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Find the *Aitech Defense Systems A172* at our website: ***Click HERE***

A172

Rugged Compact PC

Aitech
Embedded Computing *without* Compromise



- **Rugged Reduced SWaP PC**
- **Flexible Configuration Options**
  - CPU
  - Mass Storage
  - Memory
  - OS
- **I/O Interfaces**
  - Gigabit Ethernet
  - Discrete I/O
  - Serial Ports
  - DVI Outputs
  - USB 2.0
  - CANbus
  - Stereo Audio Line IN + Line OUT
  - RS-170A
- **Mini PCIe Slot for I/O Expansion**
- **Wide Input Voltage Range**
- **MIL-STD-704 and MIL-STD-1275 Compliant**
- **D38999 I/O and Power Connectors**
- **Operating System Support**
  - Windows®
  - Linux®
  - VxWorks®
- **Environmentally Sealed (IP65)**
- **Natural Convection Cooled**
- **Compact and Lightweight**
- **50 ms Holdup Time (option)**
- **Removable Mass Storage (option)**



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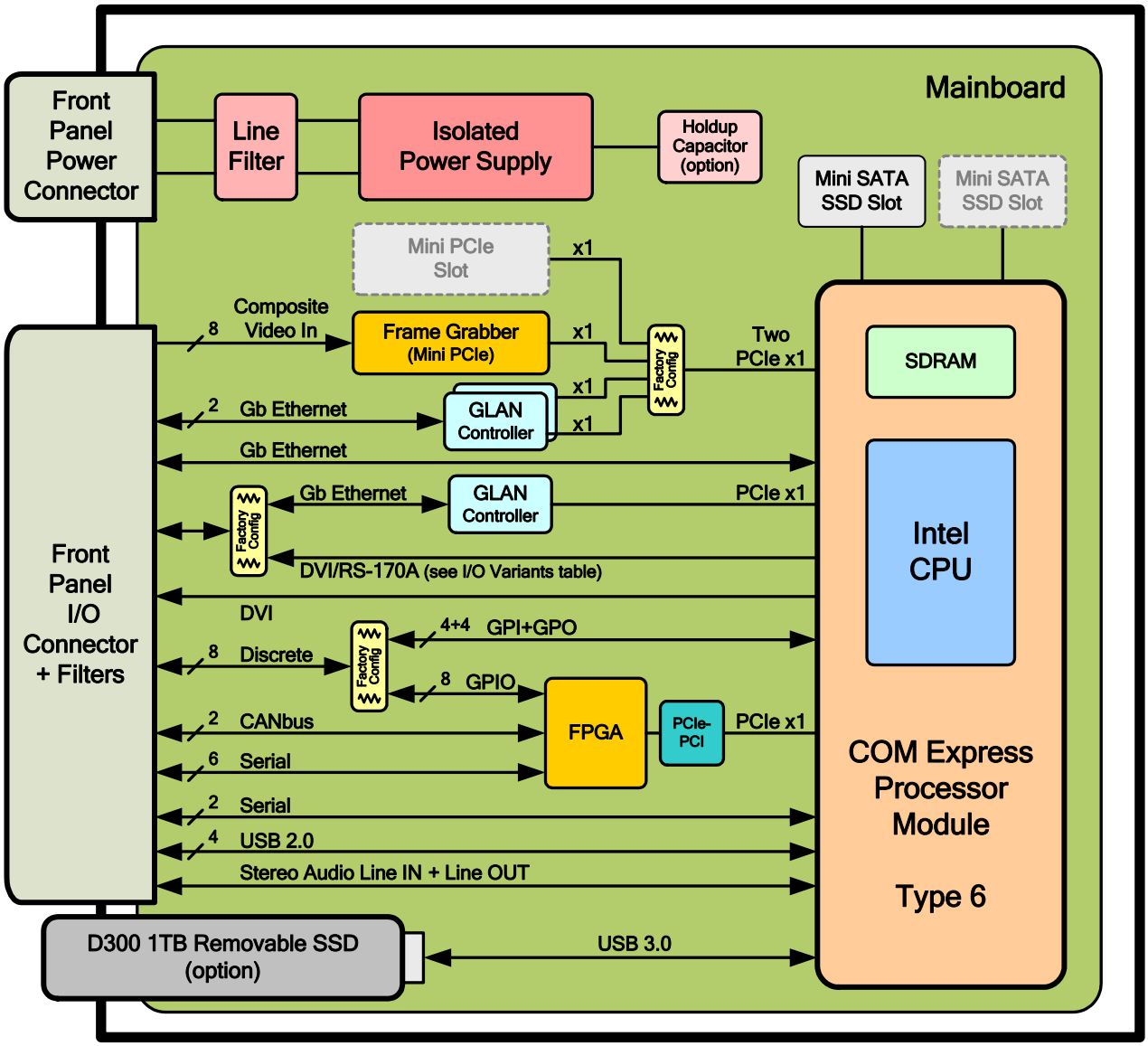
Aitech's A172 Rugged Compact PC (RCP) is a small, low power, high performance, rugged computer, suitable for any application that requires a high performance reliable RCP.

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

Model	CPU	Memory	OS Support [3]	TPM	POWER
A172S	Intel Core i7-4650U (4th Gen) • 2 Cores/4 Threads • 1.7 GHz Base Frequency • 3.3 GHz Turbo Frequency • HD Graphics 5000 • PassMark Score: 4123	DDR3L (non-ECC) @ 1600 MT/s Ordering Options: • 8 GB Single Channel • 16 GB Dual Channel	VxWorks 6.9.4 Windows 7 ULT 64-bit Linux	1.2	• Minimum: 12 W [1] • Typical: 30 W [2]
A172B	Intel XEON E3-1505L v6 (7th Gen) • 4 Cores/8 Threads • 2.2 GHz Base Frequency • 3.0 GHz Turbo Frequency • HD Graphics P630 (Gen 9) • PassMark Score: 7887	DDR4 (with ECC) @ 1600 MT/s Ordering Options: • 8 GB Single Channel • 16 GB Single Channel • 32 GB Dual Channel	Windows 10 64-bit Linux	2.0	• Minimum: 15 W [1] • Typical: 45 W [2]
A172C	Intel Core i7-7600U (7th Gen) • 2 Cores/4 Threads • 2.8 GHz Base Frequency • 3.9 GHz Turbo Frequency • HD Graphics 620 (Gen 9) • PassMark Score: 5595	DDR4 (non-ECC) @ 1600 MT/s Ordering Options: • 8 GB Single Channel • 16 GB Single Channel • 32 GB Dual Channel	Windows 10 64-bit Linux	2.0	• Minimum: 12 W [1] • Typical: 30 W [2]

Notes:
(1) Windows idle
(2) Windows running TAT (Thermal Analyses Tool) to exercise all CPUs to 80% load and Integrated Graphics Processor (IGP) to 70%.
(3) 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)

I/O

	I/O Variant [1]	
	Variant #1	**Variant #3**
Gigabit Ethernet (1000Base-T)	4	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 [5]	-	8
Serial Ports: UART 16550 compatible	8 x RS-232 / 2 x RS-422 + 2 x RS-422/485 [2] [3]	
Discrete I/O (Single-Ended)	8 x Input/Output (software configurable)	
CANbus [4] Independent, isolated CAN 2.0B compatible interfaces, bit rates up to 1 Mb/s, PeliCAN operation mode support	2	
USB 2.0	4	
Stereo Audio Line IN	1	
Stereo Audio Line OUT	1	
RS170A 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) Four pairs of serial ports are provided:
- Each pair is software configurable as two RS-232 ports or one RS-422 port
- Two of the four pairs are also individually 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
(5) Depending on system OS driver

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Options

- Standard Options - see Ordering Information
  - 50 ms Holdup Time
  - D300 1 TB Removable Mass Storage
    - SSD Security Features: Quick Erase, Secure Erase per DoD 5220, Unrecoverable Firmware Destroy
- Special Order Options - contact your Aitech sales representative
  - RGBHV Output
  - WiFi

Input Power

- Wide input voltage range
  - 10 – 32 Vdc steady state operation
  - 12 Vdc turn-on threshold
- Input reverse polarity protection (up to 32 Vdc)
- EMI/RFI input filter
- On-board supplies isolated from external supply
- MIL-STD-704 and MIL-STD-1275 compliant

Mechanical

	No Special Options *	Special Options 1, 2, or 3 *
Dimensions	260 x 180 x 46 mm [10.24 x 7.09 x 1.81"]	260 x 180 x 61 mm [10.24 x 7.09 x 2.41"]
Weight	<2.25 kg [5 lb]	<2.90 kg [6.4 lb]

* See Ordering Information

Environmental

Operating Temp.	-40 to +70 °C (1)	**Rain**	MIL-STD-810F, Method 506.4, Procedure III
Non-Operating Temp.	-55 to +100 °C	**Dust**	MIL-STD-810F, Method 510.4, Procedure I & II
Vibration	V2 per VITA 47	**Salt Fog**	MIL-STD-810F, Method 509.4
Operating Shock	OS1 per VITA 47	**Bench Handling**	MIL-STD-810F, Method 516.5, Procedure VI
Altitude	-1,500 to +60,000 ft. (2)	**Ingress Protection**	IP65
Relative Humidity	0 – 100%	**EMI/RFI**	MIL-STD-461
Fungus	Fungus Resistant		

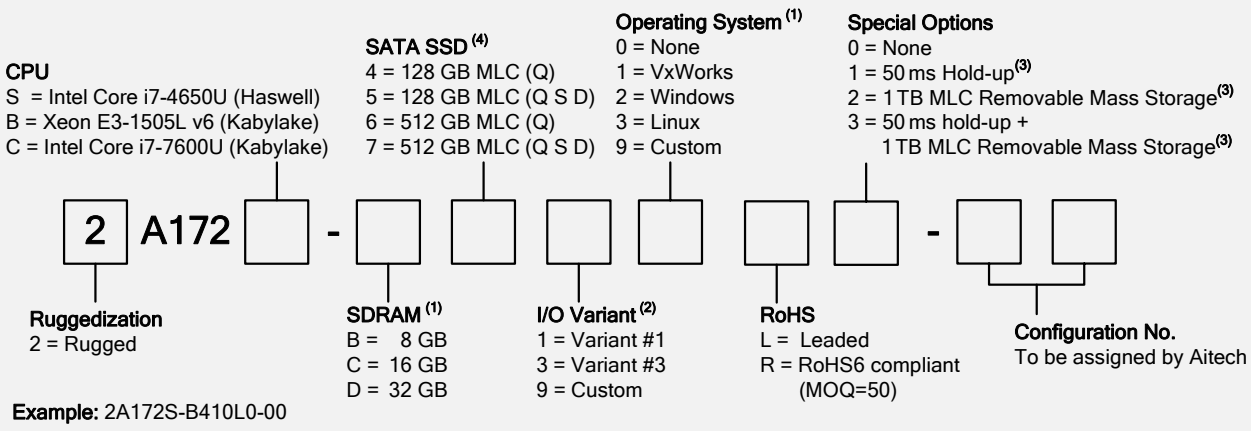
Notes: (1) CPU throttling may occur depending CPU usage and temperature
(2) Depending on temperature and system power dissipation

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Ordering Information



Example: 2A172S-B410L0-00

Notes: (1) Refer to the COM Express Module table for available options for each module
(2) Refer to the I/O table for I/O combinations per Variant
(3) Note differences in dimensions and weight when selecting these options
(4) Q = Quick Erase; S = Secure Erase; D = Destroy - using ATA Commands.

Optional Accessories

MCS172-1-00 *	Set of Front Panel Mating Connectors for I/O Variant 1
MCS172-3-00 *	Set of Front Panel Mating Connectors for I/O Variant 3
PSA-90W	90 W Power Supply
2D300-01M0-00	1 TB Removable Mass Storage
TCA172-SK *	A172 Starter Kit comprising: • J1 Power Cable • J2 I/O Cable (1 x Serial, 1 x DVI, 2 x USB, 1 x GLAN, Audio Output)
A172 Custom Cable	Ask your Aitech sales representative

* Add "-CF" to part number for cadmium free (e.g.MCS172-1-00-CF)

Contact Aitech

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



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