EDPN-ATC-4D

Seamless Dual-Head DisplayPort KVM Switch For Air Traffic Control

Designed for 24/7 operational reliability, this high-performance KVM solution enables air traffic controllers to securely manage multiple critical systems including radar, flight data, surveillance, and weather platforms from a single, unified workstation with specialized ATC resolutions such as 2048×2048 @ 60Hz.

By centralizing IT hardware outside the control room, the system reduces heat, noise, and clutter, while delivering real-time, zero-disruption access to all connected systems that require RS-232.

FEATURES AND CAPABILITIES FOR ATC OPERATIONS

SmartAVI's ATC-dedicated KVM platform delivers the performance, reliability, and security required for modern air traffic control operations where every frame matters and every second counts.

- Integrated Multiviewer: Simultaneous system monitoring

- Ultra-low latency: Real-time decision making

- Uninterrupted visualization

- EDID (AUX) Emulation: Window and Monitor Configurations remain intact when switching channels.

- Supports resolutions up to 3840 × 2160 @ 60 Hz

- Supports USB keyboard and mouse emulation

- Supports additional USB 2.0 devices, printers, scanners, web cameras, etc.

- Flash upgradeable firmware

- Stereo Audio support

- True seamless switching: No video blanking or re-sync

- Hot-key commands for quick port selection.

- Specialized ATC resolutions: Including 2048 × 2048

- 4K60 DisplayPort: Full frame integrity

- Precise image timing and color accuracy

- RS-232 for serial communication full RS232 switching to enable to supports legacy printer

- Front panel keys for manual port selection

- Supports power failover – 2 lockable DC jacks for power redundancy to ensure constant availability

- Independent (asynchronous) switching of KVM and peripheral USB/audio ports

- Supports all major Operating Systems like Windows, Mac, Linux, Sun, Unix, DOS, etc.

HOW IT WORKS

Viewing Modes
Flexible Multiview Modes

Fullscreen Mode
Display any single computer in full-screen 4K UHD for focused work.

Dual Mode
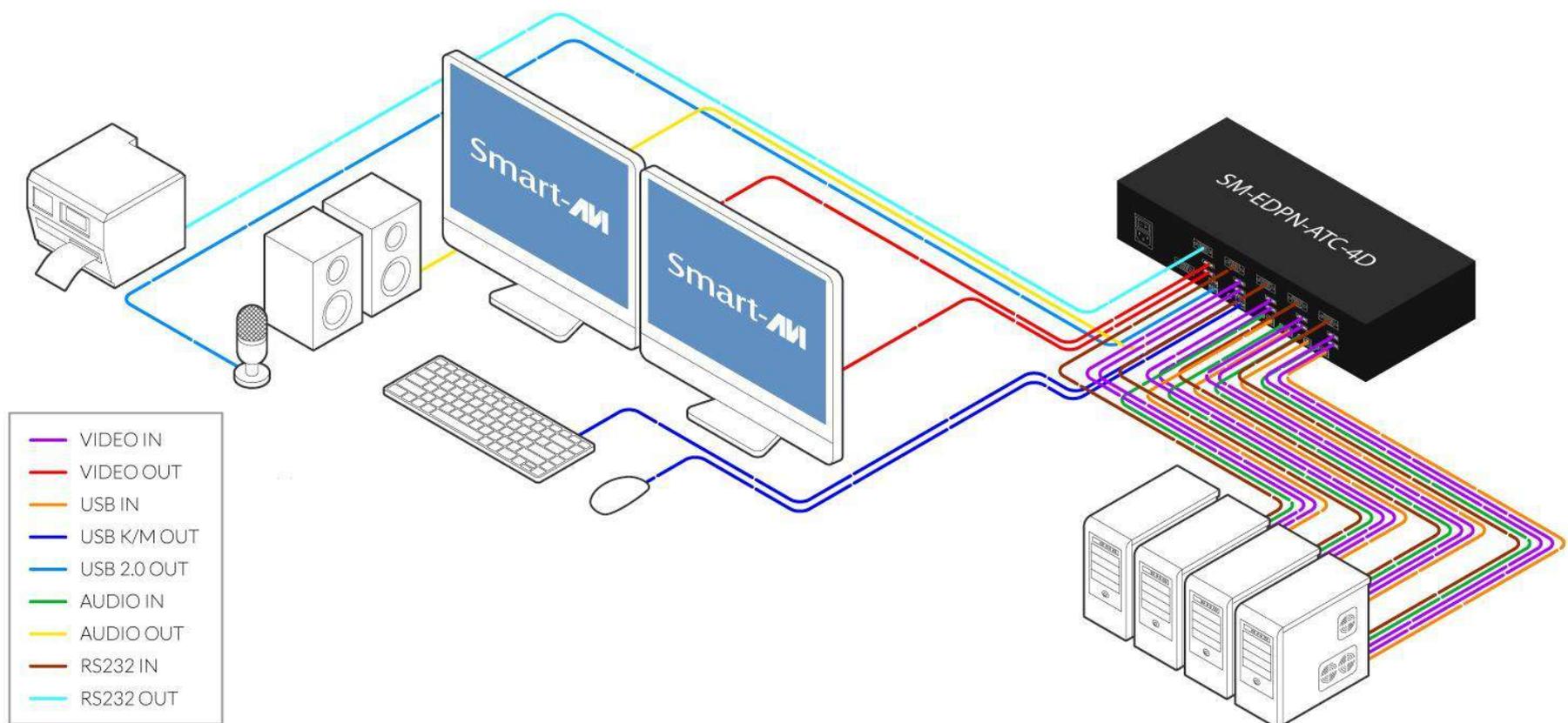View two inputs simultaneously, for comparison or monitoring.

Quad Mode
Display all four inputs at once for complete situational awareness.

Picture-in-Picture (PiP)
Overlay a secondary source while maintaining focus on a primary system.

APPLICATION DIAGRAM

VIDEO IN
VIDEO OUT
USB IN
USB K/M OUT
USB 2.0 OUT
AUDIO IN
AUDIO OUT
RS232 IN
RS232 OUT

SM-EDPN-ATC-4D

Instant system switching without loss of situational awareness
Supports **Single-Head** and **Dual-DisplayPort**

KEY CAPABILITIES

- **Integrated Multiviewer:** Simultaneous review of multiple imaging sources

- **Ultra-low latency:** Preserving natural cursor and image response

- **True seamless switching:** No screen blanking or re-synchronization

- **4K60 DisplayPort:** Full pixel integrity

- Supports specialized ATC resolutions such as 2048×2048

SPECIFICATIONS

Video

Format	DisplayPort1.2	
Maximum Pixel Clock	594 MHz	
Input Interface	SM-EDPN-ATC-4D	(8) DisplayPort 20-pin (female)
Output Interface	SM-EDPN-ATC-4D	(2) DisplayPort 20-pin (female)
Resolution & Refresh Rate	3840 x 2160 @ 60 Hz	
Color Capability	24-bit True Color (8-bits per channel)	
Chroma Sampling	4:4:4 (full color), 4:2:2, or 4:2:0	
Input Equalization	Automatic	
Input Cable Length	Up to 20 ft	
Output Cable Length	Up to 20 ft	
Data Rate	1.65 Gbps per color	
Bandwidth (HBR2)	Up to 21.6 Gbps total (5.4 Gbps per lane)	
EDID Support	Full emulation & preloaded profiles	

Control

Front Panel	Push Buttons with LED Indicators
Hot Keys	Via Keyboard

RS-232

Connectors	4 DB9 female. One male
Speed	Up to 115,000 bps
RS-232 Support	Full Duplex

USB

Signal Type	USB 2.0, 1.1, and 1.0 w/ internal hub
Input Interface	(4) USB Type B (female)
Output Interface	(2) USB Type A (female) for K/M emulation; (2) for USB 2.0 Transparent
Emulation	Keyboard and Mouse

Audio

Input Interface	(4) 3.5 mm Stereo Audio
Output Interface	(1) 3.5 mm Stereo Audio
Impedance	600 Ohm
Frequency Response	20 Hz to 20 kHz
Nominal Level	0-1.0 V
Common Mode	Rejection at 60 dB

Other

Power Adapter	External 120-240 VAC, Internal 120/240 VAC
Dimensions	17.0" W × 2.7" H × 8.69" D
Weight	4.4 lbs
Approvals	UL, CE, ROHS Compliant
Operating Temperature	+32 to +104°F (0 to +40°C)
Storage Temperature	-4 to 140°F (-20 to +60°C)
Humidity	Up to 80% (No Condensation)