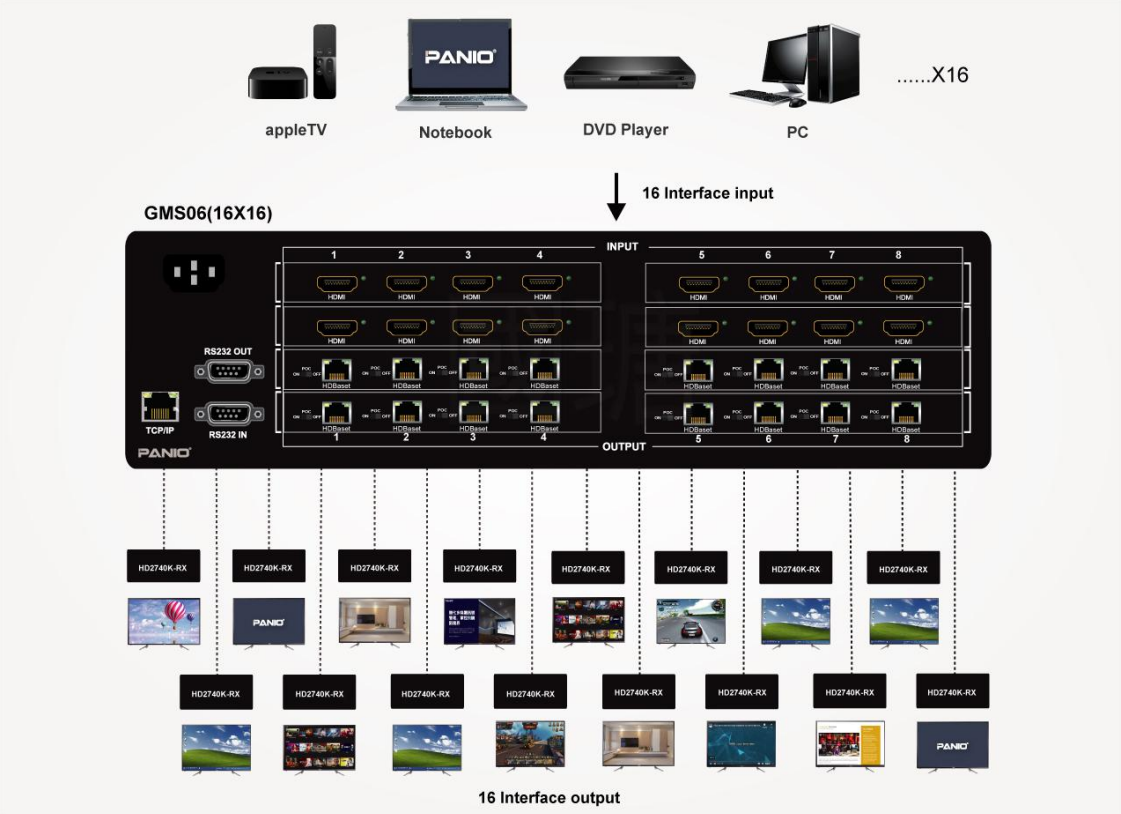
PANIO 16×16 HDMI to HDBaseT Matrix Switcher

Model: PANIO GMS06_1616_02

1. Product Overview

The GMS06_1616_02 is a professional 4K seamless-switching matrix switcher integrating 16 HDMI inputs and 16 HDBaseT outputs. It adopts a high-performance hardware configuration—with **U.S.-sourced main chips** ensuring core signal processing stability and **Taiwan-sourced auxiliary chips** optimizing peripheral function coordination—delivering reliable, high-precision signal management. The device enables long-distance transmission of uncompressed 4K signals, audio, and control data via a single CAT6 cable, supporting transmission distances up to 100 meters. Equipped with comprehensive control options including front-panel operation, dual RS-232 ports, IR, and TCP/IP (WEB UI) control, it seamlessly integrates with centralized AV management systems. Featuring advanced EDID & HDCP management and preset scene memory functions, it serves as an ideal solution for control centers, conference systems, video wall applications, exhibition venues, broadcast studios, and security monitoring systems.

Diagram



2. Key Features

Professional 16×16 Matrix Configuration

- Features 16 HDMI input ports and 16 HDBaseT output ports, paired with 16 dedicated HDBaseT receivers to form a complete, end-to-end signal routing solution.
- Supports seamless switching, matrix routing, and multi-view wall mode, adapting to diverse AV system deployment scenarios.

4K Ultra HD Transmission with Premium Chipset

- Adopts a dual-chip synergy design: **U.S.-made main chips** drive high-speed, error-free core video/audio signal processing, while **Taiwan-made auxiliary chips** enhance peripheral control signal stability and interface compatibility.
- Supports maximum resolutions of 4K×2K@30Hz and 1920×1080@60Hz, delivering crisp, detailed visual performance with consistent signal integrity.
- Complies with HDMI 1.4 and HDCP 1.4 standards, ensuring broad compatibility with mainstream audio-visual devices and secure signal transmission.

Long-Distance Stable Transmission

- Enables selectable transmission distances of 70m or 100m via certified CAT6 cables, achieving lossless, low-latency long-distance signal transmission.
- Consolidates uncompressed HDMI signals, audio, and control data (RS-232, IR) onto a single CAT6 cable, simplifying wiring complexity and reducing installation costs.

Comprehensive Control & Intelligent Management

- Supports multiple control methods: front-panel operation, IR remote control, dual RS-232 ports, and TCP/IP (WEB UI) control, enabling flexible operation and integration with centralized AV systems.
- Automatic EDID detection optimizes display compatibility by matching signal parameters to connected devices, while HDCP compliance prevents unauthorized signal copying.
- Preset scene memory function stores up to 16 user-defined configurations for one-click recall, significantly improving operational efficiency in dynamic environments.

Reliable Performance & Professional Design

- Incorporates automatic power-failure memory and recovery, retaining critical configuration settings to ensure seamless system restart after power interruptions.
- Features a 19″ rack-mount 3U chassis with rugged construction—built to professional Taiwanese engineering standards—ensuring durability and easy integration into standard equipment racks.
- Boasts a total interface bandwidth of 10.2 Gbps, fully meeting the bandwidth requirements of high-definition signal transmission and multi-channel data routing.

3. Technical Specifications

Model Name	TAIWAN PANIO GMS06_1616_02
Compliant Standards	HDMI 1.4, HDCP 1.4
Core Hardware	Main Chip: U.S.-sourced (for core signal processing)Auxiliary Chips: Taiwan-sourced (for peripheral control & interface optimization)
Video Specifications	Resolution: 4K×2K@30Hz, 1920×1080@60HzBandwidth: 10.2 Gbps total
Audio Specifications	Synchronous audio transmission with HDMI signals (supports uncompressed audio via HDBaseT)
Transmission Distance	Selectable 70m / 100m (via certified CAT6 cable; must be used

	with compatible HDBaseT receivers)
Port Configuration - Main Unit	Input: 16×HDMI portsOutput: 16×HDBaseT ports (RJ45; requires compatible receivers)Control: Dual RS-232 ports, IR remote port, TCP/IP (WEB UI) controlStatus Display: LED display panel
HDBaseT Receiver Specifications	Input: 1×HDBaseT IN (RJ45 port; receives uncompressed HDMI + RS-232 + IR)Output: 1×HDMI OUT (Type-A; supports up to 4K@30Hz)Control: 1×IR Port (3.5mm jack, bidirectional IR transmission), 1×RS-232 Port (Phoenix connector, bidirectional control)
Control Interfaces	Control Modes: Front panel, IR remote (battery not included), Dual RS-232, TCP/IP (WEB UI)RS-232: Bidirectional control signal transmission
Power Requirements	Input: AC 100-240V 50/60HzPower Consumption: Max 75W (3U chassis)Power Accessory: Original power cord (included)
Physical Dimensions	Main Unit: 3U chassis, 445mm(L)×309mm(W)×133mm(H)Weight: Approx. 10.8 kg
Protection & Reliability	Automatic power-failure memory and recovery

4. Important Installation Notes

1. Use certified CAT6 cables to ensure optimal HDBaseT transmission performance, signal stability, and compliance with distance specifications.
2. Pair the main unit exclusively with matched PANIO HDBaseT receivers to guarantee maximum compatibility, signal integrity, and chipset synergy.
3. Only use original PANIO power accessories to maintain product safety, performance, and avoid damage caused by mismatched power supplies.
4. For system expansion, firmware updates, or chipset-related technical support, contact TAIWAN PANIO’s professional technical team for assistance.
5. The included remote control does not come with batteries; please install appropriate batteries (per user manual specifications) before use.
6. Ensure all connections are secure during installation to prevent signal interruption, equipment damage, or compromised chipset performance.

5. Package Contents

Item	Quantity	Remarks
TAIWAN PANIO GMS06_1616_02 Main Unit	1 unit	
HDBaseT Receivers	16 units	
Power Cord	1 piece	
Remote Control	1 piece	Battery not included
User Manual	1 piece	

6. Ideal Applications

- **Control Centers**: Enables centralized management of multiple video sources and displays, leveraging its premium chipset for stable long-distance transmission and seamless switching—critical for real-time monitoring and command operations.
- **Conference Systems**: Supports flexible switching between presentation devices (e.g., appleTV, notebooks, DVD players) and long-distance signal delivery to meeting room displays, with chipset-optimized control ensuring smooth meeting workflows.
- **Video Wall Applications**: Facilitates multi-view wall mode, allowing synchronized or independent signal display on video walls—ideal for commercial complexes, command rooms, and exhibition halls requiring high-reliability signal routing.
- **Exhibition Venues**: Preset scene memory enables quick content switching, while long-distance transmission (powered by high-performance chips) simplifies wiring in large exhibition spaces.
- **Broadcast Studios**: Meets professional broadcast demands with stable, seamless signal routing between equipment, supported by the U.S.-Taiwan chipset combination for consistent, high-quality signal processing.
- **Security Monitoring Systems**: Transmits surveillance camera signals over long distances to monitoring displays, with centralized control and chipset-enhanced stability ensuring reliable operation in large-scale security scenarios.