



Tethers Unlimited, Inc. (AMERGINT)

United States · founded 1994 · arka.org

10

PRODUCTS

9

WITH DATASHEETS

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as of 20 August 2026

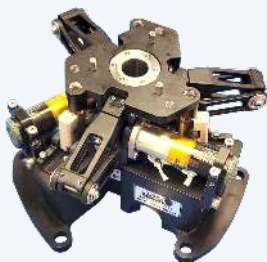


Tethers Unlimited, Inc. (AMERGINT)

Tethers Unlimited, Inc. (TUI) is an American aerospace technology company founded in 1994 by Robert Hoyt and science-fiction author Robert Forward, headquartered in Bothell, Washington. Growing out of early research into space tether systems, TUI built a broad portfolio of small-satellite hardware: the SWIFT family of software-defined radios for telemetry, tracking and command; the HYDROS water-electrolysis thruster, which splits stored water into hydrogen and oxygen propellant for green in-space propulsion; the Terminator Tape passive deorbit module for CubeSats; the COBRA gimbal and MANTIS robotic-arm mechanisms; and deployable booms and solar-array structures used on numerous NASA, DoD and commercial small-satellite missions. TUI's Firmamentum division pioneered in-space additive manufacturing and assembly technology, including the SpiderFab / Trusselator concept for on-orbit fabrication of large structures such as antenna reflectors and solar arrays, funded through NASA and DARPA research contracts. TUI hardware has flown on missions including NASA's PUNCH heliophysics constellation and numerous CubeSat and smallsat programs across government and commercial customers. In May 2020, TUI was acquired by AMERGINT Technology Holdings, becoming a wholly owned subsidiary alongside AMERGINT's satellite ground-system and signal-processing business. AMERGINT subsequently rebranded as ARKA Group, which brought together TUI, AMERGINT, Danbury Mission Technologies, The Stratagem Group and Lumacron under a single space-and-defense enterprise. In 2026, ARKA Group was acquired by CACI International, folding TUI's flight-hardware and radio product lines into CACI's broader national-security space portfolio. TUI's original tethers.com web presence has since been retired as its prod

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

Product catalogue



TETHERS UNLIMITED, INC. (AMERGINT)
COBRA-HPX Gimbal

Space-qualified 3-DOF (az/el/thrust) pointing gimbal using the Canfield-Joint carpal-wrist design for full-hemisphere, singularity-free antenna pointing.

Mass	276 g
Pointing Resolution	≥ 276 arc-sec
Repeatability	≤ ± 276 arc-sec
Stowed Footprint	113 mm Ø
Stowed Height	29 mm

[price on request](#) [datasheet](#)



TETHERS UNLIMITED, INC. (AMERGINT)
COBRA™ Gimbal

The COBRA Gimbal is a 3DOF (azimuth, elevation, thrust) pointing mechanism that uses a Canfield Joint carpal-wrist design for precise, full-hemisphere pointing capability.

Flight Heritage	!
COBRA-HPX™ Mass	276 g
COBRA-HPX™ Pointing Resolution	≥ 276 arc-sec
COBRA-HPX™ Repeatability	≤ ± 276 arc-sec
COBRA-HPX™ Stowed Footprint	113 mm Ø
COBRA-HPX™ Stowed Height	29 mm
COBRA-UHPX™ Mass	491 g

[price on request](#) [datasheet](#)



TETHERS UNLIMITED, INC. (AMERGINT)
CryptoSWIFT FIPS140-2

CryptoSWIFT FIPS140-2 is a hardware encryption solution for LEO small satellite missions, offering high-performance AES-256 encryption up to 55 Mbps.

Built for	LEO small satellite missions
TRL	9 Hardware
Encryption	High performance AES-256 encryption
Speeds	up to 55 Mbps
Certification	NIST FIPS140-2 Level 1 Certification in Process
Power	3 Watts

[flight proven · TRL 9](#) [price on request](#)
[datasheet](#)



TETHERS UNLIMITED, INC. (AMERGINT)
HYDROS-C Water Electrolysis Thruster

CubeSat-scale green water-electrolysis thruster: splits stored water into hydrogen/oxygen for bipropellant combustion, with flight units delivered including NASA's PTD mission.

Specific Impulse	> 310 s
Thrust	> 1.2 N
Power	5-25 W
Total Impulse	> 2,151 Ns
Water tank	Customizable
Flight status	Flight units delivered; flying on NASA Pathfinder Technology Demonstrator (PTD)

[price on request](#) [datasheet](#)



TETHERS UNLIMITED, INC. (AMERGINT)

HYDROS® Thruster

HYDROS® is a green, water-based hybrid electrical/chemical propulsion thruster from Tethers Unlimited, available in CubeSat (HYDROS-C) and micro-satellite (HYDROS-M) configurations

HYDROS-C Specific Impulse	> 310 s
HYDROS-C Thrust	> 1.2 N
HYDROS-C Power	5-25 W
HYDROS-C Total Impulse	> 2,151 Ns
HYDROS-C Water Tanks	Customizable
HYDROS-M Specific Impulse	> 310 s
HYDROS-M Thrust	> 1.2 N

price on request [datasheet](#)



TETHERS UNLIMITED, INC. (AMERGINT)

KRAKEN Robotic Arm

Compact 7-DOF, 1-meter robotic manipulator with a hot-swappable end-effector interface and per-joint force sensing, for in-space assembly, manufacturing and servicing.

Degrees of freedom	7 DOF
Arm length	1 m (standard configuration)
Stowed volume	19 cm x 27 cm x 36 cm
End effector	Hot-swappable end-effector interface
Joint sensing	High-speed force sensing in each joint; embedded controller with force-control capability
Flight heritage	Flight Heritage designation

price on request [datasheet](#)



TETHERS UNLIMITED, INC. (AMERGINT)

Refabricator In-Space Recycling & 3D-Printing System

Firmamentum-built ISS payload demonstrating closed-cycle recycling of plastic waste into 3D-printing feedstock for off-world manufacturing.

Mission	Installed aboard the International Space Station in 2018
Function	Closed-cycle recycling and 3D-printing of plastic parts
Applications	Medical and food-safe manufacturing on the ISS; recyclable launch packaging materials
Program lineage	Firmamentum division; informed NASA FabLab metal recycling/manufacturing development

price on request



TETHERS UNLIMITED, INC. (AMERGINT)

SWIFT Software-Defined Radio Family

Modular, flight-proven software-defined radio platform from Tethers Unlimited (TUD), configurable across UHF, L, S, X and Ka bands for small-satellite telemetry, tracking and comma

Networks	NEN/DSN: CCSDS TC/TM, Raw bit-sync; USN: SLGS, CCSDS; AFSCN: SGLS, USB; RBC, Atlas, SFN; C
Electrical Interfaces	RS-232/422/485; LVDS; 3.3v CMOS/TTL; CAN/SPI/I2C; Ethernet 10/100; MIL-STD-1553
Modulations	TX: BPSK, QPSK, OQPSK, 8PSK, 16APSK; RX: BPSK, QPSK, OQPSK; PM, CPM; SGLS-Ternary
FEC	Reed-Solomon w/ interleaving; Convolutional w/ puncturing; Soft-Viterbi; BCH; Turbo/LDPC;
Protocols	Sync. Clock+Data (200 Mbps); Dual SpaceWire (100 Mbps); Dual UART (10 Mbps); HDLC Framing;
Support	Idle/pilot insertion; Randomization; Bit-diff., Bi-Phase; NRZ-L/M/S; Coherent tone ranging
SWIFT-HB core	Xilinx Zynq 7030 FPGA with dual ARM-9 Cortex processor access

price on request

[datasheet](#)



TETHERS UNLIMITED, INC. (AMERGINT)

SWIFT® Radios and RAVEN – SDR

The SWIFT® family of Software Defined Radios (SDR) provides high-performance communications for small satellite operations, built on a modular platform with diverse software control

Flight Heritage	Yes
Networks (SWIFT-XTS)	NEN/DSN: CCSDS TC/TM, Raw bit-sync; USN: SLGS, CCSDS; AFSCN: SGLS, USB; RBC, Atlas, SFN; C
Networks (RAVEN - SDR)	USN: SLGS, CCSDS; AFSCN: SGLS, USB; RBC, Atlas, SFN; Custom/commercial/private; Crypto uni
Electrical Interfaces (SWIFT-XTS)	RS-232/422/485; LVDS; 3.3v CMOS/TTL; CAN/SPI/I2C; Ethernet 10/100; MIL-STD-1553
Electrical Interfaces (RAVEN - SDR)	LVDS; 3.3v CMOS/TTL; CAN/SPI/I2C; Ethernet 10/100; MIL-STD-1553
Modulations (SWIFT-XTS)	TX: BPSK, QPSK, OQPSK, 8PSK, 16APSK; RX: BPSK, QPSK, OQPSK; PM, CPM; SGLS-Ternary
Modulations (RAVEN - SDR)	RX: BPSK, QPSK, OQPSK; PM, CPM; SGLS-Ternary

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TETHERS UNLIMITED, INC. (AMERGINT)

Terminator Tape Deorbit Module

Compact, lightweight passive deorbit module that deploys a long conductive tape to increase drag and hasten orbital decay, flight-proven on CubeSats, NanoSats and small microsats.

Deployment	Passive; commanded release or optional battery-powered timer module
Mechanism	Deploys a long, thin conductive tape to increase atmospheric/electrodynamic drag
Sizes available	CubeSat, NanoSat, and Small MicroSat configurations
Flight heritage	Flight-proven (Flight Heritage designation on multiple missions)

[price on request](#) [datasheet](#)

Contact Tethers Unlimited, Inc. (AMERGINT)

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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<https://arka.org>