Rev.01

USER GUIDE

IPC SERIES

CELERON J6412

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IPC SERIES | CELERON J6412

User Guide
Version 01
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CE Conformity Declaration

This appliance complies with the following directives and regulations:

2014/35/UE	LVD “Low Voltage” Directive
2014/30/UE	EMC Directive “Electromagnetic Compatibility”
2011/65/UE	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS II) and subsequent amendments according to Directive 2015/863/EU (RoHS III) and Directive 2017/2102
2009/125/CE	Directive on the establishment of a framework for the development of ecodesign specifications for energy-related products
(UE) N. 617/2013	Regulation laying down implementing measures for Directive 2009/125/EC of the European Parliament and of the Council on ecodesign requirements for computers and computer servers
(CE) N. 1907/2006	Regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

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Chapter 1
General

This chapter contains the list of materials in the packing box and some preliminary notes on installing the system.

- List of materials provided
- Before installation
- Warranty notes

Supplied materials list

Below is the list of materials inside the packaging:

Supplied Materials	
1	IPC Celeron J6412
2	AC Power Adapter

Before installation

Once you verified the packaging contents, it's advisable to keep it to make any computer transport easier and safer.
After unpacking the monitor, arrange all the material on a work surface and follow the directions in the following chapters.

Operative Environment characteristics

To install the computer you should follow the instructions below.
The environment must be covered, clean, and dust-free.

Make sure the temperature does not exceed 30 degrees centigrade and that the humidity does not exceed 80% (without condensation).
Place the computer on a flat, stable, vibration-free surface.
Don't obstruct the ventilation openings of the computer; they are designed in such a way as to allow the heat dissipation generated and therefore require sufficient space for ventilation.
Avoid proximity to electrical disturbances, such as telephone switchboards, transformers, electric motors, air conditioners, etc. which may cause interference.
Verify that the mains voltage is 220V -5% +10% and the system is equipped with adequate earthing.
Don't place heavy objects on top of the connection or power cables.
Check that the power sockets used are not damaged or faulty.
Verify the computer and its peripherals are connected to a grounded outlet to avoid malfunctions or safety problems.
Don't place heavy objects on top of the computer base module.
If the computer has been stored or kept inactive for a long period, it is recommended not to switch on it immediately, but only after leaving it

running for the time necessary for the mechanical parts to reach operating temperature.

If the computer is transported from a cold environment, you should wait at least two hours before operating it. Failure to comply with this rule can cause serious damage to mechanical parts (magnetic units).

Safety

Carefully read these safety directions:

1) Unplug from the power outlet before cleaning, disassembling, or transporting. Do not use liquid cleaners or sprays for cleaning. Use only a damp cloth and avoid any prolonged contact with moisture.
2) Lay the machine on a stable surface before maintenance or use, to avoid accidental falls.
3) The panel's back grilles are ventings. DO NOT COVER.
4) Make sure the voltage and load are correct before connecting the machine to the power outlet.
5) Safely place the power cord to avoid accidental trips. Do not twist, pinch, or knot it.
6) Follow all precautions and warnings printed on the machine.
7) If the machine isn't long-time used, unplug it from the power source.
8) Do not pour any liquid into the openings. It could cause fire or electric shock.
9) Only qualified service personnel should open and repair the equipment.
10) If one of the following situations occurs, have the machine checked by our technical service:
    a. The power cord, plug, or adapter is visibly damaged.
    b. Liquid has entered the machine.
    c. The machine has been exposed to moisture.
    d. The machine fell and was damaged.
    e. The machine has obvious signs of breakage.
    f.
11) DO NOT LEAVE THE MACHINE IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20°C (-4°F) OR HIGHER THAN 80°C (176°F)

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Chapter 2
System Presentation

This chapter introduces basic information about the Celeron Industrial Panel PC (IPC) series.

- Introduction
- Main features
- Specifications

IPC is the Touch Panel PC series designed to condense all the fundamental features for applications in the industrial world into a single product.

It provides considerable configurability both for arm, wall mountings, or panel recessed applications, even in tough environments such as industrial lines for data collection in production.

The system guarantees IP65 protection on the front, a touch screen certified to use with work gloves, and resistance to vibrations, humidity, and dust; it is designed to work 7/24 in a voltage range of 9V-36V. These characteristics make it ideal for applications in harsh environments typical of modern Industry 4.0.

Sturdy, Power and Safety

Externally, it features a sturdy aluminum alloy chassis, with IP65 protection on the front.

Inside, the system ensures high performance in every situation of use, in terms of process speed and graphic functionality, while maintaining low consumption and silent operation.

The rear lamellar section allows excellent heat dissipation and guarantees full operation at operating temperatures from -20°C to 70°C in fanless mode.

RAM and storage without moving parts complete the product features.

True flat display and mounting options

The TFT LCD is equipped with true flat technology, i.e. without steps between the active touch area and the frame. The capacitive touch screen with 10 simultaneous touches is guaranteed for use with work gloves and IP65 certification guarantees total protection against the

penetration of solid bodies, and liquids from drops, vapors, splashes, and jets of water in any direction.
The back panel has four VESA mounting holes (100 x 100 mm), and hooks for panel mounting are included.

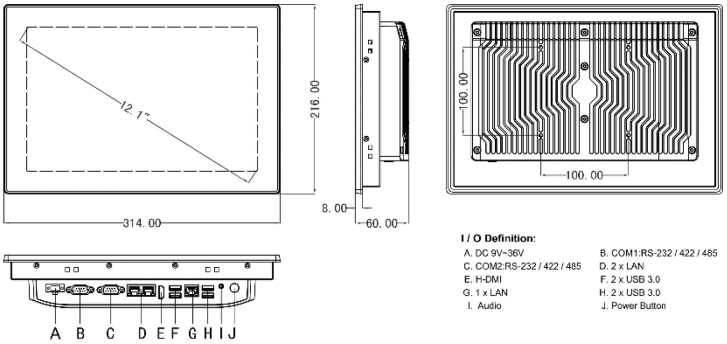
I/O Ports

The Celeron IPC Series I/O Interface includes (order from right):

A. DC 9V-36V
B. COM1: RS-232/422/485
C. COM2: RS-232/422/485
D. 2×LAN
E. HDMI
F. 2 ×USB 3.0
G. 1 ×LAN (2.5 GbE)
H. 2x USB 3.0
I. Audio
J. Power Button

Dimensions

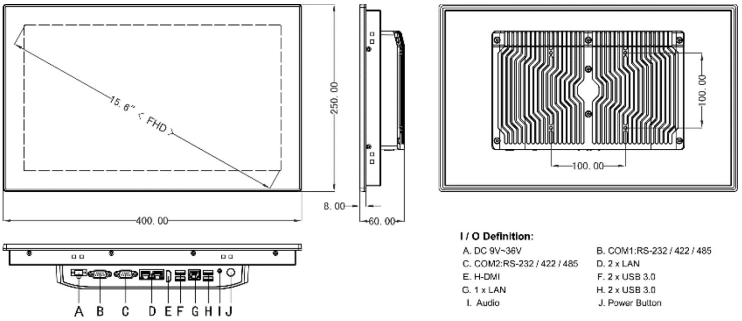
IPC J012WAC Dimensions (12.1” Display)



I / O Definition:

A. DC 9V~36V	B. COM1:RS-232 / 422 / 485
C. COM2:RS-232 / 422 / 485	D. 2 x LAN
E. H-DMI	F. 2 x USB 3.0
G. 1 x LAN	H. 2 x USB 3.0
I. Audio	J. Power Button

Panel Cutout Dimensions: 300 x 203 mm (11.81 x 8.00 in)



I / O Definition:

A. DC 9V~36V	B. COM1:RS-232 / 422 / 485
C. COM2:RS-232 / 422 / 485	D. 2 x LAN
E. H-DMI	F. 2 x USB 3.0
G. 1 x LAN	H. 2 x USB 3.0
I. Audio	J. Power Button

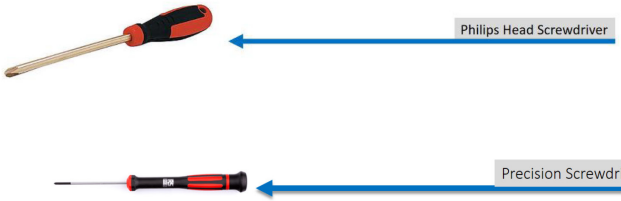
Panel Cutout Dimensions: 386 x 236 mm (15.20 x 9.29 in)

Chapter 3
Hardware Setup

Contents included:

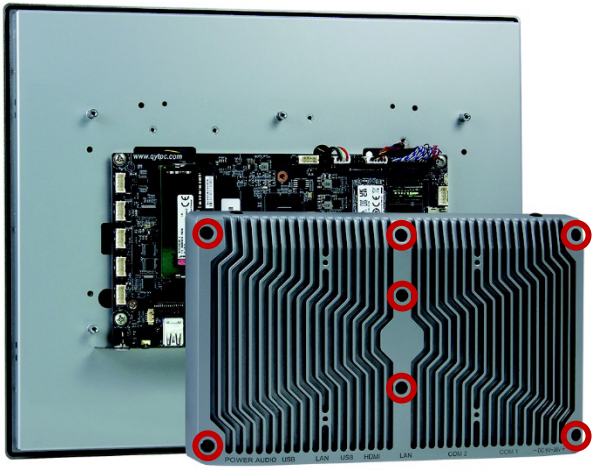
- Quick tour of the system
- Installing the memory card
- SSD installation
- Wi-Fi+BT installation
- 4G installationù
- 5G installation
- HDD Installation

For assembly, you may need these tools.

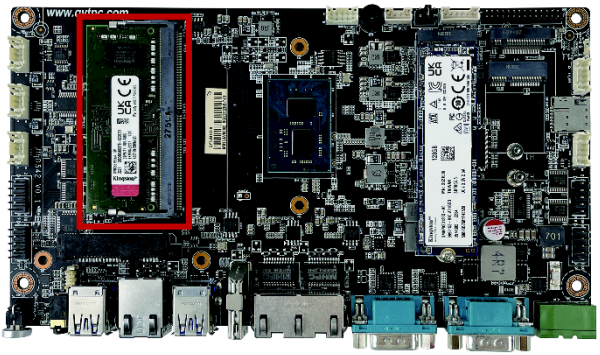


Access to the motherboard

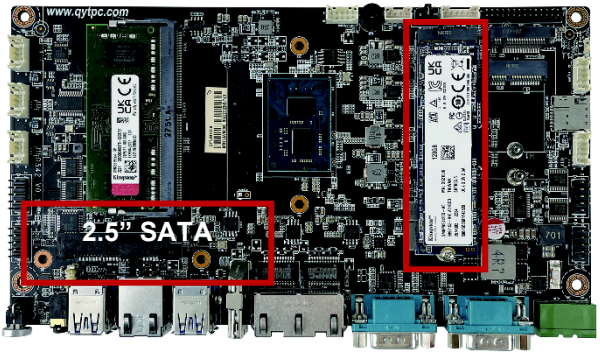
Unscrew the seven fixing screws and remove the rear cover.



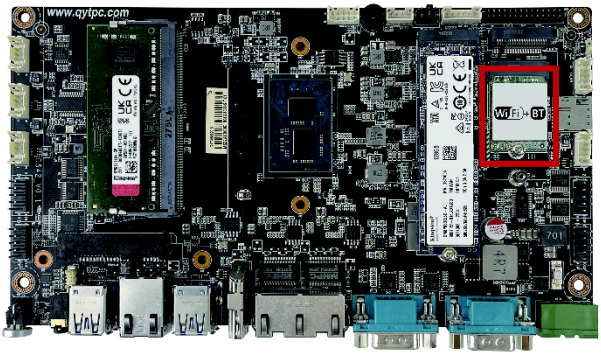
RAM



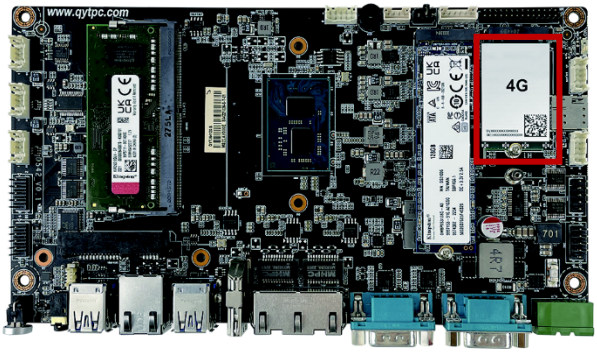
SSD M.2



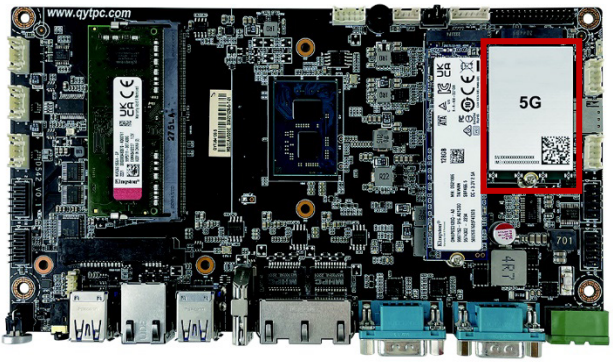
WiFi+BT Module



4G Module



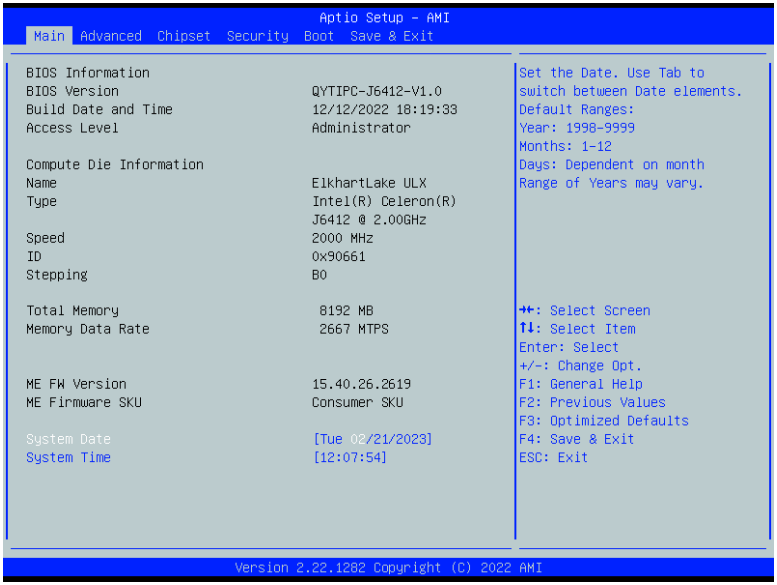
5G Module


www.qytpc.com
5G

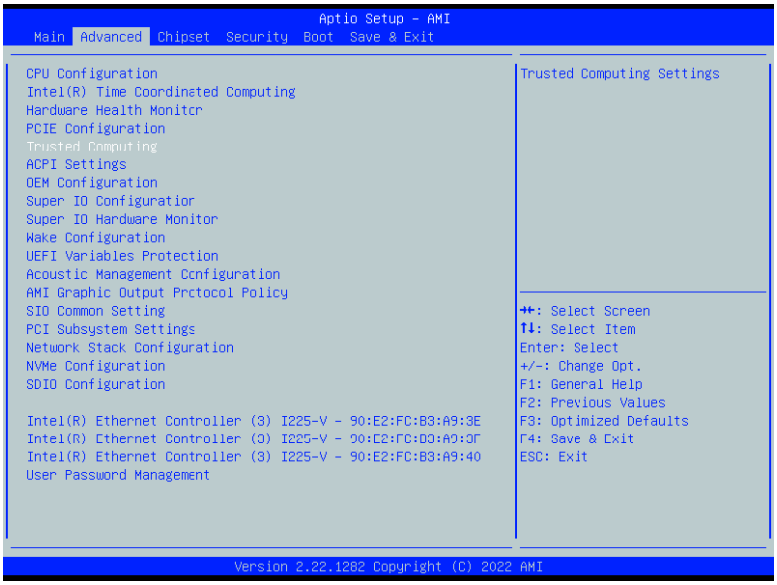
Chapter 4
BIOS Setup

BIOS Access

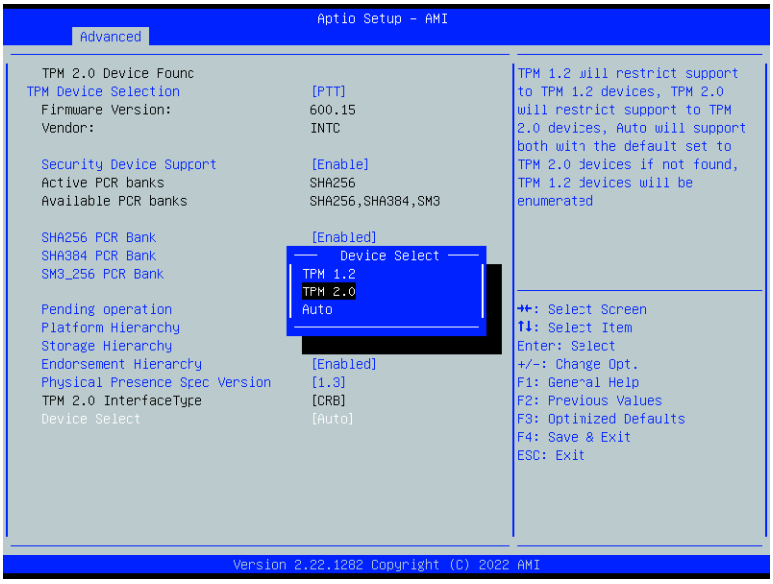
When turning on, press the <DEL> key to enter the BIOS



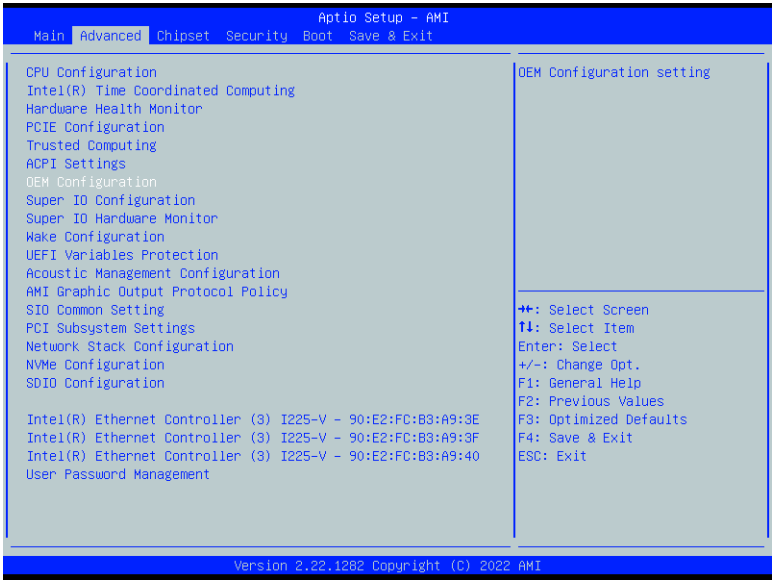
Advanced



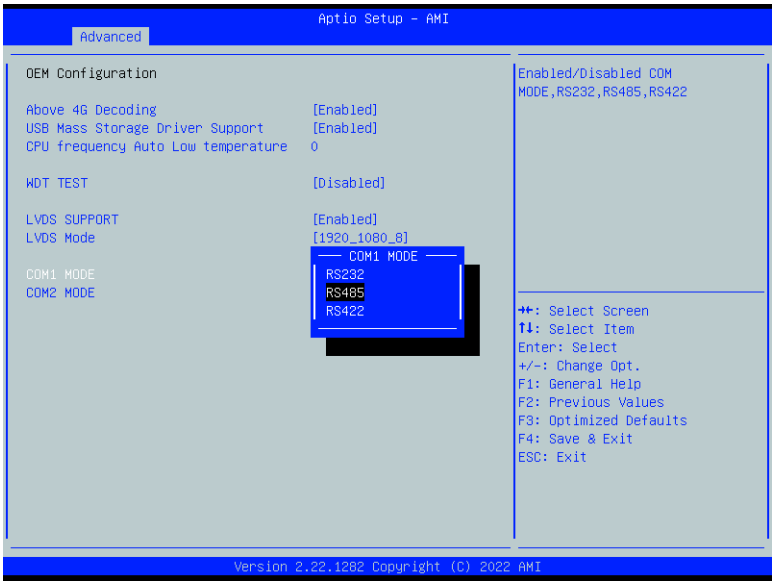
TPM 2.0 UEFI Version



COM Ports Selection



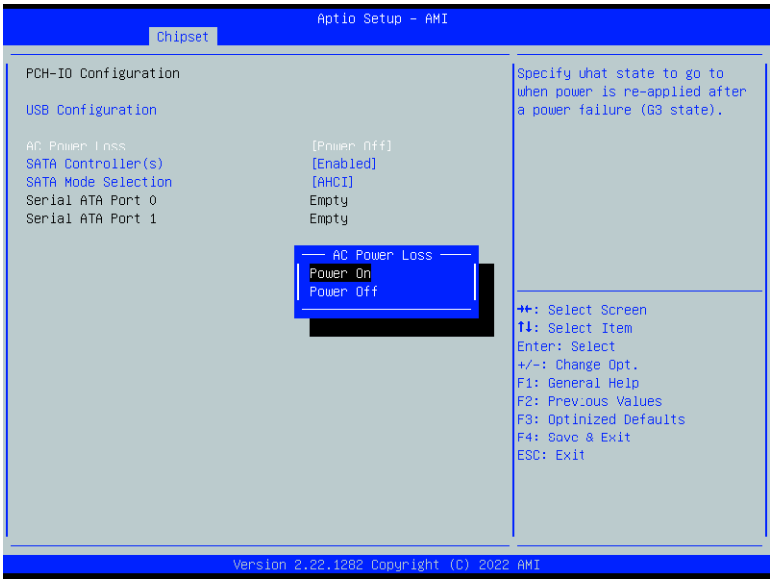
Select “COM1 Mode” and set the COM1 operating mode to RS232, RS422 or RS485.


Aptio Setup – AMI
Advanced
OEM Configuration
Above 4G Decoding [Enabled]
USB Mass Storage Driver Support [Enabled]
CPU frequency Auto Low temperature 0
WDT TEST [Disabled]
LVDS SUPPORT [Enabled]
LVDS Mode [1920_1080_8]
COM1 MODE
COM2 MODE
COM1 MODE
RS232
RS485
RS422
Enabled/Disabled COM MODE,RS232,RS485,RS422
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.22.1282 Copyright (C) 2022 AMI

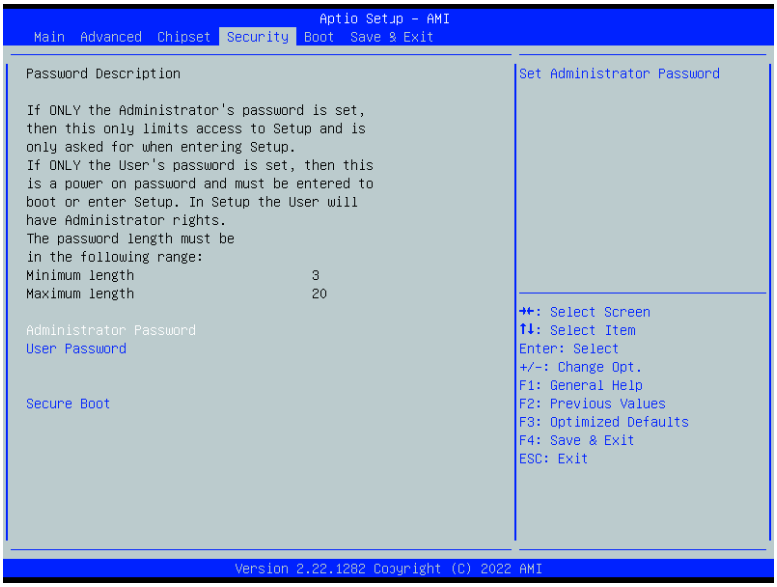
Chipset

Aptio Setup – AMI
Main Advanced Chipset Security Boot Save & Exit
Firmware Configuration [Test]
System Agent (SA) Configuration
PCH-IO Configuration
PCH Parameters
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.22.1282 Copyright (C) 2022 AMI

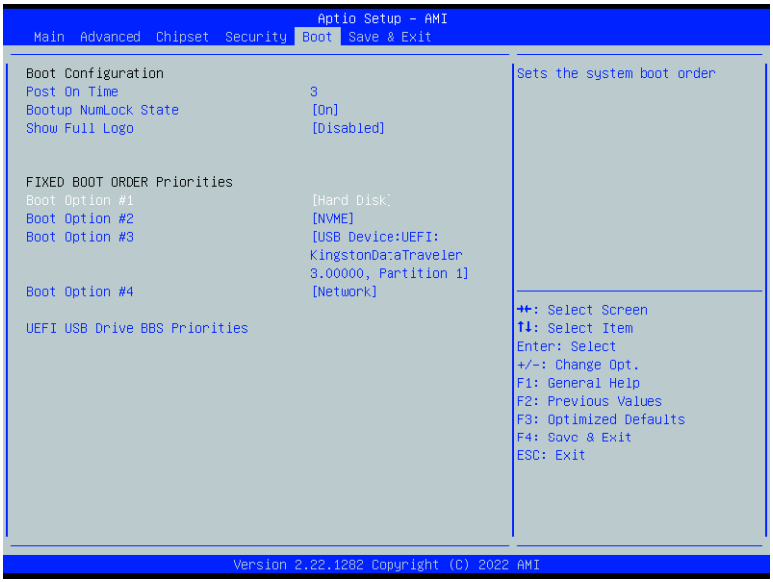
Turning the computer on power



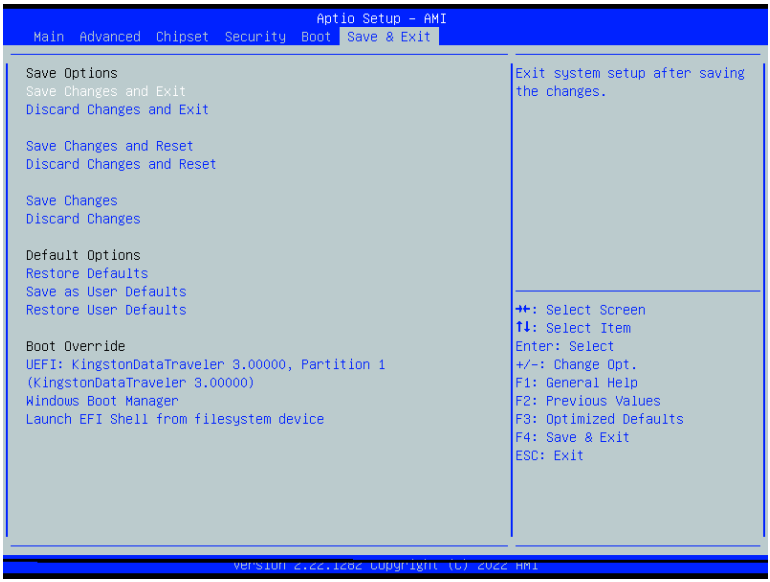
Security


Aptio Setup – AMI
Main Advanced Chipset Security Boot Save & Exit
Password Description
If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup.
If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights.
The password length must be in the following range:
Minimum length 3
Maximum length 20
Administrator Password
User Password
Secure Boot
Set Administrator Password
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.22.1282 Copyright (C) 2022 AMI

Boot


Aptio Setup – AMI
Main Advanced Chipset Security Boot Save & Exit
Boot Configuration
Post On Time 3
Bootup NumLock State [On]
Show Full Logo [Disabled]
FIXED BOOT ORDER Priorities
Boot Option #1 [Hard Disk]
Boot Option #2 [NVME]
Boot Option #3 [USB Device:UEFI: KingstonDataTraveler 3.00000, Partition 1]
Boot Option #4 [Network]
UEFI USB Drive BBS Priorities
Sets the system boot order
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.22.1282 Copyright (C) 2022 AMI

Save and exit

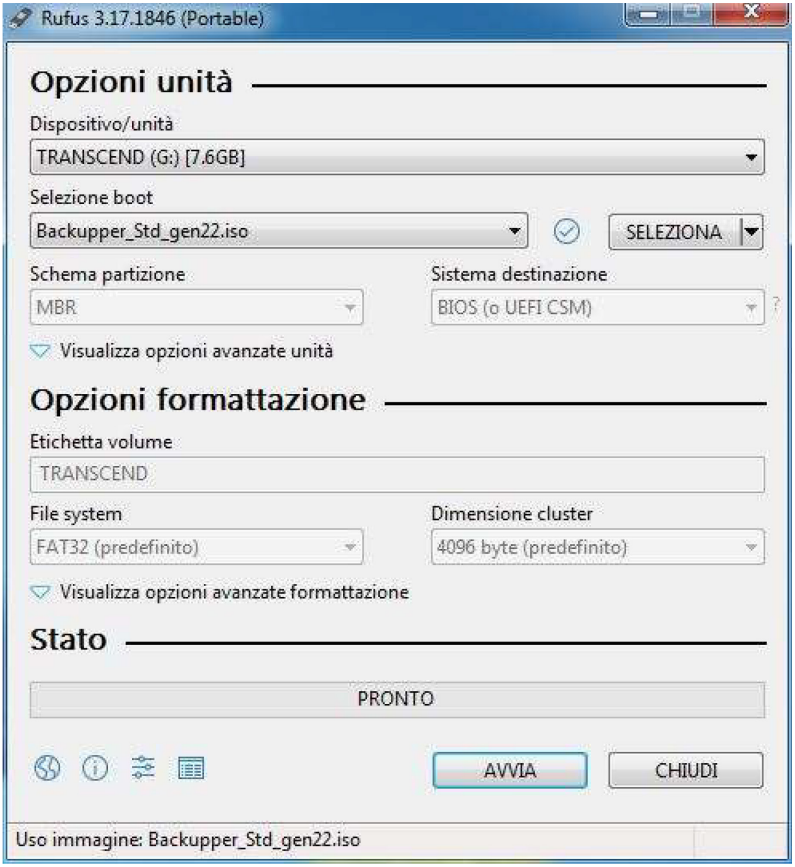


Chapter 5
Software Installation

Chapter 7
Operating System Recovery

Bootable key creation with Aomei Backupper 6.7.0

Create a boot key using the Rufus utility, available at https://rufus.ie/it/, and download the portable version.
Launch Rufus with the USB stick to be formatted already inserted, select the Backupper_Std_670_gen22.iso file



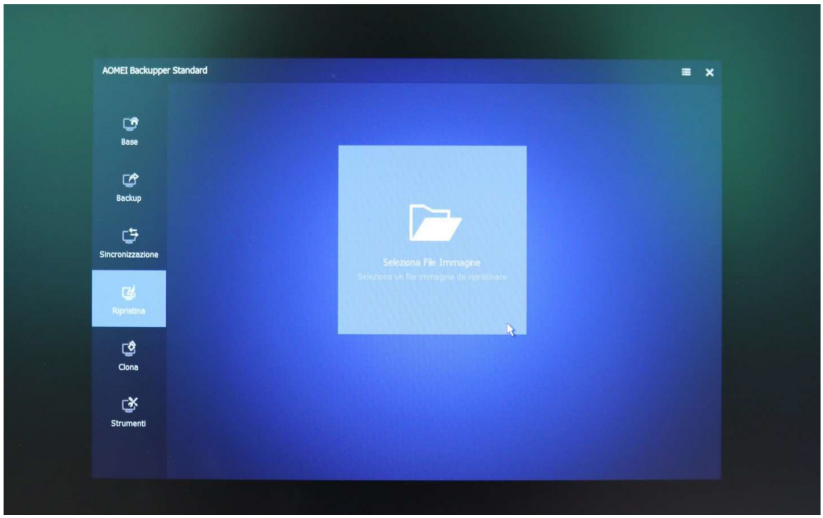
Confirm operation with **Start/Launch**.

Starting Operating System Recovery

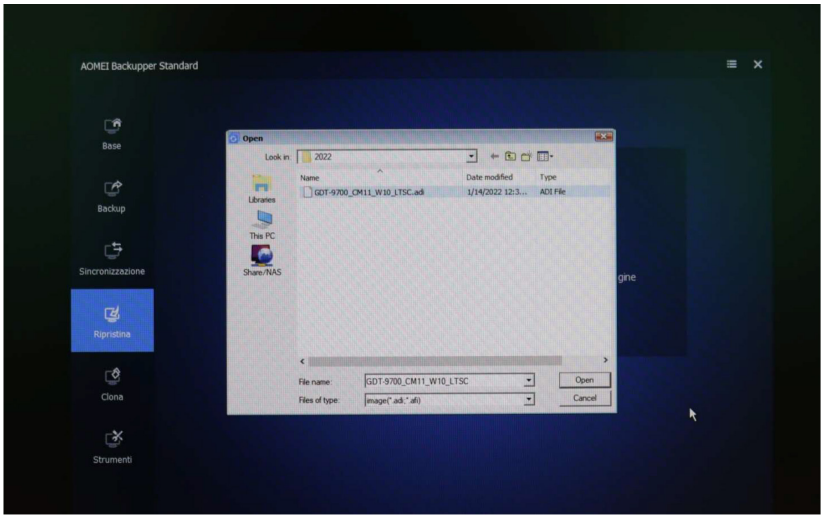
Insert the USB stick into the system to be restored, when turning it on press **F7** for the Boot device and select:

- **UEFI: USB name**

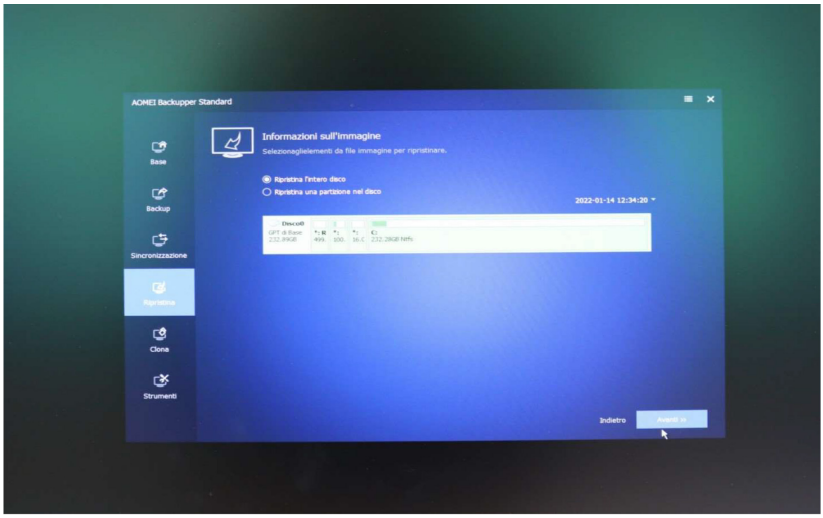
Once the AOMEI_Backupper graphical interface has started, close the screen with the offer, select the **Restore and Image File Selection** task**.**



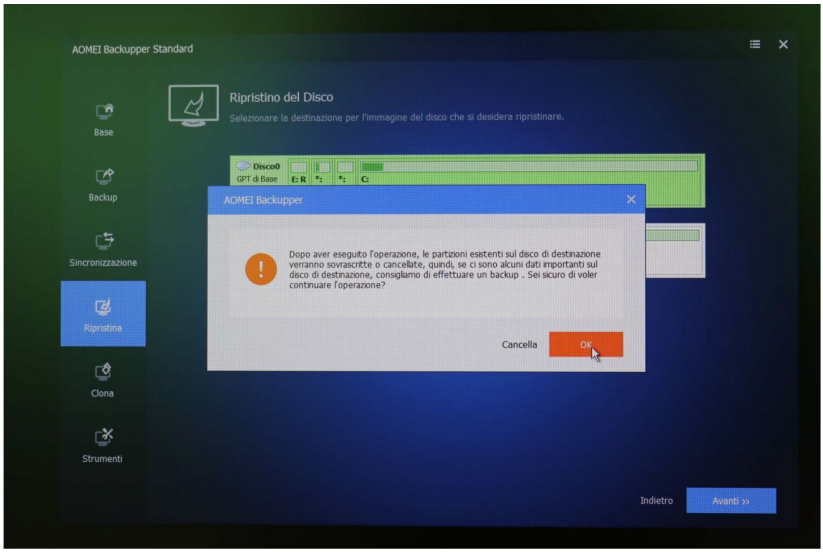
Browse external disk and select the "WTC6E_W10_Pro_21H1_*Ita/Eng*" file, confirm with **Open**.



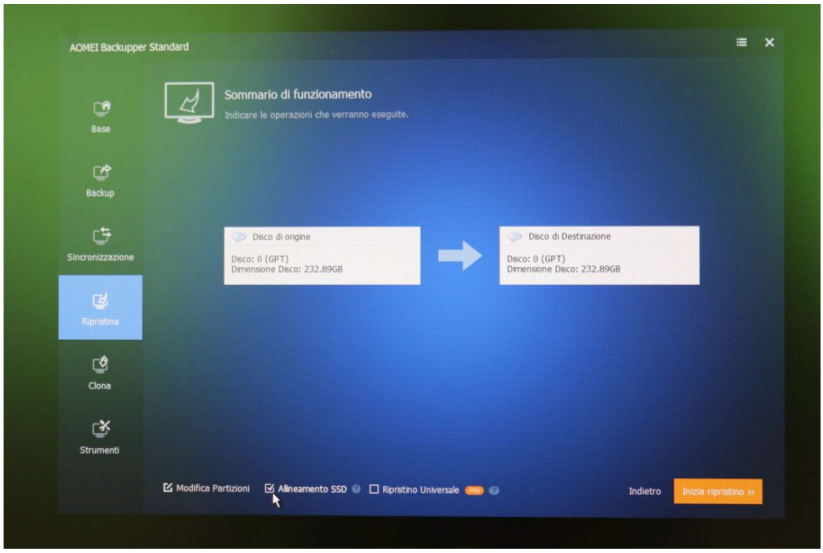
Check that "Restore entire disk" is checked, click on the Disk 0 box, it turns green, and confirm with **Next**.



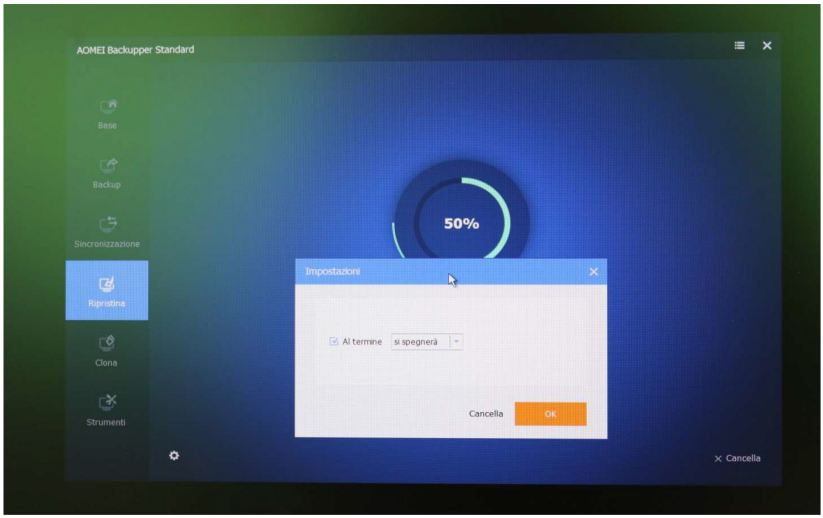
Check that Disk0 is highlighted (green), continue with **Next**, and confirm the overwriting with **OK**.



On the final screen, check **SSD Alignment** and start the operation with **Start recovery >>**



With the restore operation in progress, click on the cogwheel and check **When finished** (it will go out), confirm with **OK**.



Once the activity is finished, the PC will turn off. (disconnect external USB drives)

End of Procedure

When you turn it back on, the system will start with the initial Windows configuration, with the request to select country - language, etc...

Chapter 8
Technical Features

General		
Processor	Intel® Celeron J6412 Quad-Core 2.60 GHz 1.5MB L2 Cache	
RAM	DDR4L 3200 MHz 4GB, up to 32GB	
Power Supply	External AC100-240V~50/60Hz, 1.5A	
Integrated Storage	1x mSATA 128GB SSD (256/512GB optional)	
Mounting	VESA 100, wall, arm	
Chassis	High strength aluminum alloy, grey	
Audio	Realtek ALC897	
Network	2x Intel® I211-AT GbE LAN	
WiFi	Optional WiFi+Bluetooth	
TPM	TPM 2.0	
Fanless	Passive heat dissipation	
Video Section		
Graphical Chipset	Intel® UHD graphics for Intel 10th gen. Processors	
Model	15,6” (16:9), 1920x1080 TFT FHD	
Model	**IPC-C012WAC**	**IPC-C156WAC**
Display	12,1” (16:10), 1280x800 LED, 450cd/m2	15,6” (16:9), 1920x1080 FHD LED, 600 cd/m2
Touch	10-Points Multi-touch PCAP	
Strength	≥ 7H	
I/O Ports		
Video	1x HDMI (optional)	
Ethernet	3x LAN	
USB	1x USB 3.0 3x USB 2.0	
COM	2x RS232/422/485 with protection against 8KV electrostatic charges	
Power Supply	DC/IN 9V~36V Terminal Block Connector	
Sizes and Weight		
Sizes (L x P x A)	368 x 315 x 272,5 mm (Panel PC with Base)	
Model	**IPC-C012WAC**	**IPC-C156WAC**
Sizes (L x P x A)	314 x 60 x 216 mm Weight: 3 Kg	400 x 60 x 250 mm Weight: 4,5 Kg
Cut-out	300 x 203 mm	386 x 236 mm
Quality		

Temperature	Operative: -20˚C ~ 70˚C (-4˚F ~ 158˚F) Storage: -20˚C ~ 80˚C (-4˚F ~ 176˚F)
Relative humidity	5%~95%@40°C
Vibration range	5~500Hz, 0,026 G2/Hz, 2,16 Grms, X, Y, Z, 1 hour per axis
IP	IP65 on the front
Certifications	ISO 9001:2015 DESIGN AND PRODUCTION OF PERSONAL COMPUTERS, TOUCH DEVICES, AND ACCESSORIES FOR INDUSTRY AND COMMERCE (IAF 19) EMC: EN 55022 EN 55032:2015+A11:2020 EN 61000-3-2:2019 EN 61000-3-3:2013+A2:2021 EN 55035:2018/A11 IEC 61000-4-2:2008 IEC 61000-4-3:2020 IEC 61000-4-4:2012 IEC 61000-4-5:2014+A1:2017
Compatible Operative Systems	Windows 10/11 IoT, Windows 11 PRO, Linux Ubuntu

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