

A172

Rugged Core™ i7 Compact PC



Embedded Computing
without Compromise



- Rugged Reduced SWaP PC
- Intel® Core™ i7 4th Gen CPU
- Up to 16 GB DDR3L SDRAM
- 128 GB Mini SATA SSD
- I/O Interfaces
 - ▶ Gigabit Ethernet
 - ▶ Serial Ports
 - ▶ USB 2.0
 - ▶ Stereo Audio Line IN + Line OUT
 - ▶ Discrete I/O
 - ▶ DVI Outputs
 - ▶ CANbus
 - ▶ Composite Video Inputs
- D38999 I/O and Power Connectors
- Compact and Lightweight
- Wide Input Voltage Range
- MIL-STD-704 and MIL-STD-1275 Compliant
- Modular Design
- Custom Configurations Available
- Operating System Support
 - ▶ Windows®
 - ▶ Linux®
- Environmentally Sealed (IP65)
- Natural Convection Cooled
- No Electrolytic Capacitors



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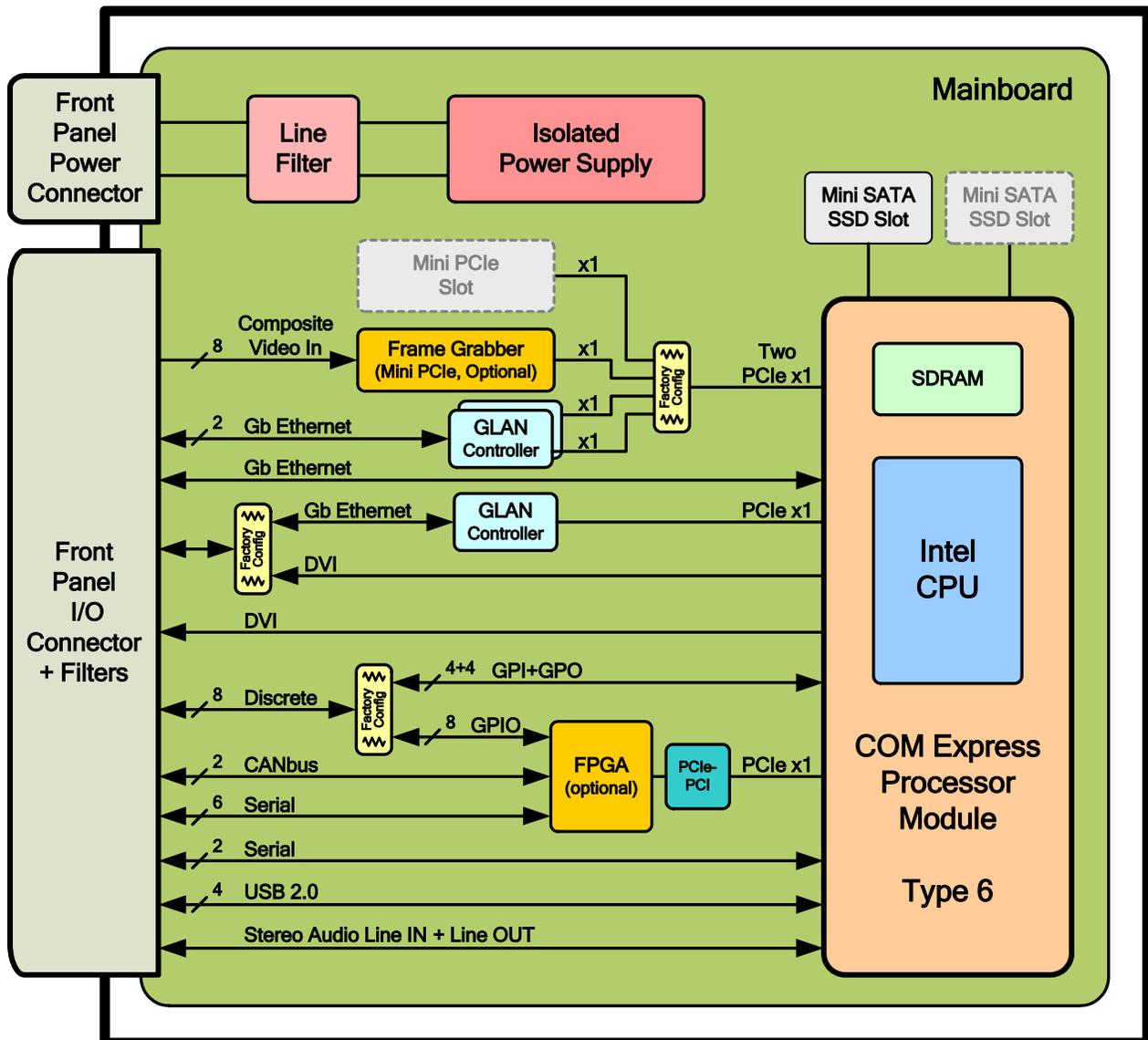
Aitech's A172 Rugged Compact PC (RCP) is a small, low power, high performance, rugged computer, suitable for any application that requires a high performance reliable RCP.

The A172 is designed around a standard COM Express (Type 6) module, which contains the system CPU and SDRAM, and provides a number of standard I/O interfaces.

The COM Express module is hosted on an Aitech main board, which provides additional I/O interfaces, and includes two mini SATA (mSATA) sites and two mini PCIe sites.

The mini SATA sites can accommodate standard SSD modules for system Flash mass storage and the mini PCIe slots can accommodate standard modules to provide additional system functionality.

The usage of standardized modules (COM Express, mini PCIe, and mini SATA) in the A172 design enables Aitech to build customized versions of the system to meet specific customer requirements (contact your Aitech representative for additional information), and also allows Aitech to offer updated system configurations as newer modules become available.



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COM Express Module

CPU	Intel Core i7-4650U (4 th Gen) <ul style="list-style-type: none">• 2 Cores / 4 Threads (Hyper-Threading)• 1.7 GHz Base Frequency• 3.3 GHz Turbo Frequency• HD Graphics 5000• PassMark Score: 4123
SDRAM Options	DDR3L (non-ECC) @ 1600 MT/s <ul style="list-style-type: none">• 8 GB Single Channel• 16 GB Dual Channel

I/O	I/O Variant ⁽¹⁾			
	Variant #1	Variant #2	Variant #3	Variant #4
Gigabit Ethernet (1000Base-T)	4	3	2	
DVI Outputs (Single Link)	1	2		
Composite Video Inputs Supports RS-170A (NTSC)/PAL (auto detected) and simultaneous capture of all channels at full frame rates	N/A		8	
Serial Ports UART 16550 compatible	8 x RS-232 / 2 x RS-422 + 2 x RS-422/485 ⁽²⁾ ⁽³⁾			2 x RS-232
Discrete I/O (Single-Ended)	8 x Input/Output (software configurable)			4 x In + 4 x Out
CANbus ⁽⁴⁾ Independent, isolated CAN 2.0B compatible interfaces, bit rates up to 1 Mb/s, PeliCAN operation mode support	2			N/A
USB 2.0	4			
Stereo Audio Line IN	1			
Stereo Audio Line OUT	1			

- Notes:
- (1) A172 I/O Variants offer different combinations/quantities of I/O via factory configuration; additional I/O options may be available per customer request (contact an Aitech representative for more information)
 - (2) Variants 1, 2, and 3 provide four pairs of serial ports:
 - All four pairs are each software configurable as two RS-232 ports or one RS-422 port
 - Two of the four pairs are also each software configurable as one RS-485 port
 - (3) RS-422/485 serial port terminations are not installed by default
 - (4) CANbus terminations are installed by default

Software

- Supported operating systems ⁽¹⁾
 - Windows 7 64-bit
 - Linux
- Available with or without supported operating systems pre-installed

- Notes:
- (1) Other operating systems may be partially supported, and additional driver porting may be available per customer request, depending on system configuration (contact an Aitech representative for more information)

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Power

Input Power	<ul style="list-style-type: none">• Wide input voltage range<ul style="list-style-type: none">▪ 10 – 32 V_{DC} steady state operation▪ 12 V_{DC} turn-on threshold• Input reverse polarity protection (up to 32 V_{DC})• EMI/RFI input filter• On-board supplies isolated from external supply• MIL-STD-704 and MIL-STD-1275 compliant
Power Consumption	<ul style="list-style-type: none">• Minimum: 12 W ⁽¹⁾• Typical: 30 W ⁽²⁾

Notes: (1) Windows idle

(2) Windows running BurnIn test to exercise CPU (80%), RAM (60%), 2D/3D Graphics (60%), and Video 2D/3D playback

Mechanical

Dimensions	260 x 180 x 46 mm [10.24 x 7.09 x 1.8"]
Weight	<2.25 kg [5lb]

Environmental

Operating Temp.	-40 to +70 °C	Rain	MIL-STD-810G, Method 506.5, Procedure I
Non-Operating Temp.	-55 to +100 °C	Dust	MIL-STD-810G, Method 510.5, Procedure I & II
Vibration	V2 per VITA 47	Salt Fog	MIL-STD-810G, Method 509.5
Operating Shock	OS1 per VITA 47	Bench Handling	MIL-STD-810G, Method 516.6, Procedure VI
Altitude	-1,500 to +60,000 ft. ⁽¹⁾	Ingress Protection	IP65
Relative Humidity	0 – 100%	EMI/RFI	MIL-STD-461
Fungus	Fungus Resistant		

Notes: (1) Depending on temperature and system power dissipation

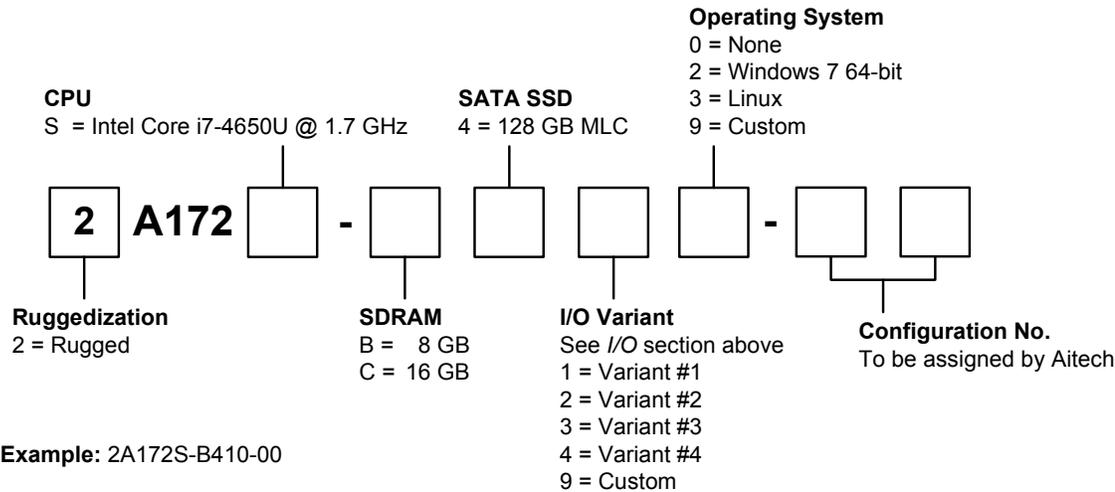
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Ordering Information



Accessories

MCS172-1-00	Set of Front Panel Mating Connectors
Starter Kit	<ul style="list-style-type: none">• 90 W External Power Supply• J1 Power Cable• J2 I/O Cable (1 x DVI, 2 x USB, 1 x GLAN, Audio Output)

Contact Aitech

Contact your Aitech sales representative for additional product information, and for inquiries regarding customized configurations of the A172 and additional software support.

