

Rugged DVI-I Dual-Display KVM over IP Extender

KE6948A

The ATEN KE6948A is an industrial-grade KVM over IP Extender DNV-certified to IEC 60945 and IACS E10 standards, specifically engineered for mission-critical maritime control rooms and data centers. It delivers secure, zero-latency remote access to computer systems, ensuring uninterrupted monitoring and control even under the most demanding conditions.

System Architecture for Remote Management

The KE6948A system consists of a high-performance IP-based transmitter (KE6948AT) connected to the computer and a receiver (KE6948AR) that provides console access from a separate location. It enables remote access via USB consoles (keyboard, mouse, and DVI monitor) over an intranet, allowing systems to be placed in secure, temperature-controlled environments away from users' workstations, with support for lossless, zero-latency video resolution up to 1920 × 1200 @ 60 Hz.

Flexible Connectivity and Long-Distance Extension

Equipped with both RJ-45 ports and SFP slots, the KE6948A can connect directly or via a LAN using copper or fiber cabling. By utilizing 1Gbps SFP fiber modules, transmission distances can reach up to 10 km. To ensure dependable service and uptime, it features dual power supplies for power redundancy.

Scalable Deployment and Matrix Integration

As an IP-based solution, the KE6948A is highly versatile. It can function in point-to-point, point-to-multipoint, or multipoint-to-point configurations. When integrated with the CCKM (Matrix Manager), it transforms into a full multipoint-to-multipoint KVM over IP Matrix System for complex environments.

Centralized Management

Implementing the CCKM software unlocks advanced administrative features. This includes auto-detection of all KE devices on a subnet for fast installation, as well as centralized authentication and authorization. Administrators can easily define, switch, and share different connection types across the network.

Secure Access and Data Protection

Security is a priority, with support for AES 128-bit encryption and remote authentication via RADIUS, LDAP, or AD. Additionally, with built-in OSD (On-Screen Display), RS-232 support, and Auto MDIX, the KE6948A provides a cost-effective and convenient digital extension solution across any intranet.

Note: SFP modules (2A-136G / 2A-137G) are sold separately. Contact your ATEN dealer for details.

KE6948AT Front View



KE6948AT Rear View



KE6948AR Front View



KE6948AR Rear View



Features

Designed for Marine and Control Room Environments

- DNV-certified for maritime applications, including ships, offshore platforms, and high-speed, light craft
- Certified to meet IEC 60945 and IACS UR E10 international marine test specifications

Advanced Features (with CCKM Integration)

- Boundless Switching – seamlessly switch between receivers (Rx) by moving the mouse cursor across screen boundaries
- Fast Switching – 0.3-second switching between transmitter-connected servers of any resolution
- Push and Pull – instantly share content to/from a single Rx or video wall with one click
- Video Wall Support – supports multiple video walls with up to 12 × 12 (144 displays) per layout
- Panel Array™ Mode – preview up to 36 video sources on a single screen
- Advanced Scheduling – improves efficiency and saves costs by allowing connections to be set based on time and date
- Channel Connections – allows Rx devices to connect to multiple Tx devices for independent streaming of video, audio, USB, and serial signals
- Virtual Transmitter – independently stream video, audio, USB, and serial sources from different Tx devices
- Multi-Display Support – group up to 4 sets of KE series devices to support complex multi-display applications

Hardware

- Industrial-grade components for enhanced durability and anti-interference capability
- Operating temperature range : -15°C to 55°C / 5°C to 55°C (DNV)
- Eco-friendly powder coating process – eliminates hazardous emissions and reduces waste during manufacturing
- Supports power and network failover – dual DC jacks for power redundancy; 1 RJ-45 and 1 SFP fiber ports for network failover
- Supports 1Gbps SFP fiber module expansion for transmission distances up to 10 km¹
- Advanced processor supports lossless and zero-latency video transmission up to 1920 × 1200 @ 60Hz; 8-bit RGB (24-bit total color)
- Supports digital (DVI) or analog (VGA) video output²
- Audio support for stereo speakers and microphone
- High-speed USB storage transmission support
- Auto-MDIX for automatic cable type detection
- Built-in 8KV / 15KV ESD protection and 2KV surge protection
- Fanless design for silent and energy-efficient operation
- Rack-mountable design (Dual Rack Mount Kit: 2X-021G / Single Rack Mount Kit: 2X-031G)

Note:

1. The SFP module (2A-136G / 2A-137G) is sold separately. Contact your ATEN dealer for product information.
2. To convert a DVI to VGA signal, a DVI-I to VGA converter is required.

Management

- Centralized management via KVM over IP Matrix Manager (CCKM) allows users to easily administrator all KE devices with intuitive web-based GUI
- Auto-detection of KE devices within the same subnet for fast deployment
- Configurable user and group permissions for access and control of KVM over IP extenders
- Four selectable access modes (Exclusive / Occupy / Share / View Only) – administrators can select access modes of permissions on Tx devices to boost collaboration or to avoid interference among users
- Dual console operation – control the user's system from both transmitter and receiver consoles
- OSD (On-Screen Display) for configuration
- EDID Expert™ – selects optimum EDID settings for smooth power-up and highest quality display
- Command line interface (CLI) – control all KVM over IP extenders via RS-232 or TCP/IP using a CLI or 3rd party application
- RS-232 serial ports – allow users to connect to a serial terminal for TextMenu, CLI, or serial devices such as touch screens and barcode scanners
- Supports hotkey commands
- Rx access control – enables or disables receiver access by simply pressing a control button*
- LED indicators and audio alerts for device identification
- Adjustable video compression levels for bandwidth optimization
- Compatible with all KE series devices

Note: The KVM over IP Access Control Box (2XRT-0015G) is sold separately. Contact your ATEN dealer for product information.

Security

- Secure data transmission – AES 128-bit encryption to secure all data before transmitted over a network and decrypts the data on the receiver
- Supports Transport Layer Security (TLS) protocol
- Supports LDAP, Active Directory, RADIUS and TACACS+ external authentications
- Dedicated LAN port for KE direct connections – can be isolated from the corporate network

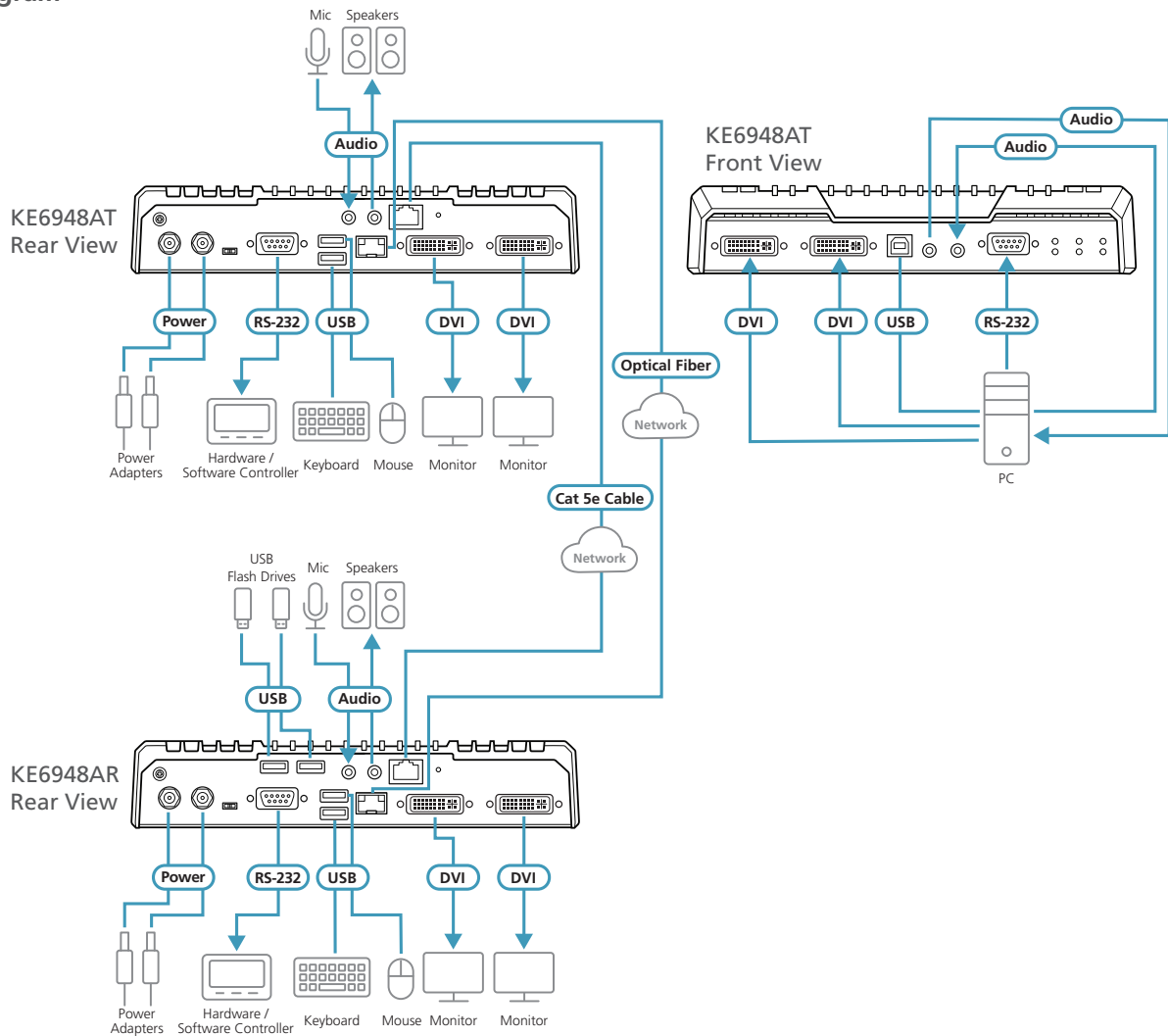
Virtual Media

- USB storage transmission mode enhances data transmission performance, ideally for file transfer, OS patching, and software installation and diagnostic testing
- Supports USB 2.0 DVD/CD drives, mass storage devices, PC hard drives and ISO image mounting
- Supports smart card / CAC reader

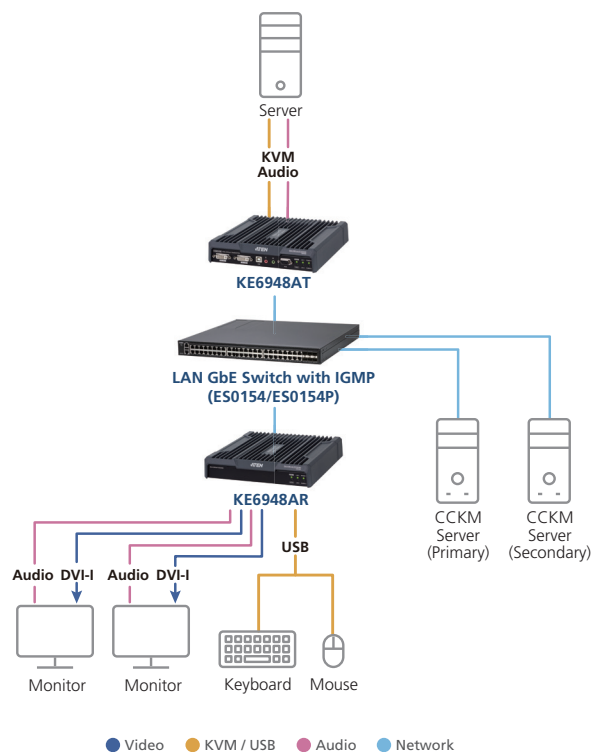
Highlights

Maritime Certified	Certified by DNV to stringent IEC 60945 and IACS UR E10 standards, the KE6948A sets a new benchmark for marine applications. It empowers operators across naval vessels, offshore platforms, oil rigs, and high-speed craft with dependable, continuous remote control, ensuring mission-critical monitoring never falters across diverse marine environments.
Over IP	The KE6948A extends a computer's KVM console to any distance over a LAN by connecting the Tx and Rx units to users network. The extender also extend a computer's KVM console up to 100 m by directly connecting the Tx and Rx units with a single Cat 5e / 6 cable. Standard IP protocols ensure maximum compatibility with your existing IT infrastructure and staff skill set.
Redundancy	The KE6948A supports connection via Gigabit Ethernet port (RJ-45) and SFP port for failover or for dual IP addresses access. Moreover, it supports dual power for redundant power supply.
SFP Module	The KE6948A supports 1Gbps SFP fiber module expansions, enabling connections with network switch allowing either an optical Fiber Channel SFP module or Active Copper SFP module. The single-mode SFP module provides 1GbE connectivity up to 10 km while the multi-mode SFP module provides 1GbE connectivity up to 550 m. Note: The SFP module (2A-136G / 2A-137G) is sold separately. Contact your ATEN dealer for product information.
Unprecedented Video Quality	ATEN's advanced graphics processor delivers video that allows users to experience the same vivid and sharp image quality on the remote monitor no matter how far away the console is located.
Advanced Management System	The CCKM allows users to easily administer all KVM over IP extenders over a network, using an intuitive user-friendly web based GUI.
Boundless Switching	Users can simply move the mouse cursor across screen boundaries to switch between different receivers. The function expedites the process of switching between receivers for a smooth and hassle-free user experience and enables immediate monitoring and management of receivers. Note: These advanced functions are supported when the KE transmitters are paired with KE receivers and managed by CCKM.
Flexibility	The KVM over IP extender allows users to access, share, and switch full control of Tx connected computers - from any Rx (KVM console) on the network. The extender flexibly allows One-to-One, One-to-Many, Many-to-One, or Many-to-Many computer to KVM console connections.
Enhanced Security Features	The KE6948A is compliant with universal enterprise grade security standards (AES encryption to secure Video / Keyboard / Mouse / Data transmission and Transport Layer Security (TLS) protocol), and provides different levels of username / password authentication and authorization.

Diagram



Scenario Diagram



Specifications

	KE6948AR	KE6948AT
Connectors		
USB Port	2 x USB Type-A Female (White)	N/A
Console Ports	2 x USB Type-A Female (White) 2 x DVI-I Female (White) 1 x Mini Stereo Jack (Green) 1 x Mini Stereo Jack (Pink) 1 x DB-9 Male (Black)	
KVM Ports	N/A	1 x USB Type-B Female (White) 2 x DVI-I Female (White) 1 x Mini Stereo Jack (Green) 1 x Mini Stereo Jack (Pink) 1 x DB-9 Female (Black)
Power	2 x Lockable DC Jack (Black)	
LAN Ports	1 x RJ-45 (Black) 1 x SFP Slot	
Switches		
Reset	1 x Semi-recessed Pushbutton	
Mode Selection	1 x Slide Switch (Extension, RS-232 Config)	1 x Slide Switch (Auto, RS-232 Config/Access Control, Local)
LEDs		
10/100/1000 Mbps	1 x LED for RJ-45 (10/100: Off, 1000: Green) 1 x LED for SFP slot (10/100: Off, 1000: Green)	
Power	2 (Green)	
Local	1 (Green)	
Remote	1 (Green)	
Emulation		
Keyboard / Mouse	N/A	USB
Power Consumption	DC 12V:14.46W	DC 12V:15.88W
Video Resolution	Up to 2*1920 x 1200 @ 60 Hz	
Latency	< 5ms	
Environmental		
Operating Temperature	-15 – 55 °C (5 – 55 °C for DNV)	
Storage Temperature	-20 – 60 °C	
Humidity	0 – 95% RH, Non-condensing	
Physical Properties		
Housing	Metal	
Weight	2.36 kg	2.40 kg
Dimensions (L x W x H)	21.47 x 21.11 x 4.18 cm	

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