Rugged 19/2” Rackmount
Conduction-Cooled Systems Family

M-Max HR 1U

MicroMax

Description of the System

The **M-Max HR 1U** rugged industrial computer system. The fully-ruggedized 19/2”-type aluminum chassis is fanless and uses natural convection and conduction cooling in accordance with MIL-STD-810 standards. Versatile mechanical design of the enclosure allows to combine several systems into one assembly side by side or by stacking, mount them on a flat surface or into a 19” rack using appropriate mounting parts. COTS technology components allow configuring the system to comply with a wide variety of airborne, marine and ground vehicle applications. Thereby providing reliable operation in tough environments.

Features & Benefits

- **Rugged** construction and sealed case for tough environments
- **19/2”-type** chassis with a variety of mounting options
- Operating temperature from* **-40 to +70 °C**
- Shock handling up to **40g**, Vibration up to **2.5g**
- **Fanless** MicroMax technology dissipates heat
- **IP66** rated dust and moisture protection
- **Wide range** of CPU options includes **Dual Core i7**
- Data storage options include **industrial SSDs**
- Graphics options up to **HD 520** controller
- Optional **MIL-STD-704F/461F** compatible power supply

* depends on chosen platform

About MicroMax

MicroMax, as a manufacturer of industrial computers, takes a customized approach to each client. Our engineering group can design M-Max systems to fit customer-specific technical requirements.

MicroMax Computer Intelligence, a U.S. Corporation, was founded in 1979. Specializing in the engineering and design of embedded solutions for harsh environments as well as distribution of industrial computing and communication products, MicroMax’s M-Max systems are highly regarded in the transportation, manufacturing and mining industries.

Tough Computers for Tough Challenges!

Ver. 9110

M-Max HR 1U Options

Matching options

Quad Core **ARM** LP Platform	Dual Core **Atom** PR5 Platform	Quad / Dual Core **Atom** PR7 Platform	Dual Core **i3** AR Platform	Dual Core **i7** DT Platform	Quad Core **i7 / i5** EP4 Platform	GeForce & **Xeon** CU Platform

Technical Specifications

	Parameter \ Platform	LP	PR5	PR7	AR	DT	EP4	CU
Hardware	CPU	ARM i.MX6	Atom E3825	Atom E3826 / E3845	i3-6102E / i3-6100E	i7-6600U	i5-6442EQ / i7-6822EQ	Xeon E3-1505L V5
	CPU frequency	800 MHz	1.33 GHz	1.46 GHz / 1.91 GHz	1.9 GHz / 2.7 GHz	2.6 GHz	1.9–2.7 GHz / 2.0–2.8 GHz	2.0 GHz–2.8 GHz
	Cores / Threads	4 / 4	2 / 2	2 / 2 / 4 / 4	2 / 4	2 / 4	4 / 4 / 4 / 8	4 / 8
	RAM (min / max)	2 GB (soldered)	2 / 4 GB	2 / 4 GB (soldered)	8 / 16 GB (soldered)	4 (soldered) / 20 GB	8 / 32 GB	32 GB
	GPU	Vivante GC2000	HD 7th Gen.	HD 7th Gen.	HD 530	HD 520	HD 530	GeForce GTX 1050Ti
	GPU frequency	–	533 MHz	533–667 / 542–792 MHz	0.35–0.95 GHz	0.3–1.0 GHz	0.35–1.0 GHz	1.392 GHz
	SSD (min)	4 GB (soldered)	8 GB	8 GB	8 / 32 GB (soldered)	8 GB	8 GB	8 GB
	SSD type	mSATA	mSATA2 + SATA2	mSATA2 + SATA2	Emb. SATA2 + 2x SATA3	mSATA3 + 2x SATA3	2x mSATA3 + SATA3	2x mSATA3 + 2x SATA3
	Power consumption	3 W	10 W	11 W / 14 W	45 W / 55 W	21 W	55 W / 65 W	90 W
Interfaces	Video	VGA + HDMI	VGA	VGA + HDMI / DP	DP + HDMI	VGA + HDMI	2x HDMI / DP / DVI	6x HDMI / DP / DVI
	Audio	2x IN + 2x OUT + 1x Mic	2x IN + 6x OUT + 2x Mic + SPDIF	2x IN + 2x OUT + 1x Mic	–	2x IN + 2x OUT + 1x Mic	2x HP + 2x Mic	2x HP + 2x Mic
	GbE / Fast Ethernet	1 / –	2 / –	2 / –	2 / –	2 / –	2 / –	2 / –
	USB 2.0/3.x	4 / –	2 / 1	2 / 1	4 / 1	2 / 4	– / 4	2 / 4
	RS-232	2 (lim.)	–	–	2	–	–	2
	RS-232/485	2	2 + 2 (lim.)	4 (lim.)	–	4 (lim.)	2 (lim.)	2 (RS-485)
	DIO	8	8	16	8	16	–	4x IN + 4x OUT
	Connectors	Circular MIL-DTL-38999 connectors and Rugged Commercial connectors. All connectors are IP67						
Mechanical	Enclosure	Aluminum enclosure, Custom versions on request						
	Cooling	Convection and conduction cooling						
	Weight, kg	from 2.2 to 3.4 (average, for typical system)						
	Dims. (W x H x L), mm	220 x 44 x 215 / 280 (without connectors and endcaps)						
Physical	Dust/Moisture	IP65 or IP66						
	Operating temp. (optional)	-40…+70 °C	-20…+55 °C (-40…+70 °C)	-40…+70 °C	-20…+60 °C (-40…+65 °C)	-40…+70 °C	-20…+55 °C (-40…+60 °C)	-40…+50 °C
	Vibration	2.5g						
	Shock	40g						

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