



## iBPC

An Industrial-Grade Box Solution on  
**DM&P Vortex86DX3™ Dual-core Processor**

Version 1.0

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# Revision History

Revision	Date	Remark
1.0	January 4, 2019	First version release

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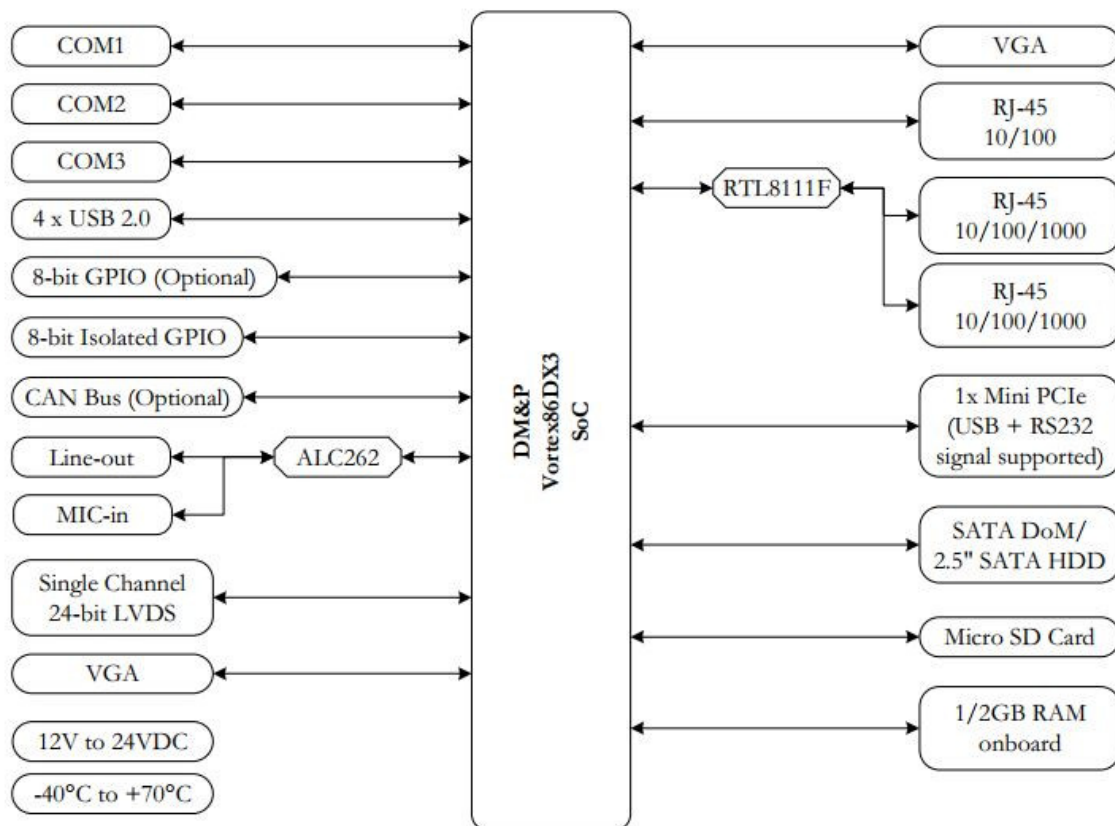
# 1 General Information

## 1.1 Overview

Featuring DMP's Vortex86DX3 low-power consumption x86 1GHz processor, iBPC provides balanced computing performance with onboard 2GB DDR3 system memory and 2.5" SATA HDD or 7-pin SATA DoM with Micro SD for storage.

With abundant I/O and palm-size design, the iBPC has a variety of I/O combinations, such as two Giga LANs, one 10/100M LAN, one isolated 8-bit GPIO and one 8-bit GPIO, one CANbus (optional), four USBs, three COMs, VGA, LVDS, MIC-in and Audio-out, and one Mini PCI-Express (for 3G/4G module) plus an antenna connector. Abundant I/O and -40°C to 70°C working temperature support have iBPC to be an ideal embedded hardware device for your market solution, achieving cost, quality, and time to market purpose.

## 1.2 Block Diagram



## 1.3 Specifications

Processor	DM&P SoC CPU Vortex86DX3 1 GHz L1: 32K I-Cache, 32K D-Cache L2:512KB Cache	
RAM	1/2GB DDR3 Onboard	
BIOS	AMI BIOS	
Display	Integrated 2D VGA chip with Dual Display Support (VGA + LVDS) VGA: Maximum resolution up to 1920 x 1080 @ 60Hz LVDS: Maximum resolution up to 1024 x 768 @ 60Hz, single channel 24-bit LVDS	
LAN	Integrated 10/100Mbps Ethernet x1	Realtek 8111F Giga Ethernet x2
Audio	MIC-in x1	Lin-out x1
Disk Support	SATA DoM	Micro SD
I/O Interface	RS232 x3 (RS485 x2) 8-bit Isolated GPIO x1 8-bit GPIO x1 (Optional)	USB (ver. 2.0) x4 CAN Bus x1 (Optional) Mini PCIe x1 (USB + RS232 signal supported)
Connectors	15-pin D-Sub male connector for CAN Bus x1 (Optional) 15-pin D-Sub male connector for GPIO x1 (Optional) 9-pin D-Sub male connector for RS232 x3 9-pin D-Sub male connector for VGA x1 5mm 3-pin terminal block for DC-in x1 3.5mm 18-pin terminal block for isolated GPIO x1 RJ45 connector for Ethernet x1 RJ45 connector for Giga Ethernet x2	3.5mm jack for Line-out x1 3.5mm jack for MIC-in x1 Power switch x1 USB connector x4 Mini PCIe slot x1
Power Requirement	12 to 24VDC	
Operating Temperature	-20°C to +70°C	
Certifications	CE, FCC, VCCI	
Dimension	152 x 104 x 54mm	
Weight	760g	
O/S Support	Windows7 Windows Embedded Standard 7 Windows Embedded Compact 7 Windows Embedded CE6.0 Windows XP Professional Windows Embedded 2009	Linux DOS POS Ready (WePOS) QNX VxWorks FreeBSD

\*SATA DoM support is set as default.

## 1.4 Ordering Information

### Box System

PART NO.	iBPC-D3-74GE	iBPC-D3-74CE	iBPC-D3-74FE
CPU (MHz)	1GHz	1GHz	1GHz
DRAM (DDR3)	1GB	1GB	1GB
Mini PCIe*	1		
Storage	**SATA DoM, Micro SD		
Display	VGA, LVDS		
LAN	1		
Giga LAN	2		
RS232	3 (RS485 x2)		
USB	4		
Isolated GPIO	8		
GPIO	8	---	8
CAN Bus	---	1	1
Audio	MIC-in, Line-out		

\*Mini PCI supports RS232 and USB signal (Optional)

\*\*SATA DoM support is set as default.

PART NO.	iBPC-D3-75GE	iBPC-D3-75CE	iBPC-D3-75FE
CPU (MHz)	1GHz	1GHz	1GHz
DRAM (DDR3)	2GB	2GB	2GB
Mini PCIe	1		
Storage	SATA DoM, Micro SD		
Display	VGA, LVDS		
LAN	1		
Giga LAN	2		
RS232	3 (RS485 x2)		
USB	4		
Isolated GPIO	8		
GPIO	8	---	8
CAN Bus	---	1	1
Audio	MIC-in, Line-out		

\*Mini PCI supports RS232 and USB signal (Optional)

\*\*SATA DoM support is set as default.

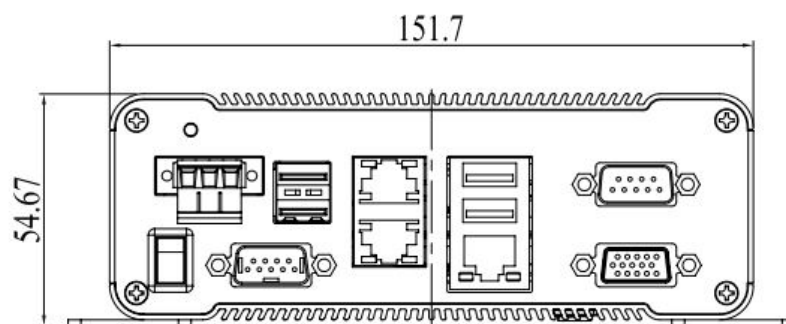
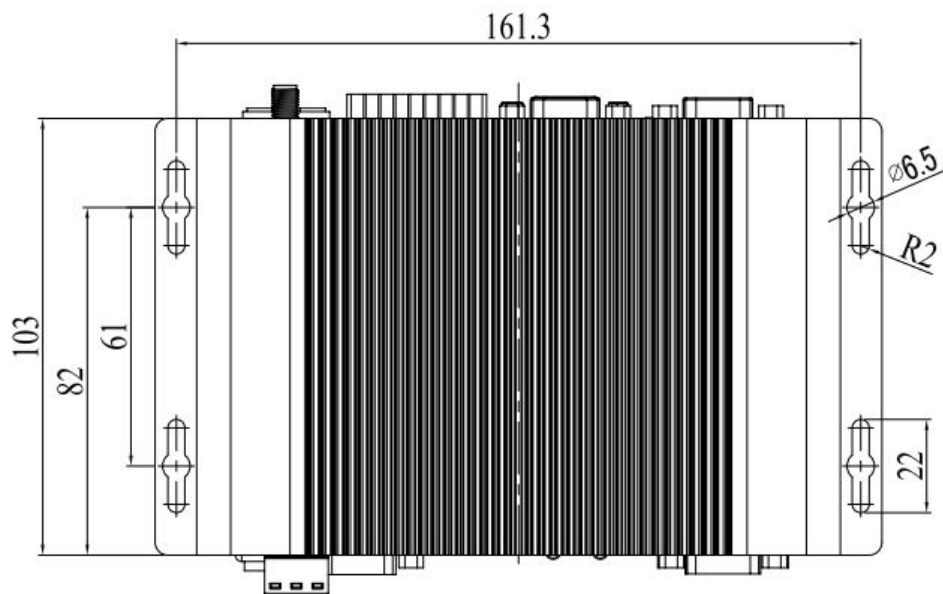
**Storage**

Product Name	MLC	SLC	0°C to +70°C	-40°C to +85°C
SDM-SST-2G-H-M	V		V	
SDM-SST-4G-H-M	V		V	
SDM-SST-2G-H-S-X		V		V
SDM-SST-4G-H-S-X		V		V
SDM-SST-8G-H-S-X		V		V
ISATA-8G-H-M	V		V	
ISATA-16G-H-M	V		V	
ISATA-32G-H-M	V		V	
ISATA-64G-H-M	V		V	
ISATA-8G-H-M-X	V			V
ISATA-16G-H-M-X	V			V
ISATA-32G-H-M-X	V			V
ISATA-64G-H-M-X	V			V
ISATA-1G-H-S		V	V	
ISATA-2G-H-S		V	V	
ISATA-4G-H-S		V	V	
ISATA-8G-H-S		V	V	
ISATA-16G-H-S		V	V	
ISATA-16G-H-S-X		V		V



## 2 Hardware Information

### 2.1 Dimension

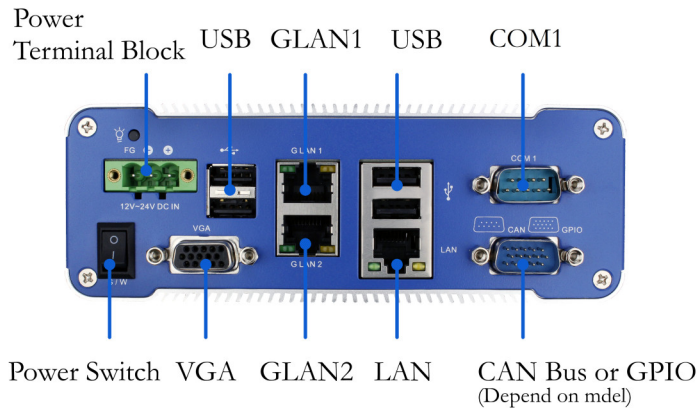


## 2.2 Product Outline

### iBPC

**COM1/2 Pin Assignment:**

1	DCD /RS485-	2	RXD /RS485+
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		



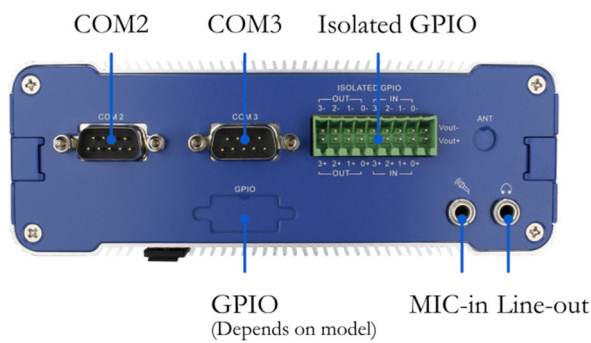
**CANBus Pin Assignment:**

1	NC	2	CANL1
3	GND	4	NC
5	NC	6	NC
7	CANH1	8	NC
9	NC		

**COM3 Pin Assignment:**

1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

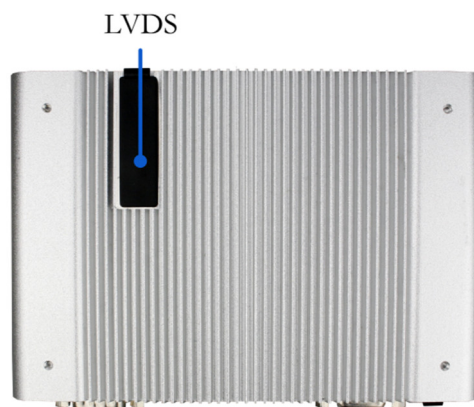
**Front**



**GPIO Pin Assignment:**

1	GND	9	GP96
2	VCC	10	GP97
3	GP90	11	NC
4	GP91	12	NC
5	GP92	13	NC
6	GP93	14	NC
7	GP94	15	NC
8	G095		

**Rear**



**LVDS Pin Assignment:**

1	VCC3	2	VCC3
3	GND	4	GND
5	Y0P	6	Y0M
7	Y1M	8	GND
9	GND	10	Y1P
11	Y2P	12	Y2M
13	CLKOUTM	14	GND
15	GND	16	CLKOUTP
17	Y3M	18	GND
19	GND	20	Y3P

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## 3 Software Resources

### 3.1 ICOP Technical Resource Website

In the following website, you will find our latest user manuals, including OS support resources systems such as evaluation images for Windows Embedded Compact 7, Windows Embedded CE 6.0, Windows Embedded CE 5.0, and Windows XP Embedded (Win XPe). For details, please kindly visit the following link: <http://tech.icop.com.tw/>

## Technical Support Directly from ICOP

To offer you more accurate and specific solutions for the technical situations you have, please prepare the information below before contacting ICOP:

—Product name and serial number

—Description of the H/W environment ( i.e.: working temperature, I/O board information, information of connection between main board and IO boards, and/or other devices, etc)

—Description of the S/W environment (i.e: operating system, version, application software, and/or other related information, etc.)

—A detailed description and photos of the technical situation

—Any complement or technical situations you want ICOP more focusing on

## User Manual Feedback

To make this user manual more complete, if you have any comments or feedbacks to this manual, please feel free to write to [info@icop.com.tw](mailto:info@icop.com.tw) or contact your ICOP sales representative.

## Warranty

This product is warranted to be in good working order for a period of one year (12 months) from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it without additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster. Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, originality to use this product. Vendor will not be liable for any claim made by any other related party. Return authorization must be obtained from the vendor before returned merchandise is accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description. Should you have questions about warranty and RMA service, please contact us directly.

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