# GM841-HPF

**AMD® Ryzen™ Embedded 8000 Series**
Gaming Embedded System

## KEY FEATURES

### Powerful Computing Processor

AMD® Ryzen™ Embedded 8000 Hawk Point Series up to 54W

### High Performance AI

AMD® Ryzen™ Embedded 8000 Hawk Point APUs (38 TOPs Total)

### Superior Graphic Engine

Support 4 DP++ (up to 4096x2160@60Hz)

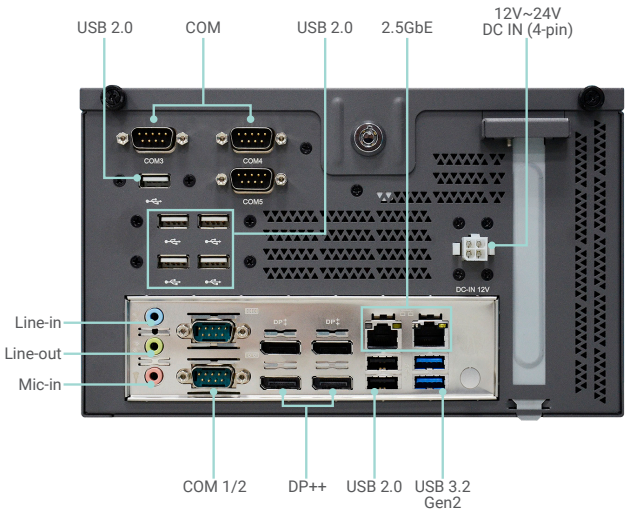
### Design for Gaming system

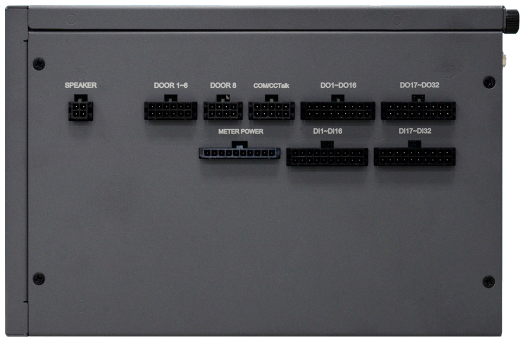
- Retain NVRAM Data for 5 Years during AC off
- 8 Intrusion Detection, 32 x DIDO, 8 x Meter, iButton x1, cctalk x4, Stereo 6W+6W Audio AMP Output

### Reliable Data Security

Jurisdiction BIOS, RSA & Hash Verification

## PANEL



## SPECIFICATION

| | | |
|---|---|---|
| **SYSTEM** | **Processor** | AMD® Ryzen™ Embedded 8000 Series Processors, TDP up to 54W<br>AMD® Ryzen™ Embedded 8845HS, 8C/16T, 8MB Cache, 3.8GHz (5.1GHz), 45W (35-54W)<br>AMD® Ryzen™ Embedded 8645HS, 6C/12T, 6MB Cache, 4.3GHz (5.0GHz), 45W (35-54W)<br>AMD® Ryzen™ Embedded 8840U, 8C/16T, 8MB Cache, 3.3GHz (5.1GHz), 28W (15-30W)<br>AMD® Ryzen™ Embedded 8640U, 6C/12T, 6MB Cache, 3.5GHz (4.9GHz), 28W (15-30W) |
| | **Memory** | Dual-channel SODIMM up to 64GB<br>Dual-channel DDR5 5600/5200/4800MHz, non ECC/with ECC support |
| | **BIOS** | AMI SPI 256 Mbit |
| **GRAPHICS** | **Controller** | RDNA3 graphics with up to 6 WGPs (Work Group processors) |
| | **Feature** | OpenGL 4.6, DirectX 12, OpenCL 2.1<br>**HW Decode:** AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9, AV1<br>**HW Encode:** MPEG2, AVC/H264, JPEG, HEVC/H265, VP8, VP9, AV1 |
| | **Display** | 4 x DP++<br>**DP1.2:** resolution up to 4096x2304 @ 60Hz |
| | **Quad Displays** | 4 DP++ |
| **STORAGE** | **Interface** | 2 x SATA 3.0<br>1 x 2.5” SSD Bay |
| **EXPANSION** | **Interface** | 1 x PCIE Gen4 x16 slot (x8 Gen4) |
| | | 1 x M.2 M Key 2280 (PCIe Gen4x4) |
| **AUDIO** | **Audio Codec** | Realtek ALC888S |
| **ETHERNET** | **Controller** | 2 x i226-V (10/100/1000/2500 MHz) |
| **LED** | **Indicators** | 1 x Power LED<br>1 x HDD LED |
| **I/O** | **Ethernet** | 2 x 2.5GHz RJ45 |
| | **Serial** | 1 x DB-9 (RS-232/422/485)<br>1 x DB-9 (RS-232)<br>1 x DB-9 (TX/RX, TTL-5V)<br>2 x DB-9 (TX/RX, CCTalk)<br>2 x Microfit (TX/RX, 2 ccTalk)<br>(Provide the hardware circuit design for the SAS 9-bit interface.) |
| | **USB** | 2 x USB 3.2 Gen2<br>7 x USB 2.0 |
| | **Display** | 4 x DP++ |
| | **Audio** | 1 Audio Jack ( Line-in/Line-out/Mic-in)<br>Stereo 6W+6W Class D Audio AMP Output<br>S/PDIF Out |
| | **Cooling** | 1 x 8cm System Fan, with replaceable air filter |
| **WATCHDOG TIMER** | **Output & Interval** | System Reset, Programmable via Software from 1 to 255 Seconds |
| **GAMING** | **Intrusion Detection** | 8 x Intrusion detection<br>Operates With and Without AC Power<br>Logs Date/ Time of latest 64 events<br>Coin Battery backup to Retain Data for 5 years during AC off |
| | **NVRAM** | Supports up to 16Mbyte<br>Coin Battery backup to Retain Data for 5 years during AC off<br>Support Battery voltage monitoring & Warning |
| | **DI/DO** | 32-bit Digital Input<br>32-bit OC output (29-bit x 500mA, disconnect detection up to 8 meters; 3-bit x 3A) |
| | **iButton** | Support iButton 1-wire protocol (option) |
| **SECURITY** | **TPM** | TPM 2.0 |
| **POWER** | **Type** | 12V~24V DC IN |
| | **Connector** | DC-in Jack or Right Angle Connector (4-pin) |
| **OS SUPPORT** | **Microsoft** | Windows 10 IoT Enterprise LTSC(64-bit)<br>Windows 11 22H2 GAC |
| | **Linux** | Linux Ubuntu 22.04 |
| | **Software** | Supplied with gaming function SDK |
| **ENVIRONMENT** | **Operating Temperature** | 0~45°C |
| | **Storage Temperature** | -20~85°C |
| | **Relative Humidity** | 5%~90% |
| **MECHANISM** | **Mounting** | Wall Mount |
| | **Dimensions (W x H x D)** | 230 x 140 x 210 mm |
| | **Weight** | 2.9 kg |

## SPECIFICATION

| | | |
|---|---|---|
| **STANDARDS AND CERTIFICATIONS** | **Shock** | **Operation:**<br>IEC 60068-2-27 Test Ea: Shock test<br>Half-sine, 3G @ 11ms, 18 Shock ±X, ±Y, ±Z (each axis 3 times)<br>**Non-Operation:**<br>IEC 60068-2-27 Test Ea: Shock test<br>Half-sine, 5G @ 11ms, 18 Shock ±X, ±Y, ±Z (each axis 3 times) |
| | **Vibration** | **Operation:**<br>IEC 60068-2-64 Test Fh: Vibration Board-Band Random Test<br>Random,1Grms @ 5~500 Hz, 30min.<br>**Non-Operation:**<br>IEC 60068-2-6 Test Fc: Vibration Sinusoidal Test<br>Sweep sine, 2Grms @ 10~500Hz, 30min. |
| | **Certifications** | CE, FCC class A, RoHS, UKCA |

## ORDERING INFORMATION

| Model Name | P/N | I/O | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DP++ | 2.5 GbE LAN | USB3.2 Type-A | USB2.0 Type A | DI | DO | Meter | Intrusion | Speaker | ccTalk | COM | Audio Jack (Mic-in/Line-in/Line-out) |
| Max # of port | | | | | | | | | | | | | |
| GM841-HPF-8845HS | 750-GM84100-000G | 4 | 2 | 2 | 7 | 32 | 32 | 8 | 8 | 1 | 2 | 2 | 1 |
| GM841-HPF-8645HS | 750-GM84100-100G | | | | | | | | | | | 1 | |
| GM841-HPF-8840U | 750-GM84100-200G | | | | | | | | | | | 1 | |
| GM841-HPF-8640U | 750-GM84100-300G | | | | | | | | | | | 1 | |



DFI reserves the right to change the specifications at any time prior to the product's release. Changes thereafter will be based on the product's revision. Please contact your sales representative for the exact revision offered in your area. All product names mentioned are trademarks of their respective companies. © November 13, 2026 DFI Inc.