RUGGED 4-PORT KVM COMBINER

HSL's Rugged 4-Port KVM Combiner simplifies operator control over multiple, air-gapped computer systems in the harshest combat environments. It allows a single operator to seamlessly control up to four separate systems from a single console, presenting them on a single or dual display. This capability streamlines the operator's workspace and can help improve reaction times and situational awareness.

Built to perform under harsh conditions, the Combiner is designed to meet MIL-STD-810 environmental requirements. For mission-critical security, it is certified to the highest standards (NIAP PP4.0 for Peripheral Sharing Devices), ensuring the integrity and isolation of each connected system. The Rugged KVM Combiner is an indispensable C4ISR solution, providing powerful, secure, and reliable monitoring and control, and is applicable for air, land, and sea platforms.

OPERATIONAL CAPABILITIES

- **Ultra-Fine Details**: Display mission-critical information in 4K on up to two monitors.
- **Dynamic Display Modes**: View all sources simultaneously in Quad-View, or dynamically resize and position windows as the mission evolves.
- **Seamless Cursor & Keyboard Switching**: Glide the cursor effortlessly across screen borders to switch control between sources instantly.
- **Remote Access**: The Combiner is optionally equipped with a remote control that can be mounted on the operator's dashboard for easier switching between input sources.

SECURITY FEATURES

- **Air-Gapped Network Isolation**: True hardware-based separation prevents data leaks between connected computer systems, while remaining accessible from a single console.
- **One-Way Data Flow**: Optical data diodes enforce a unidirectional data flow, preventing vulnerable peripherals from being exploited for data leaks and malicious code insertion.
- **Built-In Diagnostics**: Routine internal operational diagnostics ensure optimal performance upon startup, on demand, and automatically every 5 minutes. Readiness status reports are available via RS-232.
- **Top-Tier Security**: Fully compliant with NIAP PP4.0 for PSD.

RUGGEDIZATION & PLATFORM INTEGRATION

- **SWaP Optimized**: Compact and lightweight design, ideal for space-constrained vehicle, marine, and airborne platforms.
- **Sturdy Design**: Designed to withstand the harshest environmental conditions including temperature, solar radiation, humidity, shock and altitude. Compliant with environmental and emisson standards including MIL-STD-810, IP67, MIL-STD-461.
- **MIL-SPEC Connectors**: D-38999 connectors ensure reliable, secure connectivity through intense shock and vibration.
- **Protected Power Input**: The Combiner is powered directly from the host platforms power bus and is compliant with ground vehicle and airborne power supply standards. High radiation nuclear event protection is optional.

SPECIFICATION

MODEL NUMBER	SC42PHU-4TR
MAIN FEATURES	
Dimensions	433.8 (W) x 215 (D) x 65.85 (H) mm [17.07 x 8.46 x 2.6 Inch]
Weight	4.536 Kg [10 lbs]
Host Input Ports	4 x HDMI or DP and two USB 2.0 interfaces based on a single female TVP00ZNCI17-35P.
Console ports	HDMI or DP, 3 USB devices and optional remote control via a single male TVP00ZNCI17-35S.
Channel Switching	• IP 67 compliant green LED illuminated front panel push buttons (NVG and dimming options available) • Remote control connected via console port
Supported Video Modes	• HDMI/DP supported up to 4K@30Hz or 2600x1600@60Hz • Support for other video formats available.
ENVIRONMENTAL (PARTIAL LIST)	
Shock	MIL-STD-810G, Method 516.7 Procedure I with a peak amplitude of 40 ± 4.0g
Vibration	MIL-STD-810G, Method 514.7 Procedure I for operational use on a Category 20 wheeled Ground Vehicles
Humidity	MIL-STD-810G, Method 507.6, Procedure I based upon Table 507.6-I
Temperature	Operating - 46°C to 52°C (-51°F to 125°F); Storage -51°C to 71°C (-60°F to 160°F)
Altitude	MIL-STD-810G, Method 500.6 Procedure I
Immersion	MIL-STD-810G, Method 512.6 Procedure I to a depth of 3 meters in fresh water
Salt Fog	MIL-STD-810G, Method 509.6.
Blowing Sand	MIL-STD-810G, Method 510.6 Procedure II with 10.6 to 17.7 grams per cubic meter (g/m3)
Blowing Dust	MIL-STD-810G, Method 510.6 Procedure I with 0.006 g/m3 silica flour dust from 0.0001mm to 0.01mm in diameter blowing at a velocity of 1.5 ±0.2 m/s

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POWER	
DC Input	Nominal Power Input 28VDC (18V-36V)
Power Compliance	MIL-STD-1275E Compliant Designed to operate with a steady-state supply voltage per fault free conditions as specified in MIL STD-1275E
Power Requirements	Max power consumption 40W
REGULATORY COMPLIANCE	
Safety	MIL-STD-882
EMI/EMC	MIL-STD-461
Tests	CE102, CS101, CS114, CS115, CS116, RE102, RE103, CE101
Security	• Compliant with NIAP PP4.0 for PSD (Peripheral Sharing Device)
RELIABILITY	
Standard	MIL-HDBK-216
MTBF	65,000 hours of operation at 40°C
HOW TO ORDER	
Product Model #	SC42PHU-4TR
Cables KIT Model #	Host SH HDMI: KC82HH-4TRKIT Host SH DP: KC82PH-4TRKIT

HSL Secure 4-Port Rugged Combiner System Diagram