Advantech PCs for Automation 3200

(Revision 1.2, 4/3/2020)

Advantech PCs in the following configurations may be purchased directly from Arrow Electronics:

Kelly ORourke

kelly.orourke@arrow.com

+1 412 780-5808

These PCs have the necessary hardware and BIOS settings to support proper operation of the A3200 software. Windows settings must be made according to the document in the BIOS file from the download links below and the A3200 software must be installed by the customer.

Customers may also purchase unconfigured PCs for use with the Automation 3200 controller, directly from Advantech:

www.Advantech.com

Two Advantech motherboards have been verified to work with the Automation 3200 and are listed here.

1) AIMB-785 (ATX size)
2) AIMB-275 (Mini-ITX size)

The motherboards must be configured to work with the Automation 3200 software before use. Configuration instructions for each motherboard type are listed below.

Common requirements for either motherboard

1) BIOS
    a. The factory shipped BIOS must be updated. Instructions are included below for each motherboard.
2) Windows
    a. The use of Windows 2019 LTSC is strongly recommended since it avoids automatic updates which can interfere with the A3200 software.
    b. Windows must be properly configured as outlined in the Optimizing A3200 Performance Guide.
3) Intel Processors
    a. The following CPU's have been tested by Aerotech. Any 7000 series greater than 7500 (i.e. 7800, 7900, etc.) should work satisfactorily.
        i. i5-7500 (4 core, 4 threads, no Hyper-Threading feature)
        ii. i7-7700 (4 core, 4 threads, with Hyper-Threading feature disabled)

4) Graphics
    a. On board graphics is required. The use of graphics adapter cards is *not_recommended* since they can use system resources required by the A3200 software.
5) RAM
    a. Two memory SIMMs *must* be used to maximize system performance. Two 8GB SIMM modules for a total of 16GB is recommended.
6) Hard Drive
    a. There are no specific requirements except that RAID configurations are not supported. SSD drives provide overall faster system performance.
7) Add on cards:
    a. The use of high performance devices such as video frame grabbers, high bandwidth communication or custom devices are not recommended since they may compete for system bandwidth with the A3200 software.

AIMB-275 Configuration (Mini-ITX)

1) BIOS:
    a. Download the following file and follow the directions contained in the file to update the BIOS: http://www.aerotechmotioncontrol.com/manuals/index.aspx
    b. Change the BIOS settings as outlined in the document in the BIOS file from the download link above.
2) VGA / Video Monitor operation
    a. No known issues
3) Tested Configuration
    a. The following configuration has been tested including Core i5 and Core i7 processors.

Option	Advantech P/N	Quantity	Product Description
Chassis size	ARK-6610-18ZBE	1	ARK-6610 Mini-ITX Wallmount Chassis w/180W PSU
Motherboard	AIMB-275G2-00A2E	1	AIMB-275 Mini-ITX board
Processor	96MPI5K-3.4-6M11T	1	Intel Core i5-7500 CPU
	96MPI7K-3.6-8M11T	1	Intel Core i7-7700 CPU
Cooling option	1960053207N001	1	CPU Cooling fan (92.9 x 92.9 x 46mm) for use with TDP <= 65W
RAM memory	AQD-SD4U8GN24-SE	2	8GB DDR4 RAM SIMM
IoT license	968TW19VL0	1	Windows 10 IoT Enterprise 2019 LTSC Value (for use with i5 CPU)
SATA interface	SQF-SM8V2-128G-SBC	1	SQF SATA M.2 2280 640 128G BiCS3 3D NAND (0-70C)
Optical drive	96SDVR-8X-ST-LT-B2	1	LiteOn Slim 8X SATA DVD+/-RW DL Black
Adapter cable	96CB-SATAPOWER-6P2	1	SATA Power Adapter 6-to-4 pin cable
Assy & Test	AGS-CTOS-SYS-A	1	Assembly & Test for PPC Systems (with software)

4) Chassis
    a. The following chassis has been used by Aerotech and is provided for reference. There is no specific chassis requirement for proper operation.

ARK-6610-18ZBE

AIMB-785 Configuration (ATX)

1) BIOS:
    a. Download the following file and follow the directions contained in the file to update the BIOS: https://www.aerotech.com/global-technical-support/software-support.aspx
    b. Change the BIOS settings as outlined in the document in the BIOS file from the download link above.
2) VGA / Video Monitor operation
    a. The AIMB-785 BIOS always indicates that a VGA monitor is connected. This feature allows Windows operation without a monitor connected. If the user connects a single (DVI) monitor, the BIOS will report to Windows that a second, VGA monitor is also connected. The user must mirror the Windows desktop to both monitors or configure Windows to use the DVI monitor as the primary display.
3) SATA port
    a. Connect SATA devices to the red SATA0 or SATA1 port connectors only. Do not connect SATA devices to the blue ports as this causes problems with the Automation 3200 software.
    b. The use of RAID storage devices is not allowed.
4) Tested Configuration
    a. The following configuration has been tested...

Option	Advantech P/N	Quantity	Product Description
Chassis size	ACP-4020MB-40ZE	1	ACP-4020 Motherboard Chassis w/400W PSU
Power supply	N/A	N/A	N/A
Motherboard	AIMB-785G2-00A1U	1	AIMB-785 ATX Motherboard
Processor	96MPI7K-3.6-8M11T	1	Intel Core i7-7700 CPU
Cooling option	1960052651N021	1	CPU Cooling fan (90 x 90 x 68mm) use with CPU's with TDP <= 95W
RAM memory	AQD-D4U8GN24-SE	2	8GB DDR4 2400MHz RAM
Riser card	N/A	N/A	N/A
IoT license	968TW19HL0	1	Windows 10 IoT Enterprise 2019 LTSC High End (use with i7 CPU)
SATA interface	SQF-S25M8-512G-SAC	1	SQF 2.5 SATA SSD 830 512G MLC (0~70°C)
Optical drive	96SDVR-8X-ST-LT-B2	1	LiteOn Slim 8X SATA DVD+/-RW DL Black
Adapter cable	96CB-SATAPOWER-6P2	1	SATA Power Adapter 6-to-4 pin cable
Assy & Test	AGS-CTOS-SYS-B	1	Assembly & Test for IPC, ACP, or CPCI Systems (with software)
Disk tray/bay	IPC-DT-3120E	1	Drive bay converting 3.5" bay to two hot-swappable 2.5" bays

5) Chassis
    a. The following chassis have been used by Aerotech and are provided for reference. There is no specific chassis requirement for proper operation.

Package Description	Advantech Chassis Part Number
1U high, 19" rack mount	ACP-1010MB-00BE
4U high, 19" rack mount	ACP-4020MB-40ZE
Desktop tower	IPC-7120-35CE