



HOSTED PAYLOAD INTERFACE UNIT (HPIU)

Facilitating rapid deployment through standard interfaces

L3Harris' next-generation HPIU meets the increasing need for resilient space architectures that offer protection of Department of Defense information in a contested environment. The HPIU provides a complete information assurance trusted separation boundary, RED/BLACK isolation, power and signal flow between the U.S. government user's payload and the commercial or government satellite provider.

The HPIU delivers a scalable open-system approach that facilitates technology refresh, operational flexibility and asset reconfiguration to address rapidly changing requirements and enables cost savings. The HPIU can support NSA-certified end cryptographic unit (ECU) solutions for the purpose of handling the encryption and decryption of telemetry,

command authentication and payload data being passed between the hosted payload and commercial or government host satellite. HPIU is designed for use with the NSA-certified cryptographic product KI-700 and also supports migration to alternative NSA-certified cryptographic products.

Designed to be payload or bus agnostic, the HPIU allows payload development to be independent of ride share. The flexibility of the design enables shorter integration timelines, provides a variety of secure interfaces to meet mission requirements, offers a tailorable parts program for various duration missions and offers on-orbit reprogrammability on the payload side. The HPIU can be used on satellites seeking compliance with CNSS Policy No. 12 and implements HHH-level security controls compliant with DoDI 8500.01E.



FEATURES

- > Scalable architecture to meet requirements without design changes or recertification
- > Wide range of data rates to meet mission needs
- > High technology readiness level solution (TRL)
- > On-orbit reprogrammable field programmable gate array (FPGA) on payload (RED) side
- > RED/BLACK power isolation and filtering
- > Contractor-provided integration support to reduce risk of fielding new capabilities

PARAMETER	SPECIFICATION
Encryptor/decryptor configuration	Supports NSA-certified KI-700 and migration to other cryptographic products
Interface	RS-422, LVDS, SpaceWire, MIL-STD-1553, MGT/Aurora (high rate); supports migration to alternative host interfaces
Power requirements	Host system input voltage +28 VDC, +70 VDC, +100 VDC Power consumption 120-620 W (dependent on interfaces, data rates and payload power) Host payload RED DC +28 VDC Payload power delivery 65-475 W
General	Dimensions 27.58 cm x 30.48 cm x 8.89 cm (10.86 in x 12.0 in x 3.50 in) Mass 7.0 kg (15.44 lbs)
Environmental	Temperature: - 35° C to + 66° C Vibration: 15.1 Grms EMI: MIL-STD-461 F (tailored) Radiation: 100 krad TID (chassis) TEMPEST: TEMPEST/1-92 Level 1

Hosted Payload Interface Unit (HPIU)

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