 1/2 AND 2/2 SYSTEMS

### SPECIFIC APPLICATIONS

- Dismounted infantry soldier situational awareness and battery management
- Fast-moving special operations forces communications and situational awareness

**Tactical EUD** Juggernaut **OPRTR** case



AN/PRC-117G, AN/PRC-152A, **PRC-163** with Radio **Power Booster** 

**Remote Secure Receiver** 

with PAN-to-Port Cable

Support for

**Revision Nerv Centr®** SoloPack<sup>™</sup> Batterv with Adapter Cable



TacRover TNR 2e Wideband **ISR Handheld Transceiver** with Adapter Cable

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# STAR-PAN<sup>™</sup> NG 3/3

Next-generation USB data/ power hub for ground force commanders, UAS and UGV controllers, and other complex tactical mission specialists

Ruggedized soldier-worn electronics have revolutionized mission effectiveness. But the ongoing evolution and complexity of mission profiles that depend on precision targeting, multiple formats of ground and air radio communications, real-time video downlink, GPS/ navigation, and tactical squad networking has added significant weight to the mission commander ensemble. The Glenair STAR-PAN<sup>™</sup> NG 3/3 data hub and power distribution system enables ground force commanders and other complex mission specialists to make the most of C4ISR devices, improving situational awareness, surveillance, intelligence, and reconnaissance while optimizing power monitoring and distribution performance.

Next-generation STAR-PAN NG systems incorporate powerful new capabilities in direct response to user requests and battlefield requirements, including higher-current USB-C power integration, the elimination of dedicated auxiliary, radio, and battery power ports in favor of a new Universal Power Port model, an expanded-capability Host / EUD port, and integrated MISSION MANAGER plug-and-play device integration.

NEW STAR-PAN NG NEXT-GENERATION FEATURES

- High current connectors
- Universal Power Port
- USB-C power integration and delivery
- Mission Manager device integration

- Compliance to both US and NATO STANAG 4695 connector interfaces
- Smart battery power management, builtin SMBus battery monitoring with integrated charging capability
- BMA-agnostic hardware
- Hot-swappable power sourcing, radio-supplied backup power support
- Water immersion IAW MIL-STD-810, IP67-rated dust/water resistant
- Intuitive equipment hookup and operation

## WARFIGHTER-TOUGH STAR-PAN NG 3/3



Next-Generation Hub System for Improved Mission Commander Situational Awareness and Control of C4ISR Assets

### NEW NEXT-GENERATION STAR-PAN NG 3/3 FOR MISSION COMMANDERS AND OTHER OPERATION SPECIALISTS

- Full support for all soldier radio types:
  - L3HARRIS [AN/PRC-117G, AN/PRC-152A, AN/PRC-163, AN/PRC-167]
  - THALES
    [AN/PRC-154 Rifleman, AN/PRC-148 JEM]
  - Domo Tactical Communications (DTC) [SOL8SDR-H]
  - ELBIT [PNR-1000, MCTR-7200HH]
  - Silvus Technologies [SC4200, SC4400]
  - Bittium [Tough SDR Handheld™]
  - TrellisWare [TSM Shadow<sup>™</sup>]

## INTEROPERABLE NATO STANAG 4695 Soldier Power Connectors

STAR-PAN NG 3/3 Next-generation design with one EUD port, three pan ports and three Universal Power ports

EXAMPLES OF SUPPORTED RADIO / C4ISR DEVICES USED IN STAR-PAN NG 3/3 INTEGRATED SYSTEMS



# **STAR-PAN<sup>™</sup> NG 4/4**

Next-generation USB data/power distribution hub for digitally aided close air support (DACAS) and other combined mission commander / JTAC applications

Digitally Aided Close Air Support or DACAS is a specialized mission profile coordinating air and ground targeting and fires control. The Joint Terminal Attack Controller, or JTAC, is the specialized authority on the ground who, in coordination with air and ground commanders, controls the maneuvering and targeting of air assets and ultimately grants weapons release clearance to attacking aircraft, utilizing a dizzying array of digital equipment including multiple radio comm formats, digital video downlink, surveillance and targeting, drone reconaissance, and more. The STAR-PAN™ NG 4/4 integrated system is designed to perfectly mesh with JTAC requirements for radio, power, and peripheral device support to extend the length and effectiveness of JTAC / DACAS missions.

Next-generation STAR-PAN NG systems incorporate powerful new capabilities in direct response to user requests and battlefield requirements, including higher-current USB-C power integration, the elimination of dedicated auxiliary, radio, and battery power ports in favor of a new Universal Power Port model, an expanded-capability Host / EUD port, and integrated MISSION MANAGER plug-and-play device integration.

NEW STAR-PAN NG NEXT-GENERATION FEATURES

- High current connectors
- Universal Power Port
- USB-C power integration and delivery
- Mission Manager device integration

- Compliance to both US and NATO STANAG 4695 connector interfaces
- Smart battery power management, builtin SMBus battery monitoring with integrated charging capability
- BMA-agnostic hardware
- Hot-swappable power sourcing, radio-supplied backup power support
- Water immersion IAW MIL-STD-810, IP67-rated dust/water resistant
- Intuitive equipment hookup and operation

## WARFIGHTER-TOUGH STAR-PAN NG 4/4



Next-Generation Integrated System Providing Power / Data Hub Support for Digitally Aided Close Air Support Missions

#### **NEW NEXT-GENERATION STAR-PAN NG 4/4 FOR JOINT TERMINAL ATTACK CONTROLLER** (JTAC) MISSIONS Full support for all soldier radio types: L3HARRIS [AN/PRC-117G, AN/PRC-152A, AN/PRC-163, AN/PRC-167] THALES **STAR-PAN NG 4/4** [AN/PRC-154 Rifleman, **Next-generation** AN/PRC-148 JEM] design with one EUD Domo Tactical port, four pan ports **Communications (DTC)** and four Universal [SOL8SDR-H] **Power ports** • ELBIT [PNR-1000, MCTR-7200HH] INTEROPERABLE Silvus Technologies [SC4200, SC4400] IATO STANAG 4695 Bittium [Tough SDR Soldier Power Connectors Handheld™I TrellisWare [TSM Shadow<sup>™</sup>] EXAMPLES OF SUPPORTED RADIO / C4ISR DEVICES USED IN STAR-PAN 4/4 INTEGRATED SYSTEMS **Radio Power Booster** for L3HARRIS Silvus, **Tactical EUD** and other radios Juggernaut **OPRTR** case Second Hand-Held Radio **Support for Conformal Wearable** with Cable **Batteries including 8A CWB** from Bren-Tronics **USB** Adapter AN/PRC-167 and Auxiliary BA5590/ Cable for One other man-pack / BB2590 Battery Additional Device vehicle-mounted with Battery Shoe radio compatibility **JIM Compact** with Data Cable TacRover TNR 2e Wideband **Remote Secure Receiver** ISR Handheld Transceiver with PAN-to-Port Cable with Adapter Cable

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## VEHICLE Base Station

# **STAR-PAN<sup>™</sup>NG X BASE STATION**

Next-generation walk-on, walkoff soldier connectivity and charging device for vehicle and other transport platforms

Integration of soldier C4ISR capabilities on an existing fleet of land, air, and maritime platforms is proving to be a challenge for many NATO members. STAR-PAN™ NG X 10-Port Base Station is a next-generation multi-port data and power hub for platform-based soldier power and C4ISR integration. STAR-PAN NG X 10-port Base Station supports USB 3.2 Gen 1 high-speed data rates and 8 Amp power delivery. This allows soldiers to directly connect portable soldier power and data systems to the transportation platform's network for charging and data sharing—enabling soldier access to latest BMS information while transporting in a vehicle, helicopter, or vessel.

The principal benefit here is ongoing enhancement of soldier situational awareness as well as critical charging of unit batteries. STAR-PAN NG X incorporates an embedded MISSION MANAGER with upgraded processing power enabling it to act as a tactical edge computing device running any Battlefield Management System (BMS). STAR-PAN NG X incorporates all STAR-PAN standard features as well as next-generation Universal Power Ports, an expanded capability Host / EUD port, and full support for USB 3.2 Gen 1 peripherals.

### NEW STAR-PAN NG NEXT-GENERATION FEATURES

High current connectors

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- Universal Power Ports
- Advanced host port
- USB 3.2 Gen 1 (5 Gbps) availability

- Compliance to both US and NATO STANAG 4695 connector interfaces
- Smart battery power management, built-in SMBus to USB conversion
- BMA-agnostic hardware
- Hot-swappable power sourcing, radio-supplied backup power support
- Water immersion IAW MIL-STD-810, IP67-rated dust/water resistant
- Intuitive equipment hookup and operation

## WARFIGHTER-TOUGH STAR-PAN NG X Base Station



Next-Generation Portable Base Station Unit for Convenient Vehicle-to-Soldier Data Uplink and Charging

## **SPECIFICATIONS**

- PAN ports for up to ten soldier devices
- HDMI and Ethernet ports
  Integrated STAR-PAN MISSION MANAGER functionality
- Two USB 3.0 ports
- Three Universal Power Ports
- Glenair power port management
- Smart battery charging from auxiliary power
- Up to 5A battery power per port, 20A system total
- Up to 2A 5 Volt VBUS power per port, 10A across all ports
- Precision-machined construction, integrated connectors

## STAR-PAN NG X BASE STATION APPLICATIONS

- Armored personnel carriers
- Land and air troop transports
- Landing craft and other Naval vessels
- Command posts and shelters

#### **STAR-PAN NG X CABLE PART NUMBERS**

BB259 BATTERY CABLE ADAPTER	TS8-496
AC PWR SUPPLY CABLE ADAPTER	TS8-497
USB 3.0 CABLE ASSEMBLY	TS1-039
CAT 5E ETHERNET CABLE	TS1-040
HDMI TYPE A CABLE ASSEMBLY	TS1-041
USB 2.0 DONGLE	TS3-001
General-Purpose Extension Cable	TS1-069

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## **OVERVIEW**

STAR-PAN NG X 10-Port Base Station is a multi-port data and power hub for platform-based C4ISR integration. STAR-PAN NG X 10-port Base Station provides the same NATO standard interconnect interface as soldier-worn STAR-PAN systems, making it completely interoperable with the existing portfolio of cables and adapters, and allowing easy soldier interconnection to the platform's data and power network. With STAR-PAN NG X, Dismounted soldiers can connect to the vehicle power and data accessing on-board radios and sensors via a single cable connection and/or access data through the WiFi-network when operating in the vicinity of the vehicle.

INTEROPERABLE NATO STANAG 4695 Soldier Power Connectors

### **STAR-PAN NG X Base Station**

Next-generation vehicle network interface design includes HDMI, Ethernet, and USB 3.0 ports, plus three Universal Power Ports



Cat5E Ethernet Cable Assembly TS1-040

USB 3.0 Cable Assembly TS1-039



AC Power Supply Adapter Assembly TS8-497 HDMI Type A Cable Assembly TS1-041



USB 2.0 Dongle TS3-001



## **Military / Defense** Interconnect Solutions





VITA 67.3 SMPM and SMPS RF connectors, contacts, and accessories

For Land, Sea, Air, and Space Applications

TURNKEY INTERCONNECT ASSEMBLIES FOR MILITARY DEFENSE APPLICATIONS



**Complex Cable and Wire Protection Conduit Assemblies** 



Integrated Flex / Rigid Flex **Circuit Assemblies** 



Interconnect Assemblies

Aerospace-Grade Fiber Optic Turnkey High-Frequency RF Coax Interconnect Assemblies

**GROUND SOLDIER / TACTICAL CONNECTORS AND CABLES** 



Series 807 Mighty Mouse **Nett Warrior Connectors and** STAR-PAN<sup>™</sup> Data Hubs



Nanominiature SuperFly® Tactical Interconnects

HiPer 55116<sup>™</sup> "Better Than QPL" **Field Audio Connectors** 

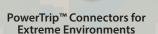


SealTac<sup>™</sup> and Mighty Mouse **Tactical Soldier Connectors** 

MILITARY VEHICLE CONNECTORS AND HARSH-ENVIRONMENT WIRE PROTECTION



SuperSeal<sup>™</sup> Ruggedized Field RJ45 and USB Solutions



TurboFlex<sup>®</sup> Ultra-Flexible **Rugged Power Cable** 



**Heat and AutoShrink Boots** and Molded Shapes

### **AEROSPACE AND MISSILE SYSTEM APPLICATIONS**



El Ochito<sup>®</sup> and other Signature High-Speed Interconnects



SuperNine<sup>®</sup> "Better Than QPL" MIL-DTL-38999 Series III



Series 806 Mil-Aero with Optimized SWaP



SuperFly® Datalink Nano High-Speed



Series 28 HiPer-D<sup>®</sup> High-Performance M24308



Series 791<sup>™</sup> / 792<sup>™</sup> Crimp-Contact High-Density Rectangular



HD Stacker™ High-Density Board-to-Board



MIL-DTL-83513 Micro-D QPL and COTS Derivatives



MIL-DTL-32139 Nano QPL and COTS Rectangulars



High-Speed, High-Datarate Fiber Optics



Special-Purpose Circulars: EMI/RFI Filters and Hermetics



Glenair Signature Backshells and Accessories

## NAVY / SHIPBOARD APPLICATIONS



MIL-DTL-28840 QPL Navy Shipboard Interconnects



MIL-PRF-28876 QPL Navy Fiber Optic Interconnects QPL and Glenair Signature Lightweight Ground Straps



MIL-PRF-24758A US Navy Qualified Conduit System



## MISSION-CRITICAL INTERCONNECT SOLUTIONS

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