



ITPC-A500

15" Fanless Industrial Touch Panel PC

Technical Support Documentation

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Platform:	Support Intel® Core™/Celeron® Processor
Classification:	Touch Panel PC

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All product specifications are subject to change without notice.

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1. Product Overview

The ITPC-A500 is a 15" fanless industrial touch panel PC designed for demanding environments requiring reliable, maintenance-free operation. Built with an aluminum alloy chassis and IP65-rated front panel, it combines computing performance with industrial-grade durability.

1.1 Key Features

- Fanless Aluminum Design
- Support Intel® Core™/Celeron® Processor
- 2 x RS232/422/485 COM Ports
- (6 x COM Ports optional)
- 2 x Intel LAN Ports (4 x LAN Ports optional)
- J6412 support 3 x Intel LAN Ports
- IP65 full flat front panel

1.2 Target Applications

The ITPC-A500 is suitable for Industrial Automation, Medical, Logistics Transportation, Warehousing, Machine Vision, etc..

1.3 Package Contents

Verify the following items are included in the package:

Item	Qty	Description
Power Adapter	1	12V 5A / 12V 7A
Power Cord	1	CN, US, UK, EU etc.
Embedded Mounting Clip	4	For Standard Embedded Installation

NOTE: If any item is missing or damaged, contact IWILL Technology support immediately at support@iwilltech.co.uk.

2. Hardware Specifications

Complete technical specifications for the ITPC-A500.

SYSTEM	
Model	ITPC-A500
Processor	Support Intel® Core™/Celeron® Processor
Memory	1 × DDR4 2133/2400MHz SODIMM, Max. 32 GB
BIOS	AMI EFI BIOS
Graphics	Intel® UHD Graphics
Display Ports	1 × HDMI, 1 × LVDS Support synchronous/asynchronous 2 display
Storage	1 × M.2 2280 (SATA Protocol), 1 × 2.5-inch HDD, support RAID 0/1 1 × Mini PCIe (support WiFi/Bluetooth/3G/4G optional, embedded 1 × SIM Card Slot
Expansion	Expansion Ports (standard configuration doesn't include):
OS Support	Windows 10, Linux
I/O PORTS	
Ports	4 × USB 3.0, 2 × USB 2.0 (Intel® Celeron® J6412) 1 × 2 Pin Power Supply Phoenix Connector 1 × Speaker and Mic 2 × Intel 1000Mbps LAN Ports (4 × LAN Ports optional) 2 × Intel 1000Mbps LAN Ports, 1× Intel 2.5G LAN Ports (Intel® Celeron® J6412)
POWER & OTHER	
Power Input	DC 9V~36V (support positive and negative electrode protection)
DISPLAY & TOUCH	
Display Type	15" TFT-LCD
Brightness	350 cd/m ²
Viewing Angle	Full Angle
Contrast	4:3
Resolution	1024 × 768
Touch Type	Industrial grade multi-touch capacitive touch screen, Life Time: more than 50000 Thousand Times
ENVIRONMENT	
Operating Temp.	0■ ~ 50■ (Commercial HDD), -20■ ~ 60■ (Industrial SSD), surface air flow
Humidity	5% ~ 95% (non-condensing)
Certifications	CE, CCC, FCC Class A, RoHS
MECHANICAL	
Dimensions	366 × 290 × 60 mm
Weight	3.9 kg

3. I/O Interfaces & Connectivity

3.1 I/O

Connector	Description
4	4 × USB 3.0, 2 × USB 2.0 (Intel® Celeron® J6412)
1	1 × 2 Pin Power Supply Phoenix Connector
1	1 × Speaker and Mic
2	2 × Intel 1000Mbps LAN Ports (4 × LAN Ports optional)
2	2 × Intel 1000Mbps LAN Ports, 1× Intel 2.5G LAN Ports (Intel® Celeron® J6412)

WARNING: Always power off the unit and disconnect all power sources before connecting or disconnecting any internal components.

4. Mechanical Dimensions

All dimensions are in millimeters (mm).

Parameter	Value
Overall Dimensions	366 x 290 x 60 mm
Weight	3.9 kg

NOTE: For detailed technical drawings with mounting hole positions, contact IWILL Technology at support@iwilltech.co.uk.

5. BIOS Configuration

The ITPC-A500 uses AMI EFI BIOS. Access the BIOS setup by pressing **DEL** or **F2** during the POST screen at boot.

5.1 Entering BIOS Setup

1. Connect a USB keyboard to the unit.
2. Power on the system.
3. Press **DEL** or **F2** repeatedly as the splash screen appears.
4. The AMI EFI BIOS setup utility will load.

5.2 Important BIOS Settings

Setting	Location	Description
Boot Order	Boot Tab	Set primary boot device (SSD, USB, PXE)
Power On After Power Loss	Advanced > ACPI	Set to [Power On] for automatic startup on power restoration
Wake-on-LAN	Advanced > Network	Enable for remote wake capability over LAN

NOTE: BIOS menu paths may vary between firmware revisions. If a setting is not found, check adjacent menus or consult IWILL Technology support.

5.3 BIOS Reset

Method 1 (Keyboard): Enter BIOS setup and press **F9** to load optimized defaults, then **F10** to save and exit.

Method 2 (CMOS Reset): Power off, disconnect power, open the chassis, locate the CMOS clear jumper on the motherboard, short for 5 seconds, then remove.

6. Operating System Installation

6.1 Supported Operating Systems

OS	Notes
Windows 10	64-bit (21H2+). Recommended for most deployments.
Linux	Ubuntu 22.04+, CentOS, or compatible distributions.

6.2 Installation via USB

1. Prepare a bootable USB drive with the desired OS image (use Rufus, balenaEtcher, or dd).
2. Insert the USB drive into an available USB port.
3. Enter BIOS (DEL/F2) and set USB as the first boot device.
4. Save and restart. The OS installer should load from USB.
5. Follow on-screen instructions. Select the internal drive as the install target.
6. After installation, re-enter BIOS and restore the internal drive as primary boot device.

6.3 Driver Installation

Windows 10/11 should automatically detect most hardware via Windows Update. For chipset, graphics, and LAN drivers, download the latest versions from Intel's support site or contact IWILL Technology for the driver package.

7. Touchscreen Configuration

7.1 Windows Touch Calibration

The industrial touchscreen is pre-calibrated at the factory. If recalibration is needed:

1. Open **Control Panel > Tablet PC Settings**.
2. Click **Calibrate...** under the Display tab.
3. Select **Touch input** and follow the on-screen crosshair targets.
4. Tap **Save** to store the calibration data.

7.2 Linux Touch Configuration

On Linux, the touchscreen is typically managed by the **hid-multitouch** kernel module. Use **xinput** to list and configure touch devices.

7.3 Multi-Touch Support

The capacitive touchscreen supports multi-touch gestures (pinch-to-zoom, two-finger scroll) natively in Windows 10/11 and in Linux with libinput.

8. Expansion Module Installation

8.1 Available Expansion Slots

- Expansion Ports (standard configuration doesn't include):

8.2 Installation Procedure

1. Power off and disconnect all power sources.
2. Remove the chassis access panel screws.
3. Locate the target expansion slot on the motherboard.
4. Insert the module at a 30° angle and press down until it clicks into the retaining clip.
5. If applicable, connect antenna pigtail cables to the module's U.FL connectors.
6. Replace the access panel and secure with screws.

WARNING: Always use ESD protection (grounding strap) when handling internal expansion modules. Static discharge can permanently damage components.

8.3 Storage Installation

- 1 × M.2 2280 (SATA Protocol), 1 × 2.5-inch HDD, support RAID 0/1
- 1 × Mini PCIe (support WiFi/Bluetooth/3G/4G optional, embedded 1 × SIM Card Slot)

9. Mounting Guide

9.1 Panel Cutout Preparation

Insert the unit into the panel cutout from the front. From the rear, attach the mounting clamps and tighten evenly to compress the gasket seal against the panel surface.

9.2 VESA / Desktop Mounting

The ITPC-A500 supports VESA mounting (check rear panel for mounting hole pattern). Use M3 or M4 screws as appropriate — do not exceed the maximum thread depth.

WARNING: Ensure adequate ventilation around the unit. Do not block the heatsink fins or ventilation openings.

10. Maintenance & Troubleshooting

10.1 Routine Maintenance

- **Screen Cleaning:** Use a soft, lint-free cloth with isopropyl alcohol. Do not use abrasive cleaners.
- **Heatsink Cleaning:** Periodically blow out dust from the heatsink fins using compressed air.
- **Connector Inspection:** Check connectors for damage or corrosion, especially in harsh environments.
- **Firmware Updates:** Check with IWILL Technology for BIOS updates that may improve stability.

10.2 Troubleshooting Guide

Symptom	Possible Cause	Solution
No power / no LED	Power adapter disconnected or faulty	Verify DC input voltage. Try a different adapter.
No display output	Display cable loose or BIOS setting	Reseat display cable. Check BIOS display settings.
Touch not responding	Driver missing or USB disconnected	Install touch driver. Check internal USB connection.
System freezes	Memory or storage issue	Reseat RAM. Test with known-good SSD. Enable watchdog.
Overheating	Blocked heatsink or high ambient temp	Clean heatsink. Ensure adequate airflow.
Boot loop	Corrupted BIOS or OS	Reset BIOS to defaults (F9). Reinstall OS.

11. Warranty & Support

11.1 Warranty Coverage

The ITPC-A500 is covered by a standard manufacturer warranty. The warranty covers defects in materials and workmanship under normal use conditions. It does not cover damage from misuse, unauthorized modifications, or exposure beyond rated specifications.

11.2 Technical Support

IWILL Technology provides worldwide technical support through regional offices:

Region	Website	Email
United Kingdom	www.iwilltech.co.uk	support@iwilltech.co.uk
MENA Region	www.iwillmena.com	support@iwillmena.com
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11.3 RMA Process

To initiate a return for repair or replacement, contact IWILL Technology support at the regional office nearest to your location with your product serial number and a description of the issue.

Appendix A — Order Information & Accessories

A.1 Order Configurations

Configuration	Description
ITPC-A500 CPU I/O Specification 3 x LA	ITPC-A500 CPU I/O Specification 3 x LAN Ports 6 x USB 2 x COM Ports
Configuration 1 Intel® Celeron® J6412	Configuration 1 Intel® Celeron® J6412 1 x HDMI 1 x DC-In 1 x DDR4, Max. 32G 1 x Audio 1 x M.2 SATA/1 x 2.5-inch HDD 2 x LAN Ports
Configuration 2 Intel® Celeron® 4205U	Configuration 2 Intel® Celeron® 4205U 1 x Mini PCIe WiFi/4G 4 x USB
Configuration 3 Intel® Core™ i3-10110U	Configuration 3 Intel® Core™ i3-10110U 2 x COM Ports 1 x HDMI
Configuration 4 Intel® Core™ i5-8260U	Configuration 4 Intel® Core™ i5-8260U 1 x DC-In
Configuration 5 Intel® Core™ i7-8565U	Configuration 5 Intel® Core™ i7-8565U 1 x Audio Note: There is a conflict between extended and standard function. Please consult technical personnel for extended function.

A.2 Included Accessories

Item	Qty	Specification
Power Adapter	1	12V 5A / 12V 7A
Power Cord	1	CN, US, UK, EU etc.
Embedded Mounting Clip	4	For Standard Embedded Installation

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