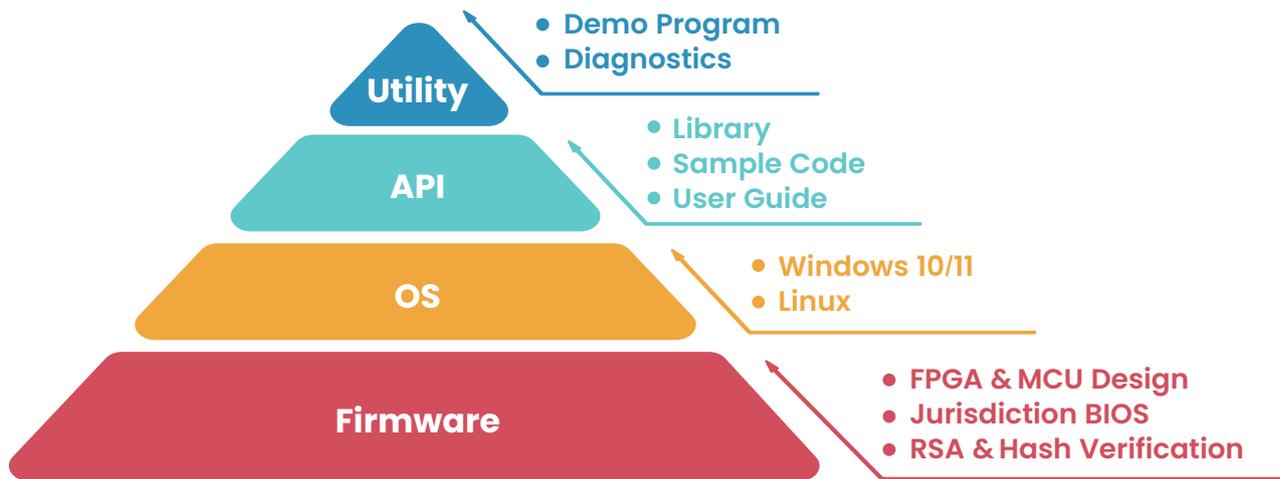# DFI
Desire
For
Innovation

Innovative Agile Gaming Solutions

Exceptional Experience for
Unmatched Success

Extensive Computing Solutions for Gaming Excellence

As a global leader in embedded computing, DFI is at the forefront of innovation, offering state-of-the-art solutions that cater to the ever-evolving needs of the gaming industry. Our comprehensive portfolio spans advanced systems for casino slots, lottery machines, and player tracking systems, all designed to perform seamlessly in diverse environments worldwide. Through rigorous system development and uncompromising quality assurance, DFI ensures that our high-performance solutions not only meet but exceed the specific demands of gaming enterprises around the globe. With a deep well of industry expertise, we are committed to driving the future of gaming technology.

Utility
- Demo Program
- Diagnostics

API
- Library
- Sample Code
- User Guide

OS
- Windows 10/11
- Linux

Firmware
- FPGA & MCU Design
- Jurisdiction BIOS
- RSA & Hash Verification

Product Guide

Gaming IO Board GM903

FPGA + MCU	FPGA & MUC implementation of the gaming features controller	**Serial**	2 x RS232 Header (one support ccTalk)
Host Interface	High/low speed connector 1 x PCIe x1 slot	**Audio**	Stereo 6W+6W Class D Audio AMP Output
UART	Pin header for UART signal input	**SRAM (NVRAM)**	Support 2pcs SRAM (BGA type) 2 x SRAM supported with battery backup, Default 4MB/Single (up to 16MB/Dual) Backup to Retain Data for 5 years during AC off
USB	Pin header for USB 2.0 signal input		
I2C	Pin header for I2C signal input	**EEPROM**	EEPROM 2KB
Intrusion Detection	8 x intrusion detection Logs Date/ Time of latest 64 events Operates with and without system active (G3 power from BAT) 5 Years data retention during AC off	**Coin battery**	3 x CR2032 Lithium 3V/220mAh with socket type; 2 of them shared by two SRAM; 1 for MCU
		iButton	Support iButton 1-wire protocol
DI/DO	32-bit Digital Inpu, 32-bit OC output (29-bit x 500mA, 3-bit x 3A, up to 24V), Low Active		

Peripheral

Graphic Card (MXM)

Model	T1000	RTX 3000	RTX A1000	RTX A2000	RTX A500	RTX A4500
Type	A	B	A	A	A	B+
Core	Turing Pascal	Turing	Ampere	Ampere	Ampere	Ampere
Life cycle	~2025	~2025	~2028	~2027	~2028	~2028
CUDA core	896	1920	2048	2560	2048	5888
TFLOPS	2.6	5.3	6.66	8.25	6.54	18.55
Power	50W	80/65W	35/60W	60W	35W	125W
OP. temp	0~55°C or -40~85°C	0~55°C	0~55°C or -40~85°C	0~55°C or -40~85°C	0~55°C	0~55°C
Graphics memory	GDDR6 4GB	GDDR6 6GB	GDDR6 4GB	GDDR6 8GB	GDDR6 4GB	GDDR6 16GB
Remark	-	-	-	-	No display Acceleration only	-

Open Frame Series

Board	Purpose
Processor	ARM i.MX 8M Intel Atom Alder Lake N
Memory /Storage	2GB LPDDR4/16GB eMMC
LCD Size	6.2''/7''/10''/12''
Brightness	350 (6.2") 500 (7''/10''/12'')
Resolution	640 X 240 (6.2") 1280 x 800 (10")
I/O	GbE RJ45, USB 3.0, RS485
OS	Windows 10 IoT Enterprise LTSC(64-bit) Linux Yocto

Testing fixture for DI/DO/Intrusion/Meter

Board	Purpose
GM900	Testing fixture for DI/DO/Intrusion
GM905	Demo fixture for DI/DO/Intrusion/Meter

Extensive Computing Solutions for Gaming Excellence

Casino Slot Machines & Multiplayer Roulette

AWP (Amusement With Prize) & VLT (Video Lottery Terminals)

Player Tracking & Bingo Machines

SLOT MACHINE

JACKPOT

10,000,000 $

777

The DFI Advantage: Why We Stand Out

Advanced Data Security
Offering secure boot, secure content protection, NVRAM, intrusion detection, and TPM 2.0 for robust data security.

Customizable Hardware and Software Design
Providing flexible hardware design, software/firmware programming (API, Diagnostics, FPGA, BIOS), and optimized enclosure solutions.

GLI-Certified Gaming Technology
DFI's gaming technology is pre-verified by GLI, reducing customers' time and costs associated with the GLI certification process.

Wide-Range Solutions for Diverse Gaming Applications

Muti-game betting area

Electronic multi-player table games

Bar/Restaurant/POS

Player tracking solution

Cashier/ATM /Ticket kiosk

Casino signage

Slot machine

Explore Our Success Cases

Modular Multi-System Game Console — Learn More

Smart Gaming — Learn More

Slot Machine — Learn More

Product Guide

Board

Model	GH171	RNO171
Processor	AMD® Ryzen™ Embedded V1000/R1000/R2000 processors	AMD® Ryzen™ Embedded V2000
Memory	Dual DDR4 3200MHz SODIMM up to 32GB	Dual DDR4 3200MHz SODIMM up to 64GB
Storage	2 x SATA 3, 1 x M.2 2280 M Key	2 x SATA 3, 1 x M.2 2280 M Key
Display	4 x DP++	4 x DP++
Expansion	1 x PCIe x16 (x8 signal with V1000 series, x4 signal with R1000 series) (Max. 50W) 1 x M.2 2280 M Key (x4 signal with V1000 series, x2 signal with R1000 series) (support 2242 by BOM opt.)	1 x PCIe x16 (x8 Gen3) (Max. 75W) 1 x M.2 2280 M Key (SATA 3.0/ PCIe x4) (support 2242 by BOM opt.)
I/O	2x1GHz RJ45, 2xRS-232 DB9, 2xUSB 3.0, 2xUSB 2.0	2x1GHz RJ45, 2xRS-232 DB9, 2xUSB 3.1 Gen1, 2xUSB 2.0
Gaming	4x RS-232 (TX/RX signal only), 4x USB 2.0, 1x S/PDIF, 1x Audio (Mic-in/Line-out)	4x RS-232 (TX/RX signal only), 4x USB 2.0, 1x S/PDIF, 1x Audio (Mic-in/Line-out)
Security	TPM2.0	TPM2.0
OS	Win10/ Linux	Win10/ Linux

Board

Model	ARS101	HPT193	HPT171
Processor	Intel® Arrow Lake S processor, TDP up to 65W Support Intel 800 Series chipset	AMD® Ryzen™ 8000 Series Processors, TDP up to 54W (Hawk Point)	AMD® Ryzen™ 8000 Series Processors, TDP up to 54W (Hawk Point)
Memory	2x DDR5 5600/6400MHz SODIMM up to 96GB	2x DDR5 5600MHz SODIMM up to 64GB	2x 260-pin SODIMM DDR5 up to 64GB
Storage	1x M.2 2242/3042/3052 Key-B slot, 2x SATA 3	1x 2.5" SSD Bay,1x M.2 2280 M Key (PCIE Gen4x 4, SATA3)	1 x 2.5" SSD Bay,1x M.2 2280 M Key (PCIE Gen4x4, SATA3)
Display	1x DP++, 1 HDMI 1.4b, 1x USB Type C, 1x eDP, 1x M2A-Display extension port (eDP/LVDS/HDMI/DVI/VGA/DP/ available)	4 x DP++	4 x DP++ or 3 DP++ + 1 M.2 A display
Expansion	1x PCIe Gen 5 x16, 1x M.2 M Key (NVMe), 1x M.2 B Key (4G/5G) with SIM slot, 1x M.2 E Key (WIFI/BT), 1x M.2 A Key (M2A-Display & USB Expansion)	1 PCIE Gen4x 16 Slot (x8 Signal), 1x M.2 M key (PCIE/SATA), 1 x PCIE Gen4 x16 slot (x8 Signal) 1 x M.2 M Key 2280 (PCIE Gen4 x4 or SATA3)	1 PCIE Gen4 x 16 slot (x8 Gen4) 1 x M.2 2280 M Key (SATA 3.0/ PCIe Gen3x4) 1 M.2 A Key 3042 (BT/WiFi ,DFI M2A-display module)
I/O	2x Intel 2.5GbE, 2x COM, 6x USB 3.2 Gen 2 Type A, 1x USB Type C (DP alt/USB3 Gen2x2 /PD 15W)	2x 2.5GbE RJ45, 2x USB 3 Type- A, 2x USB2.0 Type A, 2x COM D-Sub,1x Audio Jack Line-IN/Line-OUT/Mic-IN	2x2.5GHz RJ45, 2xRS-232 DB9, 2xUSB 3.2 Gen2, 2xUSB 2.0, 1 Audio Jack (Line-in/Line-out/Mic-in)
Gaming	2x COM(RS-232/422/485) by BIOS select, 4x USB 2.0	2x RS232 / TTL header, 2x RS232 / ccTalk header 4x USB 2.0 port (pitch 2.0mm), 1x USB 2.0 vertical Type A, 1x S/PDIF	2x RS232/TTL, 2 RS232/ ccTalk, 3x USB 2.0, 1x S/PDIF, 2x I2C, 1x SPI
Security	TPM2.0	TPM2.0	TPM2.0
OS	Win10/ Win11/ Linux	Win11/ Linux	Win10/ Windows 11 Enterprise/ Linux

Product Guide

System

Coming soon

SAS 9bit

Utility

Model	GM850-ARF	GM841-HPF	GM840-RNF
Processor	Intel® Arrow Lake S processor, TDP up to 65W Support Intel 800 Series chipset	AMD® Ryzen™ 8000 Series Processors, TDP up to 54W (Hawk Point)	AMD® Ryzen™ V2000 Series Processors, BGA V2748
Memory	2x DDR5 5600/6400MHz SODIMM up to 96GB	2x 260-pin SODIMM DDR5 up to 64GB	2x 260-pin SODIMM DDR4 up to 64GB
Storage	1 x M.2 2242/3042/3052 Key-B slot, 2 x SATA 3	1 x 2.5" SSD Bay, 1x M.2 2280 M Key (PCIE Gen4x4, SATA3), 4 x DP++ or 3 DP++ + 1 M.2 A display	1 x 2.5" SSD Bay, 1x M.2 2280 M Key (PCIE Gen3x4, SATA3)
Display	1 DP++, 1 HDMI 1.4b, 1 USB Type C, 1 eDP, 1 M2A-Display extension port (eDP/LVDS/HDMI/DVI/VGA/DP/ available)	1 PCIE Gen4 x 16 slot (x8 Gen4) 1 x M.2 2280 M Key (SATA 3.0/ PCIe Gen3x4)	4 x DP++
Expansion	1x PCIe Gen 5x 16, 1x M.2 M Key (NVMe), 1x M.2 B Key (4G/5G) with SIM slot, 1x M.2 E Key (WIFI/BT), 1x M.2 A Key (M2A-Display & USB Expansion)	1 M.2 A Key 3042 (BT/WiFi ,DFI M2A-display module)	1 x M.2 2280 M Key (SATA 3.0/ PCIe x4)
I/O	Support up to 2x Intel 2.5GbE, 2x COM, 6x USB 3.2 Gen 2 Type A, 1x USB Type C (DP alt/USB3 Gen2x2 /PD 15W), 1x Audio Jack (Line-out/Mic-in)	2x2.5GHz RJ45, 8xRS-232/ccTalk DB9/Microfit, 2xUSB 3.2 Gen2, 6xUSB 2.0, 1 Audio Jack (Line-in/Line-out/Mic-in)	2x1GHz RJ45, 8xRS-232/2ccTalk DB9/Microfit, 2xUSB 3.1 Gen1, 6xUSB 2.0, 1 Audio Jack (Line-in/Line-out/Mic-in)
Gaming	8 x Intrusion detection (Retain Data for 5 years during AC off) NVRAM up to 16MB (Retain Data for 5 years during AC off) 32 DI/DO (Disconnect detection up to 8 meters), iButton 1-wire protocol	8 x Intrusion detection (Retain Data for 5 years during AC off) NVRAM up to 16MB (Retain Data for 5 years during AC off) 32 DI/DO (Disconnect detection up to 8 meters), iButton 1-wire protocol	8 x Intrusion detection (Retain Data for 5 years during AC off) NVRAM up to 16MB (Retain Data for 5 years during AC off), 32 DI/DO (Disconnect detection up to 8 meters), iButton 1-wire protocol
Security	TPM 2.0	TPM 2.0	TPM 2.0
OS	WIN10/ WIN11/ Ubuntu 24.04/ Gaming SDK	WIN10/ WIN11/ Ubuntu 22.04/ Gaming SDK	WIN10/ Ubuntu 20.04/ Gaming SDK
Power	ARS101 12V DC IN, ARS103 12V~28V DC IN	12V~24V DC IN	12V DC IN

System

Utility

SAS 9bit

Model	GM341-GHF	GM310-8MM	EC70A-ADN
Processor	AMD® Ryzen™ Embedded V1000/R1000/R2000 processors, TDP support up to 54W	NXP i.MX 8M mini applications processors	Intel® Atom® Alder Lake-N Processors
Memory	2x 260-pin SODIMM DDR4 up to 32GB	LPDDR4 2GB Memory Down	1 DDR5 4800 MT SO-DIMM up to 32GB
Storage	2 x SATADOM with 7-pin VCC Support, 1 x M.2 M Key (2280, PCIe x2, only support for V1000)	eMMC 5.1 8GB on board	1 x M.2 M key 2280/2242 (PCIe Gen3 x1/SATA3.0)
Display	4 x DP++	1 x LVDS	1 Type-C DP
Expansion	1 x M.2 M Key (2280, PCIe x2, only support for V1000)	1x Mini-PCIe Support Full/Half Size Wifi+ BT / LTE	1 x M.2 M key 2280/2242 (PCIe Gen3 x1/SATA 3.0) 1 x M.2 B key 3052/3042 USB 3.0/USB 2.0, optional PCIe x1), 1 x SIM slot for 4G/5G 1 x M.2 E key 2230 (USB/PCIe x1, support CNVi)
I/O	2x1GHz RJ45, 5xRS-232/ccTalk DB9, 2xUSB 3.0, 4xUSB 2.0, 5.1 ch/Stereo 10W Audio output	2x1GHz RJ45, 2xRS-232 (Header), 3xUSB 2.0, Line-out (Header)	3x2.5GHz RJ45, 4xUSB 3.2, 2xUSB 2.0, 1xCOM, 1xLine-out, 1xMic-in
Gaming	8 x Intrusion detection (Retain Data for 5 years during AC off) NVRAM up to 16MB (Retain Data for 5 years during AC off) 32 DI/DO (Disconnect detection up to 8 meters) iButton 1-wire protocol	NVRAM 256KB (Retain Data for 2 years during AC off) 8 DI/DO(8MM091)	-
Security	TPM 2.0	TPM 2.0	TPM 2.0
OS	WIN10/ Ubuntu 20.04/ Gaming SDK	Linux Yocto 2.5 (Kernel 4.14.98)	WIN10/ Ubuntu 20.04
Power	12V DC IN	12V~24V DC IN (8MM093), 12V DV IN (8MM091)	9V~36V DC IN

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DFI Desire For Innovation

Founded in 1981, DFI is a global leading provider of high-performance computing technology across multiple embedded industries. With its innovative design and premium quality management system, DFI's industrial-grade solutions enable customers to optimize their equipment and ensure high reliability, long-term life cycle, and 24/7 durability in a breadth of markets including Industrial Automation, Medical, Gaming,Transportation, Energy, Mission-Critical, and Intelligent Retail.