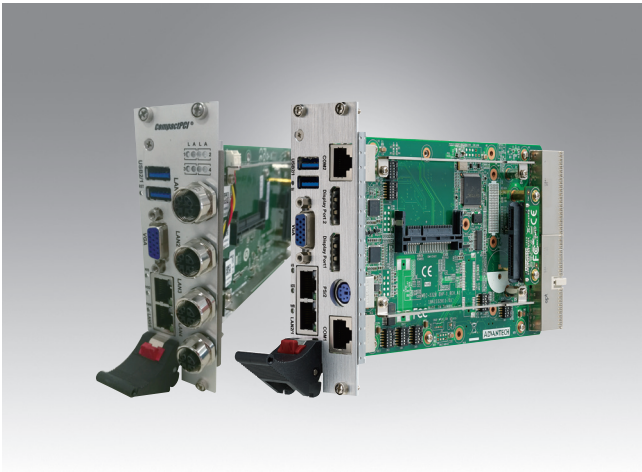


# MIC-3328

## 3rd Generation Intel® Core™ Processor 3U CompactPCI® PlusIO Card



### Features

- Supports 3rd Generation Intel® Core™ processor
- Intel® QM77 Platform Controller Hub
- 4 or 8GB DDR3-1600 soldered SDRAM with ECC
- Triple independent display support
- Optional 8GB SATA NAND Flash on board
- 2.5" SATA-III SSD, CFast, XMC on 8HP version
- Two 10/100/1000 Mbps ports, 2 USB 3.0 ports, 1 VGA port on front panel (4HP)
- Two COM ports, 2 Display ports, 1 PS/2 port (8HP-1)
- 4 x M12 1GbE Ethernet (8HP-4)
- Supports CompactPCI PlusIO
- PICMG2.0, R3.0 , PICMG2.1, R2.0, PICMG2.30 compliant

### Introduction

Advantech's MIC-3328 is a 3U CompactPCI PlusIO CPU blade based on the Intel® 3rd generation Core™ processor family. Based on latest 22nm process technology these processors support up to four cores / eight threads at up to 2.5GHz and up to 6M last level cache. With Intel® HD Graphics(Gen7,DX11,OCL1.1) integrated into the CPU, the MIC-3328 can serve applications demanding high performance, high resolution video output on up to three independent display interfaces. Latest DDR3 DRAM up to 8GB running at 1600MT/s complement the powerful processor with high performance, ECC protected onboard memory.

MIC-3328's design for reliability includes using a soldered processor, DRAM and flash storage for enhanced shock and vibration tolerance make it an ideal choice for workstation workloads in harsh environments and mission/business-critical applications such as military, transportation, test & measurement and traffic control.

MIC-3328 uses the Intel® QM77 PCH, which provides extensive I/O support such as USB3.0, PCI Express gen.2 and SATA-III ports.

The MIC-3328 PlusIO J2 supports interfaces such as 4 PCI Express x1 gen. 2 links for IO extension, one GbE for computer to computer multiprocessing, three SATA for Hard drives and RAID systems as well as 4 USB ports for wireless interfaces and legacy interface replacement.

For more information about CompactPCI PlusIO and Serial offerings from Advantech or information on how this new platform can help you to gain competitive advantages, please contact your Advantech representative.

### Specifications

Processor System	CPU	Intel® 3rd Generation Core™ i7 up to 2.5 GHz (6MB L2 cache) 2.5G,3555LE, 25w/ 2.1G, 3612QE, 35w
	Platform Controller Hub	Intel® QM77
	BIOS	Customized AMI Aptio UEFI BIOS
CompactPCI Interface	J1 Connector	32-bit PCI local bus (33MHz)
	J2 Connector	CompactPCI PlusIO / RTM
Memory	Technology	DDR3-1600MHz SDRAM, dual channel with ECC support
	Max. Capacity	8GB
	Soldered/socket	Soldered
Graphics	Chipset	Integrated in Intel® CPU
	Resolution	VGA 2048 x 1536 pixels with 32-bit color at 75 Hz Display port 2560 x 1600 at 60 Hz
Ethernet	Controller	3 x i210AT
	Interface	10/100/1000 Mbps
	I/O Connector	RJ-45 x 2 (front panel), RJ-45 x 1 (RTM / PlusIO)
Storage	IDE	1 x CFast Socket on 8HP
	SATA	1 x optional SATA NAND Flash on 4HP,1x Internal SATA connector on 8HP version
Front I/O	VGA	DB15 Port
	Ethernet	2 x 10/100/1000 Mbps RJ-45
	USB 3.0	2 x Type A
	8HP XTM	8HP-1: 2x RJ45 RS232, 2x Display port, 1x PS/2 port 8HP-2: XMC (PClex8 gen.3) front IO 8HP-4: 4 x M12 1GbE Ethernet
PlusIO / RTM interface (4HPJ2 interface)	PCIE	4 x PClex1 Gen 2 (one PClex1 is routed to Mini-PCle socket on board for wireless LAN using) 1 x PCIE x 8 Gen3 or 2x PCIE x 4 Gen3 on 8HP-4 J2
	SATA	2 x SATA-II (one SATA-II is designed as half size mSATA socket on board), 1 x SATA-III
	RJ45	1 GbE based on i210AT
	USB 2.0	4 ports

## Specifications (Cont.)

RIO (8HP)	8HP-1 J2 interface	1 x PS/2 is mutually exclusive with PS/2 on 8HP front panel by BOM control. It required a special 8HP board to work. The special 8HP board is on request by customer 2 x COM default setting is RS232, RS422/485 could be set by the switch on 8HP board (Total 4 COM ports on 8HP and its RIO) 2 x DisplayPort is switchable from front panel by switch on 8HP board	
Watchdog Timer	Supervision	0 ~ 255s, 1s step, generate reset signal	
Operating System	Compatibility	Microsoft Windows XP Professional, Windows 7, Windows server 2008, VxWorks 6.9, Linux Redhat 6.1	
Power Requirement	Configuration	CPU TDP 17w/25w/35w, 8HP with RIO	
	Consumption	23.42W/ 33.12W /43.91W	
Physical	PCB Dimensions (L x H)	4HP or 8HP, 160.00 x 100.00 mm (6.30" x 3.95")	
	Weight	0.62kg w. AL Heatsink ,0.9kg w. Cu Heatsink including XTM	
Environment	Temperature	Operating 0 ~ 60 °C (32 ~ 140 °F)	Non-operating - 40 ~ 85 °C (-40 ~ 185 °F)
	Humidity	95% @ 40 °C (non condensing)	95% @ 60 °C (non-condensing)
	Shock	10 G, 11ms, each axis three times	30 G, 11ms, each axis three times
	Vibration	2Grms (5~500Hz, with CFast on 8HP)	Sine 2 Grms, 30mins each axis (5 ~ 500 Hz)
Regulatory	Conformance	FCC, Class A, CE, RoHS	
Compliance	Standard	PICMG 2.0 Rev. 3.0, PICMG 2.1 R2.0, PICMG2.30 PlusIO compatible	

## Supported CPU Configurations

Intel® CPU Model Number	# Cores	Freq.	Cache	Memory Types	CPU TDP
I3 3120ME	2	2.4GHz	3 MB L2 Cache	DDR3-1600	35W
I7 3555LE	2	2.5GHz	4 MB L2 Cache	DDR3-1600	25W
I7 3612QE	4	2.1GHz	6 MB L2 Cache	DDR3-1600	35W

## Ordering Information

System board	Front panel							On board Features				Other
	LAN (RJ45)	LAN (M12)	USB3.0	VGA	COM RJ45	Displayport	PS/2	CPU	Memory	SATA CFast/HDD	Slot Width	Plus IO
MIC-3328B1-D1E	2	-	2	1	2	2	1	I7 3555LE	8GB	2	2	Yes
MIC-3328C2-D2E	2	4	2	1	-	-	-	I7 3612QE	8GB	2	2	Yes
MIC-3328D1-D1E	2	-	2	1	2	2	1	I3 3120ME	4GB	2	2	No
MIC-3328B1-D3E	2	-	2	1	2	2	1	I7 3555LE	8GB	2	2	No

## Ordering Information

Model Number	Configuration
MIC-3328B1-D1E	MIC-3328, 3555LE, 8G RAM, w/ 8HP-1, 2 DP, 2 COM, PS/2, Support PlusIO
MIC-3328C2-D2E	MIC-3328 3612QE 8G VGA USB3.0 x 2, RJ45 x 2, M12 x 4 CFast/SSD PlusIO
MIC-3328D1-D1E	MIC-3328, i3-3120ME, 4G RAM, w/8HP-1, 2DP, 2COM,PS/2
MIC-3328B1-D3E	MIC-3328, 3555LE, 8G RAM, w/8HP-1, 2DP, 2COM, PS/2

For other CPU blade SKU,chassis and RIO, please contact your Advantech sales representative.

## Related Products

Peripheral board	Description
MIC-3955	4 or 8-port RS232/422/485 communication card, with RIO support
MIC-3958	3U CPCI 4/2 port RJ45 or M12 X-Code Gigabit Ethernet Card, with RIO support
MIC-3022	3U or 4U enclosure for 3U cards, with RIO support