GOT321A-ELK-WCD

All-in-One 21.5" WXGA TFT Fanless PCT Multi-Touch Panel PC

User's Manual

USER'S MANUAL



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Safety Precautions

Before getting started, please read the following important safety precautions.

- 1. Be sure to ground yourself to prevent static charge when installing any internal components. Use a grounding wrist strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.
- Disconnect the power cord from the GOT321A-ELK-WCD prior to any installation. Be sure both the system and all external devices are turned off. Sudden surge of power could ruin sensitive components. Make sure the GOT321A-ELK-WCD series is properly grounded.
- 3. Make sure the voltage of the power source is correct before connecting the GOT321A-ELK-WCD to any power outlet.
- 4. Turn off system power before cleaning. Clean the system using a cloth only. Do not spray any liquid cleaner directly onto the screen.
- 5. Do not leave the GOT321A-ELK-WCD in an uncontrolled environment where the storage temperature is below -10°C or above 50°C as it may damage the equipment.
- 6. Do not open the system's back cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:
 - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on human body.
 - When handling boards and components, wear a grounding wrist strap available from most electronic component stores.

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| Discl | aimers | | ii |
|-------|-----------|--|-----|
| Safet | y Precau | utions | iii |
| SEC | TION | 1 INTRODUCTION | 1 |
| 1.1 | Genera | al Descriptions | 1 |
| 1.2 | Specifi | cations | 2 |
| 1.3 | Dimens | sions and Outlines | 4 |
| 1.4 | I/O Out | lets | 6 |
| 1.5 | Packin | g List | 6 |
| SEC | TION | 2 HARDWARE INSTALLATION | 8 |
| 2.1 | Board | Layout | 8 |
| 2.2 | Summa | ary of Jumper Settings | 9 |
| | 2.2.1 | Restore BIOS Optimal Defaults (JP1) | 10 |
| 2.3 | Connec | ctors | 11 |
| | 2.3.1 DC | -in Phoenix Power Connector | 12 |
| | 2.3.2 Eth | ernet Connector (CN29, CN21) | 12 |
| | | rial Port Connector (CN27, COM2~3) | |
| | | MI Connector (CN22) | |
| | | B 3.2 Connector (CN24, CN25) | |
| | | K/AT Switch (SSW1) | |
| | | mote Power Switch Connector | |
| | | TA Connector (CN10) | |
| | | TA Power Connector (CN7) ull-Size PCI Express Mini Card Slot (CN16) | |
| | | M Slot (CN14) | |
| | | .2 Key E (CN18) | |
| 2.4 | | ng the Panel PC | |
| | 2.4.1 Par | nel Mount | |
| | | Il Mount (wall mount kit optional) | |
| | 2.4.3 | VESA Mount (Support VESA standard 100x100) | 23 |
| | 2.2.4 Des | sktop Mount (Desktop stand kit optional) | 25 |
| 2.5 | Hardwa | are Installation | 26 |
| | 2.5.1 | Installing an HDD | |
| | 2.5.2 | Installing DRAM | |
| | 2.5.3 | Connecting the Power Input | 30 |
| | | | |

| 3.1 | Starting | 31 |
|-----|-------------------------------------|----|
| 3.2 | Navigation Keys | 31 |
| 3.3 | Main Menu | 32 |
| 3.4 | Advanced Menu | 33 |
| | 3.4.1 Trusted Computing | 34 |
| | 3.4.2 CPU Configuration | 36 |
| | 3.4.3 Storage Configuration | 40 |
| | 3.4.4 USB Configuration | 42 |
| | 3.4.5 F81966 Super IO Configuration | 43 |
| | 3.4.6 Hardware Monitor | 47 |
| 3.5 | Chipset Menu | 48 |
| 3.6 | Security Menu | 49 |
| 3.7 | Boot Menu | 53 |
| 3.8 | Save & Exit Menu | 54 |
| SEC | CTION 4 DRIVER and INSTALLATION | 57 |
| 4.1 | Operating System | 57 |
| | 4.1.1 Driver download | 57 |
| 4.2 | Touch Screen | 58 |
| API | PENDIX A TPM BitLocker SETTINGS | 59 |

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SECTION 1 INTRODUCTION

This section contains general information and detailed specifications of the GOT321A-ELK-WCD, including the following subsections:

Figure 1-1 Front panel of the GOT321A-ELK-WCD



- General Descriptions
- Specifications
- Dimensions and Outlines
- I/O Outlets
- Packing List

1.1 General Descriptions

The GOT321A-ELK-WCD multi-touch panel PC adopts a 21.5-inch FHD TFT LCD with 400nit brightness and supports Intel® Celeron® processor J6412 (Elkhart lake) up to 10W, providing excellent computing performance and thermal resistance. This fanless platform is particularly designed for operation under harsh environments including steel refineries, oil pipes, ships, machine makers, and many more. Having the abilities described below surely makes GOT321A-ELK-WCD the most robust and cost-effective solution.

• Designed for extended operating temperature range and ingress protection

The GOT321W-ELK-WCD's compact industrial design and fanless cooling system allow the panel PC to sustain an extended operating temperature range between -10°C and +50°C, making the system a power-efficient solution. It also features an IP65 front bezel for protection from liquid and dust.

Reliable and stable design

The GOT321A-ELK-WCD is specifically designed for vibration-prone environments, best for the transportation (vehicle, railway, marine) and industrial machinery markets. With a patented anti-vibration design, the GOT321A-ELK-WCD is able to work in operation mode under 1G (5 \sim 500Hz), which has significantly improved system reliability and sustainability.



Heavy-vibration may sometimes cause the LCD screen to flash in white color; however, it won't affect the function of the product.

• WLAN antenna supported (optional)

The GOT321A-ELK-WCD includes two Mini Card slots as an add-on option for connecting to a wireless LAN card under Wi-Fi 4/5/6 protocols or with other LTE applications. These slots also come with three fixed rotational WLAN antennas as optional components for wireless network connection.

• Multi-Touch PCAP touch with 7H surface hardness

The GOT321A-WCD comes with a user friendly multi-PCAP touchscreen display which allows users to operate the panel PC with direct touch. The surface hardness of the touch glass is up to 7H, providing excellent anti-scratch protection.

• Other features

The GOT321A-ELK-WCD features one 260-pin up to DDR4-3200 SODIMM socket to support maximum system memory capacity of up to 32GB, along with one 2.5" wide temperature SATA SSD for storage needs. It also provides a full set of I/O including RS-232/422/485, USB 3.0, audio (line-out), HDMI and VGA output, as well as Gigabit Ethernet. This slim panel PC supports panel mount as the standard installation, plus optional wall mount, VESA mount, and desktop stand mount to offer more installation flexibility.

1.2 Specifications

Main CPU Board

- CPU
- Intel® Celeron® processor J6412 (Elkhart Lake), up to 10W
- System Memory
 - > 1 x DDR4 2133/2400/2666/3200MHz SO-DIMM socket
 - > Maximum memory up to 32GB
- BIOS
 - > AMI UEFI BIOS

I/O System

- Standard I/O
 - > 2 x DB9 half cut bracket (Default)
 - I x COM for RS-232/422/485
 - 4 x USB 3.1(10Gbps)
 - 1 x Power button
 - > 1 x AT/ATX switch
 - > 1 x Grounding hole
 - > 1 x HDMI output
 - > 1 x VGA output
 - > 1 x Audio line out
- Ethernet
 - I x 2.5GBase-T Ethernet with Intel i226-LM (w/TSN); supports Wake-on-LAN, PXE Boot ROM
 - 1 x 10/100/1000 Mbps Ethernet with Intel® i210-AT; supports Wake-on-LAN, PXE Boot ROM

- Expansion
 - > 1 x Full-size PCI-Express Mini Card slot (PCIe / mSATA + USB)
 - > 1 x M.2 Key E 2230 (for Wi-Fi)
- Power connector
 - > 1x Phoenix power connector for DC power input

System Specifications

- 21.5" FHD (1920 x 1080) LCD 400 nits with LED backlight
- Projected capacitive multi-touch
- Fanless design for heat dispensation
- IP65 aluminum front bezel
- Storage
 - > 1 x 2.5" wide temperature SATA SSD (supports 7mm and 9.5mm; removable)
- Weight(Net/Gross)
 - > 7.65kg(16.87lb) / 10.152kg(22.38lb)
- Dimensions
 - > System: 542 mm (21.34") x 59.4 mm (2.3") x 338 mm (10.4")
 - Packing: 720(28.34")(W)*215(8.46")(D)*555(21.85")(H)
- Operating temperatures
 - → -10°C to 50°C (+14°F to +122°F)
- Storage temperatures
 - -10°C to 50°C (+14°F to +122°F)
- Relative humidity
 - > 10% to 95% @ 40°C, Non-condensing
- System power input
 - > DC power input: +9 to 36VDC with Phoenix power connector

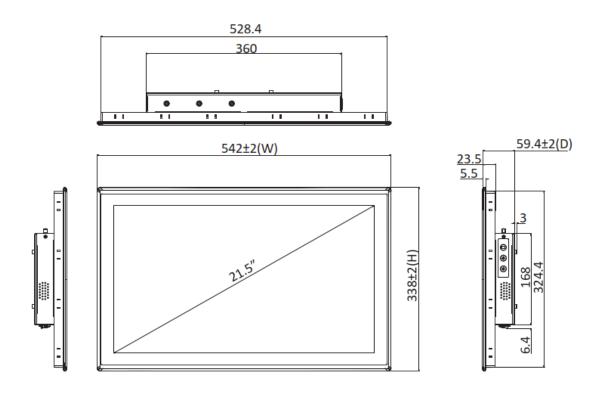


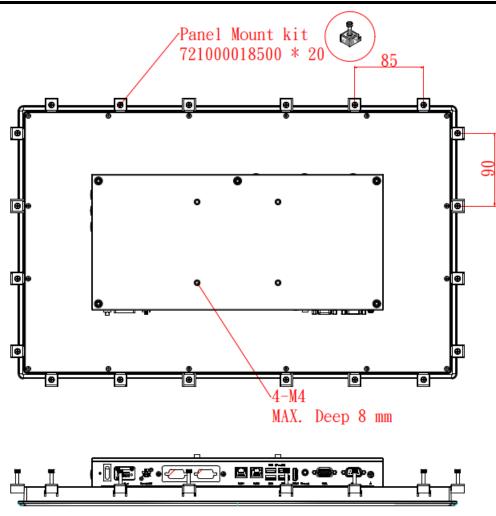
- All specifications and images are subject to change without notice.
- The performance of the system might be adversely affected at an operating temperature above 50°C.

1.3 Dimensions and Outlines

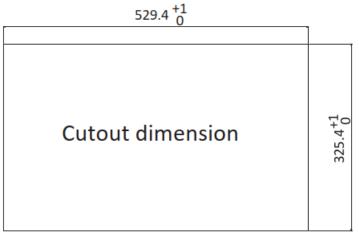
The figures below show the dimensions and outlines of the GOT321A-ELK-WCD panel PC.

Front dimensions: 542 mm (21.34") x 59.4 mm (2.3") x 338 mm (10.4")





Cut-out dimensions of the GOT321A-ELK-WCD



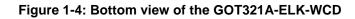
Cut-out dimensions: 529.4 x 325.4 mm

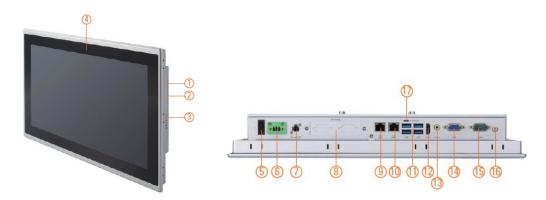


The wall depth limit for panel mount is 6 mm.

1.4 I/O Outlets

Please refer to figure 1-4 for the I/O locations of the GOT321A-ELK-WCD.





| No. | Note. | No. | Note. |
|-----|--|-----|--------------------------|
| 1 | Backlight ON/OFF | 10 | 1x 2.5 Gigabit Ethernet |
| 2 | Brightness Adjust +/- | 11 | 4x USB3.2 Gen2 |
| 3 | Speaker | 12 | 1x HDMI 1.4b out |
| 4 | Proximity and ambient light sensors (optional) | 13 | 1x Line out / MIC |
| 5 | Power Button | 14 | 1x VGA |
| 6 | DC Power Input | 15 | 1x COM for RS232/422/485 |
| 7 | Remote Power Switch | 16 | 1x Grounding hole |
| 8 | Optional flexible IO | 17 | AT/ATX switch |
| | (Default 2x DB9 half cut bracket) | | |
| 9 | 1x 1 Gigabit Ethernet | | |

1.5 Packing List

A complete bundled package should contain the following items:

- GOT321A-ELK-WCD unit x 1
- Phoenix connector (DC power version only)
- Panel mount kit

Please contact an Axiomtek distributor immediately if any of the above-mentioned items is missing.

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SECTION 2

HARDWARE INSTALLATION

The GOT321A-ELK-WCD provides rich I/O ports and flexible expansion features for users to perform various tasks. This section provides detailed information on the hardware components of the panel PC as well as installation instructions, including the following subsections:

- Board Layout
- Jumper and Connector Settings
- Mounting Methods
- Hardware Installation
- Power Input

2.1 Board Layout

Please follow the steps below to open the GOT321A-ELK-WCD unit.

Step 1 Remove the four screws (see red circles in Figure 2-1) on the back cover.



Step 2 Remove the back cover.

Figure 2-2: Board layout

a back cover

Figure 2-1: Back cover



2.2 Summary of Jumper Settings

Proper jumper settings configure the GOT321A-ELK-WCD to meet various application needs. Hereby all jumpers settings along with their default settings are listed for devices onboard.

Figure 2-3: Definitions of pin settings

Proper jumper settings configure the GOT321A-ELK-WCD to meet various application purposes. A table of all jumpers and their default settings is listed below.

| Jumper | Jumper Descriptions | |
|--------|--|------------|
| JP1 | Restore BIOS optional defaults (Clear CMOS) Default: normal operation | 1-2 closed |

That a cap on a jumper is to "close" the jumper, whereas that offs a jumper is to "open" the jumper.

[Note] : How to setup Jumpers



2.2.1 Restore BIOS Optimal Defaults (JP1)

Put jumper clip to pin 2-3 for a few seconds then move it back to pin 1-2. This procedure is to restore BIOS optimal defaults.

| Function | Setting |
|----------------------------|------------|
| Normal operation (default) | 1-2 closed |
| Clear RTC | 2-3 closed |

2.3 Connectors

Please refer to below connector table to get their pin assignments

| External connectors | Sections |
|----------------------------------|----------|
| DC-in Phoenix Power Connector | 2.3.1 |
| Ethernet Connector | 2.3.2 |
| Serial Port Connector | 2.3.3 |
| HDMI Connector | 2.3.4 |
| USB 3.2 Connector | 2.3.5 |
| ATX Switch Connector | 2.3.6 |
| Remote Power Switch Connector | 2.3.7 |
| Internal Connectors | Sections |
| SATA Signal Connector | 2.3.8 |
| SATA Power Connector | 2.3.9 |
| Full-Size Express Mini Card slot | 2.3.10 |
| SIM Slot | 2.3.11 |
| Lin/Mic in connector | 2.3.12 |
| M.2 Key E | 2.3.13 |

2.3.1 DC-in Phoenix Power Connector

The system supports 9~36V Phoenix DC-in connector for system power input.

| Pins | Signals |
|------|---------|
| 1 | DC+ |
| 2 | GND |
| 3 | DC- |



2.3.2 Ethernet Connector (CN29, CN21)

The GOT321A-ELK-WCD has two RJ-45 connectors: LAN1 and LAN2. LAN1 is designed by Intel i210-AT and LAN2 is Intel i226.

| Pin | 1000 Base-T | 100/10 Base-T | Description | |
|-----|--|------------------|---------------------------------|--|
| L1 | BI_DA+ | TX+ | Bidirectional or Transmit Data+ | |
| L2 | BI_DA- | TX- | Bidirectional or Transmit Data- | |
| L3 | BI_DB+ | RX+ | Bidirectional or Receive Data+ | |
| L4 | BI_DC+ | N.C. | Bidirectional or Not Connected | |
| L5 | BI_DC- | N.C. | Bidirectional or Not Connected | |
| L6 | BI_DB- | RX- | Bidirectional or Receive Data- | |
| L7 | BI_DD+ | N.C. | Bidirectional or Not Connected | |
| L8 | BI_DD- | N.C. | Bidirectional or Not Connected | |
| A | Active Link LED (Yellow) Off: No link Blinking: Data activity detected | | | |
| В | Speed LED 1000: Orange 100/10: Green/OFF | | | |

Table 2-5 Pin assignment for LAN1 (CN29)



1G LAN1

Table 2-6 Pin assignment for LAN2 (CN21)

| Pin | 2500/1000 Base-T | 100/10 Base-T | Description |
|-----|--|------------------|---------------------------------|
| L1 | BI_DA+ | TX+ | Bidirectional or Transmit Data+ |
| L2 | BI_DA- | TX- | Bidirectional or Transmit Data- |
| L3 | BI_DB+ | RX+ | Bidirectional or Receive Data+ |
| L4 | BI_DC+ | N.C. | Bidirectional or Not Connected |
| L5 | BI_DC- | N.C. | Bidirectional or Not Connected |
| L6 | BI_DB- | RX- | Bidirectional or Receive Data- |
| L7 | BI_DD+ | N.C. | Bidirectional or Not Connected |
| L8 | BI_DD- | N.C. | Bidirectional or Not Connected |
| A | Active Link LED (Yellow) Off: No link Blinking: Data activity detected | | |
| В | Speed LED 2500: Green 1000: Orange 100/10: OFF | | |



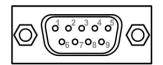
2.5G LAN2

2.3.3 Serial Port Connector (CN27, COM2~3)

The system has two serial ports. COM1 is RS-232/422/485 ports and COM2~COM3 (optional) are RS-232. Please refer to Chapter 4 for the detail of BIOS setting.

| Pin | RS-232 | RS-422 | RS-485 |
|-----|--------|--------|--------|
| 1 | DCD | TX- | Data- |
| 2 | RXD | TX+ | Data+ |
| 3 | TXD | RX+ | N/C |
| 4 | DTR | RX- | N/C |
| 5 | GND | GND | GND |
| 6 | DSR | N/C | N/C |
| 7 | RTS | N/C | N/C |
| 8 | CTS | N/C | N/C |
| 9 | RI | N/C | N/C |

Table 2-4 Pin assignment for RS-232/ 422/ 485



2.3.4 HDMI Connector (CN22)

The HDMI (High-Definition Multimedia Interface) is a compact digital interface which is capable of transmitting high-definition video and high-resolution audio over a single cable.

| Pin | Signals | Pin | Signals |
|-----|-----------------|-----|-----------------|
| 1 | HDMI OUT_DATA2+ | 11 | GND |
| 2 | GND | 12 | HDMI OUT Clock- |
| 3 | HDMI OUT_DATA2- | 13 | N.C. |
| 4 | HDMI OUT_DATA1+ | 14 | N.C. |
| 5 | GND | 15 | HDMI OUT_SCL |
| 6 | HDMI OUT_DATA1- | 16 | HDMI OUT_SDA |
| 7 | HDMI OUT_DATA0+ | 17 | GND |
| 8 | GND | 18 | +5V |
| 9 | HDMI OUT_DATA0- | 19 | HDMI_HTPLG |
| 10 | HDMI OUT Clock+ | | |



2.3.5 USB 3.2 Connector (CN24, CN25)

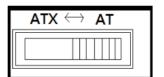
The system has four USB port, four ports compliant with USB 3.2 gen2 (10GB/s), and ideally for installing USB peripherals such as scanner, camera, and USB devices, etc.

| Pin | Signal USB Port 0 | Pin | Signal USB Port 1 |
|-----|-----------------------------------|-----|---|
| 1 | USB_VCC (+5V level standby power) | 10 | USB_VCC (+5V level standby power) |
| 2 | USB_Data- | 11 | USB_Data- |
| 3 | USB_Data+ | 12 | USB_Data+ |
| 4 | GND | 13 | GND |
| 5 | SSRX- | 14 | SSRX- |
| 6 | SSRX+ | 15 | SSRX+ |
| 7 | GND | 16 | GND |
| 8 | SSTX- | 17 | SSRX- |
| 9 | SSTX+ | 18 | SSRX+ |



2.3.6 ATX/AT Switch (SSW1)

If you set ATX /AT switch to AT mode, the system will be automatically power on without pressing soft power button during power input; we can use this switch to achieve auto power on demand.



2.3.7 Remote Power Switch Connector

One 2-pin connector output for remote power on/off switch.

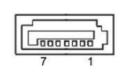
| Functions | Description | | |
|------------|--------------------|--|--|
| Short(1-2) | Turn on/off system | | |
| Open | Keep system status | | |

| 2 1 | |
|--------|--|
| | |

2.3.8 SATA Connector (CN10)

These Serial Advanced Technology Attachment (Serial ATA or SATA) connectors are for highspeed SATA interfaces. They are computer bus interfaces for connecting to devices such as hard disk drives. This board has two SATA 3.0 ports with 6Gb/s performance.

| Pins | Signals |
|------|----------|
| 1 | GND |
| 2 | SATA_TX+ |
| 3 | SATA_TX- |
| 4 | GND |
| 5 | SATA_RX- |
| 6 | SATA_RX+ |
| 7 | GND |



3.3.9 SATA Power Connector (CN7)

Based on CN7 to offer the SATA power for SATA 2.5" SSD.

| Pins | Signals | | |
|------|-----------|--|--|
| 1 | +5V level | | |
| 2 | GND | | |

| | +5v |
|---|-----|
| 2 | 1 |
| 0 | |
| | |

3.3.10 Full-Size PCI Express Mini Card Slot (CN16)

The GOT321A-ELK-WCD supports one full-size PCI-Express Mini Card slots. CN16 is applying for PCI-Express or SATA (mSATA) via BIOS selection and USB signals; PCI-Express complies with PCI-Express Mini Card Spec. V1.2. Thus, users can install mSATA or WLAN/WWAN cards into this slot. Please refer to the SATA of BIOS setting to enable or disable mSATA supported.

| Pin | Signal | Pin | Signal |
|-----|------------------|-----|------------|
| 1 | WAKE# | 2 | +3.3VSB |
| 3 | No use | 4 | GND |
| 5 | No use | 6 | +1.5V |
| 7 | CLKREQ# 8 No use | 8 | UIM_PWR |
| 9 | GND | 10 | UIM_DATA |
| 11 | REFCLK- | 12 | UIM_CLK |
| 13 | REFCLK+ | 14 | UIM_RESET |
| 15 | GND | 16 | UIM_VPP |
| 17 | No use | 18 | GND |
| 19 | No use | 20 | W_DISABLE# |
| 21 | GND | 22 | PERST# |
| 23 | PE_RXN3/ | 24 | +3.3VSB |
| 25 | PE_RXP3/ | 26 | GND |
| 27 | GND | 28 | +1.5V |
| 29 | GND | 30 | SMB_CLK |
| 31 | PE_TXN3/ | 32 | SMB_DATA |
| 33 | SATA_TXN | 34 | GND |
| 35 | GND | 36 | USB_D8- |
| 37 | GND | 38 | USB_D8+ |
| 39 | +3.3VSB | 40 | GND |
| 41 | +3.3VSB | 42 | No use |
| 43 | GND | 44 | No use |
| 45 | No use | 46 | No use |
| 47 | No use | 48 | +1.5V |
| 49 | No use | 50 | GND |
| 51 | No use | 52 | +3.3VSB |

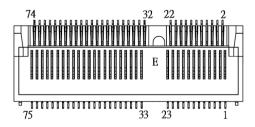
3.3.11 SIM Slot (CN16) The GOT321A-ELK-WCD has one SIM slots: CN16 on top side that support mini PCIe slot (for CN16). It is mainly used in wireless network application.

| Pin | Signal |
|-----|--------|
| 1 | PWR |
| 2 | RST |
| 3 | CLK |
| 4 | NC |
| 5 | GND |
| 6 | VPP |
| 7 | I/O |
| 8 | NC |



3.3.12 M.2 Key E (CN18) The M.2 Key E for Wireless Module.

| Pin | Signal | Pin | Signal | Pin | Signal | Pin | Signal |
|-----|--------------------|-----|--------------------|-----|--------------------|-----|--------------------|
| 1 | GND | 2 | +3.3V | 3 | USB_D+ | 4 | +3.3V |
| 5 | USB_D- | 6 | NC | 7 | GND | 8 | NC |
| 9 | NC | 10 | NC | 11 | NC | 12 | NC |
| 13 | NC | 14 | NC | 15 | NC | 16 | NC |
| 17 | NC | 18 | GND | 19 | NC | 20 | NC |
| 21 | NC | 22 | NC | 23 | NC | 24 | CONNECTOR KEY E |
| 25 | CONNECTOR KEY E | 26 | CONNECTOR KEY E | 27 | CONNECTOR KEY E | 28 | CONNECTOR KEY E |
| 29 | CONNECTOR KEY E | 30 | CONNECTOR KEY E | 31 | CONNECTOR KEY E | 32 | NC |
| 33 | GND | 34 | NC | 35 | PETp0 | 36 | NC |
| 37 | PETn0 | 38 | NC | 39 | GND | 40 | NC |
| 41 | PERp0 | 42 | NC | 43 | PERn0 | 44 | NC |
| 45 | GND | 46 | NC | 47 | REFCLKp0 | 48 | NC |
| 49 | REFCLKn0 | 50 | SUSCLK | 51 | GND | 52 | PERST0# |
| 53 | CLKREQ0# | 54 | W_DISABLE2# | 55 | PEWAKE0# | 56 | W_DISABLE1# |
| 57 | GND | 58 | NC | 59 | NC | 60 | NC |
| 61 | NC | 62 | NC | 63 | GND | 64 | NC |
| 65 | NC | 66 | NC | 67 | NC | 68 | NC |
| 69 | GND | 70 | NC | 71 | NC | 72 | +3.3V |
| 73 | NC | 74 | +3.3V | 75 | GND | | |



2.4 Mounting the Panel PC



Only trained and qualified technicians are permitted to mount the product. To prevent accidental damage to the product or human injury when mounting the product, at least two people are required to perform the installation.

The GOT321A-ELK-WCD panel PC supports four types of mounting methods.

- Panel mount
- Wall mount (wall mount kit optional)
- VESA mount (support VESA standard 100x100)
- Desktop mount (Desktop stand kit optional)

2.4.1 Panel Mount

A set of standard panel mount kits, including screws and particular hook brackets for panel mounting, are bundled with the monitor package. Use the panel mount kits to mount the GOT321A-ELK-WCD into a panel.

- Step 1 Prepare a panel frame to accommodate the panel PC. Ensure that the cutout of the frame perfectly fits the monitor's dimensions.
- Step 2 Put the panel PC into the cutout on the front side of the frame, with the panel PC's front bezel facing the outside, as shown in Figure 2-4.

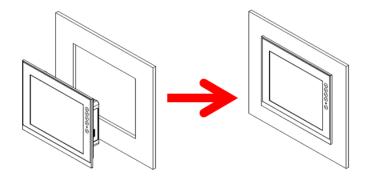


Figure 2-4: Fitting the panel PC into a frame.

Step 3 Locate the screwing holes and the positions of the hook brackets on the back side of the panel PC, as shown in the Figure 2-5.

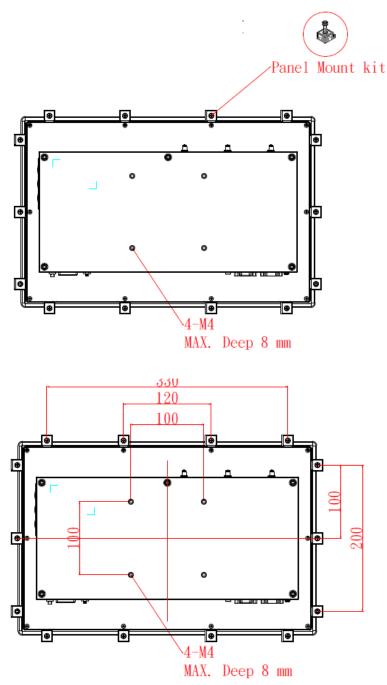


Figure 2-5: Panel mount dimensions (back chassis)

Step 4 As Figure 2-6 below illustrates, use the panel mount kits to secure the panel PC in the panel frame. Insert the screws through the hook brackets into the corresponding holes on the back chassis of the panel PC. Tighten the screws to fix the panel PC firmly into the panel frame.

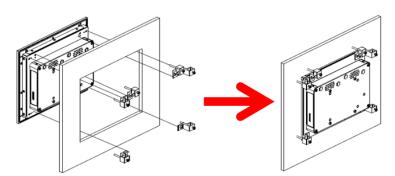


Figure 2-6: Screwing the Panel PC firmly to the panel frame.

2.4.2 Wall Mount (wall mount kit optional)

The GOT321A-ELK-WCD can be mounted onto a wall using the wall mount bracket.

Step 1 On the back chassis of the panel PC, locate the screwing holes for assembling the wall mount bracket, as shown in Figure 2-7.

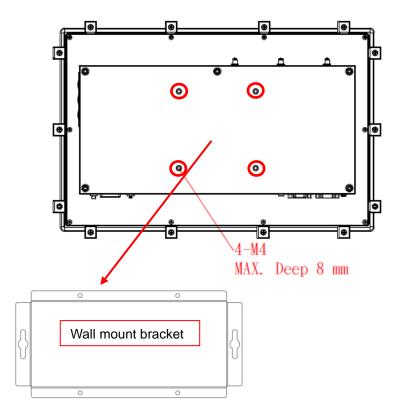


Figure 2-7: Wall mount screwing holes on the back chassis

Step 2 Attach the wall mount bracket to the back of the panel PC by aligning the screwing openings on the top and bottom edges of the bracket with the screwing holes on the back chassis. Then screw the bracket firmly to the back of the panel PC, as illustrated in Figure 2-8.

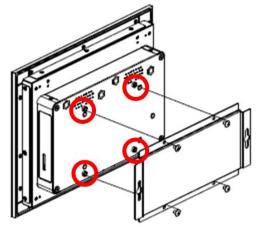


Figure 2-8: Attaching the wall mount bracket

Step 3 Select an appropriate location on the wall to mount the panel PC, as illustrated below.

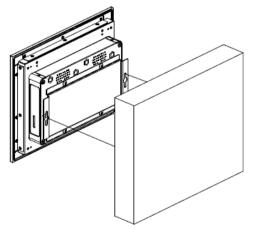
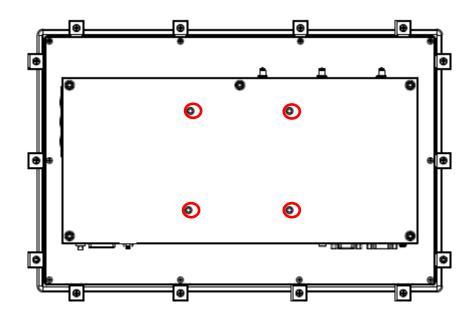


Figure 2-9: Mounting the panel PC on the wall

2.4.3 VESA Mount (Support VESA standard 100x100)

Alternatively, the GOT321A-ELK-WCD supports VESA arm mount by using a VESA arm kit attached to the back, allowing users to tilt or rotate the panel PC for best visibility. Refer to the following steps when adopting VESA arm mount for the panel PC.



Step 1 Locate the four screwing holes on the back side of the panel PC.

Figure 2-10: VESA mount screwing holes on the back chassis

Step 2 As illustrated below, assemble the VESA arm kit to the back chassis of the panel PC. Tighten the four screws to fasten the VESA arm kit firmly to the back chassis.

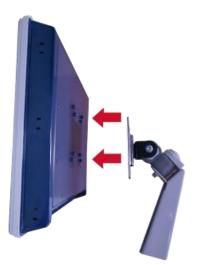


Figure 2-11: Assembling the VESA arm kit to the panel PC

2.2.4 Desktop Mount (Desktop stand kit optional)

Desktop mount is used to mount the GOT321A-ELK-WCD on the desk using a desktop stand. After assembling the desktop mount kit to the back of the panel PC, users can mount the unit on the desk.

- Step 1 Locate the screwing openings on the desktop mount bracket, as marked in the figure below.
- Step 2 As illustrated, assemble the stand to the desktop mount bracket on the back of the panel PC. Tighten the screws firmly into the screwing spots to secure the stand in place.

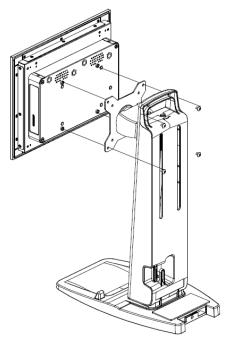


Figure 2-12: Assembling the desktop stand to the panel PC

2.5 Hardware Installation

2.5.1 Installing an HDD

The GOT321A-ELK-WCD, Please follow the steps below to install the SSD:

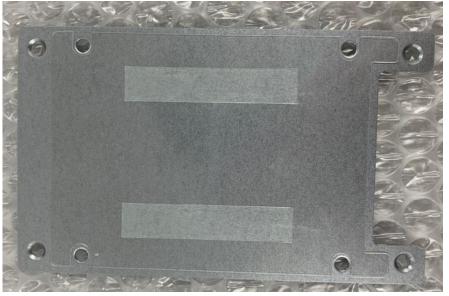
Step 1 Refer to Section 2.1 to open the back cover

Step 2 Unfasten the bracket screw

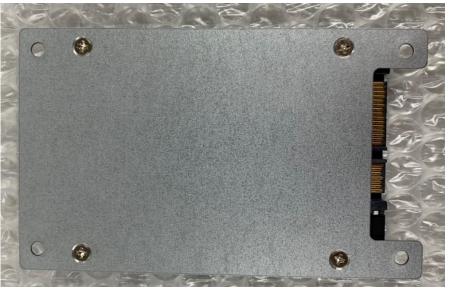
<image>

Figure 2-13: Remove the Storage tray

- Step 3 Insert the 2.5" HDD into the bracket and fasten the four screws on the bottom side of the bracket to hold the HDD firmly to the bracket.
- Step 4 Check whether the Mylar insulating sheet is attached to the BK_HDD



Step 5 Use the M3*4L nickel-plated screw (75211630400E*4) in the accessory bag to lock the HDD & SSD



Step 6 BK_HDD with the nickel-plated screw on the dish head used to lock the BK_HDD.



Step 7 Plug the "SATA + Power" connector into the HDD.



Please keep the SATA cable bent in a circular arc to avoid excessive bending of the SATA cable and cause damage to the cable.

2.5.2 Installing DRAM

The GOT321A-WCD provides one 260-pin DDR4 SO-DIMM socket that supports system memory up to 32GB. Please follow the steps below to install a memory module:

- Step 1 Refer to Section 2.1 to open the back cover.
- Step 2 Locate the DIMM socket on the mainboard, as shown in Figure 2-9.
- Step 3 To ensure correct installation, align the memory module with the socket so that the notches of the memory module can match the socket keys.
- Step 4 Insert the module's gold contacts into the DIMM socket and then push the module down until it is clipped in place by the socket.





Figure 2-15: Installing a memory module



The platform after replacing the memory, it will take a while for the first boot. 2GB ~ 16GB SODIMM needs to wait 34 seconds

32GB ~ 16GB SODIMM needs to wait 34 sec 32GB SODIMM takes 65 seconds.

2.5.3 Connecting the Power Input

The GOT321A-ELK-WCD is equipped with a Phoenix type power connector which supports 9-36VDC. Please follow the signs on the power connector to connect to DC power source (see Figure 2-16).

Figure 2-22: Power connector





The safety ground must be connected to ensure that the unit works appropriately.

SECTION 3 AMI BIOS SETUP UTILITY

This section provides users with detailed descriptions about how to set up basic system configurations through the AMI BIOS setup utility.

3.1 Starting

To enter the setup screens, follow the steps below:

- 1. Turn on the computer and press the key immediately.
- 2. After pressing the key, the main BIOS setup menu displays. Users can access to other setup screens, such as the Advanced and Chipset menus, from the main BIOS setup menu.

3.2 Navigation Keys

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process. These keys include <F1>, <F2>, <Enter>, <ESC>, <Arrow> keys, and so on.



Some of the navigation keys differ from one screen to another.

| Hot Keys | Description |
|--------------------|---|
| →← Left/Right | The Left and Right < Arrow> keys allow you to select a setup screen. |
| ↑ ↓ Up/Down | The Up and Down <arrow> keys allow you to select a setup screen or sub screen.</arrow> |
| Enter | The <enter> key allows you to display or change the setup option listed for a particular setup item. The <enter> key can also allow you to display the setup sub screens.</enter></enter> |
| +– Plus/Minus | The Plus and Minus <arrow> keys allow you to change the field value of a particular setup item.</arrow> |
| F1 | The <f1> key allows you to display the General Help screen.</f1> |
| F2 | The <f2> key allows you to Load Previous Values.</f2> |
| F3 | The <f3> key allows you to Load Optimized Defaults.</f3> |
| F4 | The <f4> key allows you to save any changes you have made and exit Setup. Press the <f4> key to save your changes.</f4></f4> |
| Esc | The <esc> key allows you to discard any changes you have made and exit the Setup. Press the <esc> key to exit the setup without saving your changes.</esc></esc> |

Table 3-1 Descriptions of hot keys

3.3 Main Menu

When you first enter the setup utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. System Time/Date can be set up as described below. The Main BIOS setup screen is shown below



BIOS Information

Display the BIOS information.

System Date/Time

Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

Access Level

Display the access level of the current user.

Board Information

Display the board information.

3.4 Advanced Menu

The Advanced menu allows users to configure the CPU and other system devices. You can select any of the items in the left frame of the screen to go to the sub menus

- Trusted Computing
- CPU Configuration
- Storage Configuration
- USB Configuration
- ► F81966 Super IO Configuration
- ► Hardware Monitor

For items marked with "▶", please press <Enter> for more options.

| Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit | |
|---|---|
| Trusted Computing CPU Configuration Storage Configuration USB Configuration F81966 Super IO Configuration Hardware Monitor | Trusted Computing Settings |
| | <pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre> |
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3.4.1 Trusted Computing

If the user install a security device, such as TPM, the system will show the following TPM device information and functions for specifying the TPM settings.

Security Device Support

Enable or disable BIOS support for the security device. OS will not show security device. TCG EFI protocol and INT1A interface will not be available.

| Advanced | Aptio Setup – AMI | I |
|---|--|---|
| TPM 2.0 Device Found Firmware Version: Vendor: Security Device Support Active PCR banks Available PCR banks Pending operation | 1.258 STM [Enable] SHA256 SHA256 [None] | Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available. |
| | | <pre>++: Select Screen f4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre> |
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Pending operation Schedule an operation for the security device, as shown in the image below. - None

- -
 - TPM Clear: Clear all data secured by TPM.

| Advanced | Aptio Setup – AMI | |
|---|--|--|
| TPM 2.0 Device Found Firmware Version: Vendor: Security Device Support Active PCR banks Available PCR banks Pending operation | 1.258 STM [Enable] SHA256 SHA256 [None] | Schedule an Operation for the Security Device. NOTE: Your Computer will reboot during restart in order to change State of Security Device. |
| | Pending operation None TPM Clear | ++: Select Screen ++: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| Ven | sion 2.22.1282 Copyright () | C) 2022 AMI |

3.4.2 CPU Configuration

Intel (VMX) Virtualization Technology

Enable or disable Intel Virtualization Technology. When enabled, a VMM (Virtual Machine Mode) can utilize the additional hardware capabilities. It allows a platform to run multiple operating systems and applications independently, hence enabling a single computer system to work as several virtual systems.

Below shows a page of CPU configuration with item Intel Virtualization Technology [enable/disable] highlighted.

| Advanced | Aptio Setup – AMI | |
|---|--|---|
| CPU Configuration | | When enabled, a VMM can utilize the additional |
| Type ID Speed L1 Data Cache L1 Instruction Cache L2 Cache L3 Cache L4 Cache VMX SMX/TXT Package C State Limit Intel (VMX) Virtualization Technology Intel(R) SpeedStep(tm) Turbo Mode | <pre>Intel(R) Celeron(R) J6412 @ 2.00GHz 0x90661 2000 MHz 32 KB × 4 32 KB × 4 1536 KB × 4 4 MB N/A Supported Not Supported [C0/C1] [Enabled] [Enabled] [Enabled]</pre> | <pre>++: Select Screen ++: Select Screen ++: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre> |
| Levens: Vers: | ion 2.22.1282 Copyright (C) 2 | 2022 AMI |

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| Advanced | Aptio Setup – AMI | |
|---|--|---|
| CPU Configuration | | When enabled, a VMM can utilize the additional |
| Type ID Speed L1 Data Cache L1 Instruction Cache L2 Cache L3 Cache L4 Cache Inte | Intel(R) Celeron(R) J6412 @ 2.00GHz 0×90661 2000 MHz 32 KB × 4 32 KB × 4 1536 KB × 4 4 MB 1 (VMX) Virtualization Techn | hardware capabilities provided by Vanderpool Technology. |
| VMX Disable SMX/TXT Enabled | | |
| Package C State Limit | | t Screen t Item |
| Intel (VMX) Virtualization Technology | [Enabled] | Enter: Select +/-: Change Opt. |
| Intel(R) SpeedStep(tm) Turbo Mode | [Enabled] [Enabled] | F1: General Help F2: Previous Values |
| Disable Turbo GT frequency Boot performance mode | [Disabled] [Disabled] [Turbo Performance] | F3: Previous values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
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Intel(R) SpeedStep(tm)

Enable or disable $\ensuremath{\mathsf{Intel}}^{\ensuremath{\mathbb{R}}}$ SpeedStep, which allows the system to support more than two frequency ranges.

| Advanced | Aptio Setup – AMI | |
|--|---|--|
| CPU Configuration | | Allows more than two frequency ranges to be supported. |
| Type ID Speed | Intel(R) Celeron(R) J6412 @ 2.00GHz 0x90661 2000 MHz | |
| L1 Data Cache L1 Instruction Cache L2 Cache L3 Cache | 32 KB × 4 32 KB × 4 1536 KB × 4 4 MB | |
| L4 Cache VMX SMX/TXT Package C State Limit | Intel(R) SpeedStep(tm) — Disabled Enabled | +: Select Screen ↓: Select Item |
| Intel (VMX) Virtualization Technology Intel(R) SpeedStep(tm) Turbo Mode | [Enabled] [Enabled] [Enabled] | Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values |
| Disable Turbo GT frequency Boot performance mode | [Disabled] [Turbo Performance] | F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| Ve | ersion 2.22.1282 Copyright (C) 20 | 22 AMI |

Turbo Mode

Enable or disable processor Turbo Mode, AUTO means enabled.

GOT321A-ELK-WCD User's Manual

| Advanced | Aptio Setup — AMI | |
|---|---|---|
| CPU Configuration | Intel(R) Celeron(R) | Enable/Disable processor Turbo Mode (requires EMTTM enabled too), AUTO means enabled. |
| ID Speed L1 Data Cache L1 Instruction Cache L2 Cache L3 Cache L4 Cache L4 Cache VMX | J6412 @ 2.006Hz 0x90661 2000 MHz 32 KB x 4 32 KB x 4 1536 KB x 4 4 MB Disabled | |
| SMX/TXT Package C State Limit Intel (VMX) Virtualization Technology | Enabled [Enabled] | →++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. |
| Intel(R) SpeedStep(tm) Turbo Mode Disable Turbo GT frequency Boot performance mode | [Enabled] [Enabled] [Disabled] [Turbo Performance] | F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| Versi | on 2.22.1282 Copyright (C) 2 | 022 AMI |

Disable Turbo GT frequency

Enabled: Disables Turbo GT frequency. Disable: GT frequency is not limited

| Advanced | Aptio Setup – AMI | |
|--|---|--|
| CPU Configuration | | Enabled: Disables Turbo GT frequency. Disabled: GT |
| Type ID Speed L1 Data Cache L1 Instruction Cache | Intel(R) Celeron(R) J6412 @ 2.00GHz 0×90661 2000 MHz 32 KB × 4 32 KB × 4 | frequency is not limited |
| L2 Cache L3 Cache L4 Cache | 1536 KB × 4 4 MB Disable Turbo GT frequency | |
| VMX SMX/TXT Package C State Limit | Enabled Disabled | Select Screen |
| Intel (VMX) Virtualization Technology | [Enabled] | Select Item Enter: Select +/-: Change Opt. |
| Intel(R) SpeedStep(tm) Turbo Mode | [Enabled] [Enabled] | F1: General Help F2: Previous Values |
| Disable Turbo GT frequency Boot performance mode | [Disabled] [Turbo Performance] | F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| | /ersion 2.22.1282 Copyright (C) 20 | 22 AMI |

Boot performance mode



| Advanced | Aptio Setup — AMI | |
|--------------------------------------|--|---|
| CPU Configuration | | Select the performance state that the BIOS will set |
| Туре | Intel(R) Celeron(R) J6412 @ 2.00GHz | starting from reset vector. |
| ID | 0×90661 | |
| Speed | 2000 MHz | |
| L1 Data Cache | 32 KB × 4 | |
| L1 Instruction Cache | 32 KB x 4 | |
| L2 Cache | 1536 KB × 4 | |
| L3 Cache L4 Cache | 4 MB Boot performance mode —— | |
| VMX | Max Battery | |
| SMX/TXT | Max Non-Turbo Performance | |
| Package C State Limit | Turbo Performance | ←: Select Screen |
| | No. | ↓: Select Item |
| Intel (VMX) Virtualization | | nter: Select |
| Technology | [Epobled] | +/-: Change Opt. |
| Intel(R) SpeedStep(tm) Turbo Mode | [Enabled] [Enabled] | F1: General Help F2: Previous Values |
| Disable Turbo GT frequency | [Disabled] | F3: Optimized Defaults |
| Boot performance mode | [Turbo Performance] | F4: Save & Exit |
| | | ESC: Exit |
| | | |
| | | |
| | | |
| | | |
| Ver | sion 2.22.1282 Copyright (C) 20 | 22 AMI |
| | | |

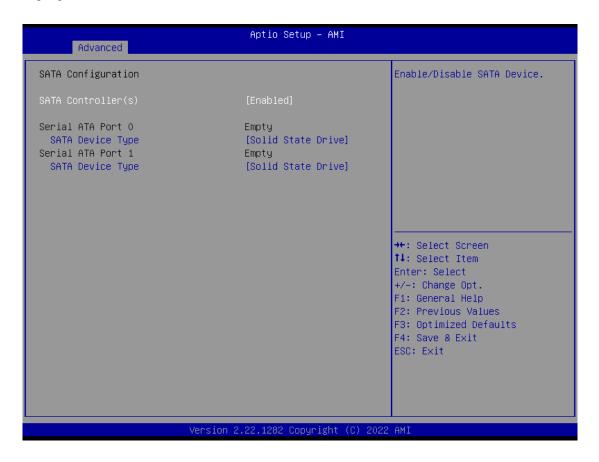
3.4.3 Storage Configuration

This screen allows users to select options for SATA Configuration and change the value of the selected option.

| Advanced | Aptio Setup – AMI |
|-----------------------|--|
| Storage Configuration | SATA Device Options Settings |
| ▶ SATA Configuration | ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
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SATA Controller

Highlight this item to enable or disable SATA Controller.



SATA Device Type

Identify the SATA port is connected to SSD or HDD



3.4.4 USB Configuration

Display all detected USB devices.

| Advanced | Aptio Setup – AMI | |
|--|-----------------------------|--|
| USB Configuration | | This option is to select USB3 Link Speed GEN1 or GEN2 |
| USB Module Version | 25 | LINK SPEED BENI OF BENZ |
| USB Devices: 1 Drive, 1 Keyboard, 1 Mouse | | |
| USB3 Link Speed Selection | [GEN2] | |
| | | |
| | | |
| | | ↔: 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 |

USB3 Link Speed Selection

This option is to select USB3 Link Speed GEN1 or GEN2

| Advanced | Aptio Setup – A⊦ | ЧІ |
|--|--------------------------------------|--|
| USB Configuration USB Module Version USB Devices: 1 Keyboard, 1 Mouse | 25 | This option is to select USB3 Link Speed GEN1 or GEN2 |
| USB3 Link Speed Selection | [GEN2] | |
| | USB3 Link Speed Sele GEN1 GEN2 | 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 | t (C) 2022 AMI |

3.4.5 F81966 Super IO Configuration

You can use this screen to select options for the Super IO Configuration and change the value of the selected option. A description of the selected item appears on the right side of the screen. For items marked with " \blacktriangleright ", please press <Enter> for more options.

Serial Port 1~3 Configuration

This option is used to enable or disable serial port 1~3

| Advanced | Aptio Setup – AMI | |
|--|-------------------------------|---|
| F81966 Super IO Configuration | | Set Parameters of Serial Port |
| Super IO Chip • Serial Port 1 Configuration • Serial Port 2 Configuration • Serial Port 3 Configuration | F81966 | 1 (COMA) ++: Select Screen 1: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| Versior |) 2.22.1282 Copyright (C) 202 | 2 AMI |

• Serial Port 1 Configuration

Serial Port 1

Enable or disable serial port 1. The optimal setting for base I/O address is 3F8h and for interrupt request address is IRQ4.

COM Port Type

Use this item to set RS-232/422/485 communication mode.



• Serial Port 2 Configuration

Serial Port 2

Enable or disable serial port 2. The optimal setting for base I/O address is 2F8h and for interrupt request address is IRQ3

| Advanced | Aptio Setup — AMI | |
|--------------------------------|------------------------------|---|
| Serial Port 2 Configuration | | Enable or Disable Serial Port |
| Serial Port Device Settings | [Enabled] IO=2F8h; IRQ=3; | (COM) |
| | | <pre>++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre> |
| Versio | n 2.22.1282 Copyright (C) 20 | 22 AMI |

• Serial Port 3 Configuration

Serial Port 3

Serial port 3. The optimal setting for base I/O address is 3E8h and for interrupt request address is $\ensuremath{\mathsf{IRQ7}}$

| Advanced | Aptio Setup – AMI | |
|---|------------------------------|--|
| Serial Port 3 Configuration Serial Port Device Settings | [Enabled] IO=3E8h; IRQ=7; | Enable or Disable Serial Port (COM) |
| Device Settings | 10-320H, ING-F, | |
| | | <pre> ++: Select Screen ↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit</pre> |
| Version 2 | .22.1282 Copyright (C) 2022 | ESC: Exit |

3.4.6 Hardware Monitor

This screen monitors and displays the hardware health status of the system in real time, including system and CPU temperatures, and system voltages (5VSBY, VBAT, 5VS, VCC3V, VCC5V).

| Advanced | Aptio Setup – AMI | |
|---|---|---|
| Advanced Pc Health Status CPU temperature System temperature SVSBY VBAT SVS VCC3V VSBSV | Aptio Setup - AMI : +42 % : +46 % : +4.961 V : +3.040 V : +5.003 V : +3.296 V : +4.992 V | ++: Select Screen |
| | | <pre>\$</pre> |
| Versi | on 2.22.1282 Copyright (C) 202 | 2 AMI |

3.5 Chipset Menu

The Chipset menu allows users to change the advanced chipset settings.

| Main Advanced Chipset S | Aptio Setup – AMI Security Boot Save & Exit | |
|---|---|---|
| System Agent (SA) Configura | ition | Specify what state to go to when power is re–applied after |
| Memory RC Version Memory Size Frequency | 0.0.4.104 8192 MB 2667 MTPS | a power failure (G3 state). |
| Channel 1 Slot 0 Size Number of Ranks Manufacturer | Populated & Enabled 8192 MB (DDR4) 1 Transcend | |
| Graphics Configuration IGFX GOP Version | 18.0.1041 | |
| PCH-IO Configuration | | t↓: Select Item Enter: Select |
| State After G3 Mini Card Function SMBus Interface | [S5 State] [mSATA] [Disable] | +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| | Version 2.22.1282 Copyright (C) 20 | D22 AMI |



Not support S3 State

3.6 Security Menu

The Security menu allows users to change the security settings for the system.

- Administrator Password Set administrator password.
- User Password Set user password.
- Secure Boot Setting Secure boot

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

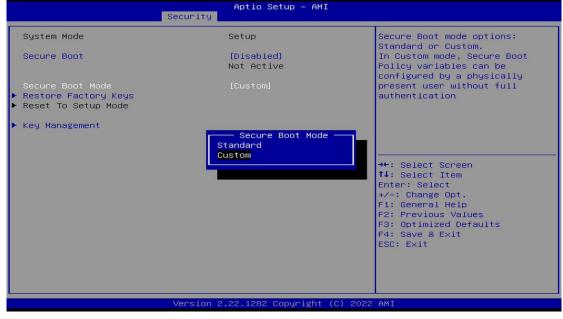
Secure Boot

Aptio Setup – AMI Security System Mode Secure Boot feature is Active Setup if Secure Boot is Enabled, Platform Key(PK) is enrolled Not Active and the System is in User mode. The mode change requires Secure Boot Mode [Custom] platform reset ▶ Restore Factory Keys Reset To Setup Mode ▶ Key Management ++: 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 Aptio Setup - AMI Security Secure Boot feature is Active System Mode Setup if Secure Boot Teature is Active if Secure Boot is Enabled, Platform Key(PK) is enrolled and the System is in User mode. The mode change requires platform reset [Disabled] Not Active Secure Boot Mode Restore Factory Keys [Custom] ▶ Reset To Setup Mode ▶ Key Management Secure Disabled Boot Enabled →+: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F1: General heip F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Secure Boot feature is Active if Secure Boot is Enabled or Disable

Secure Boot Mode

Secure Boot mode options Standard or Custom



Key management

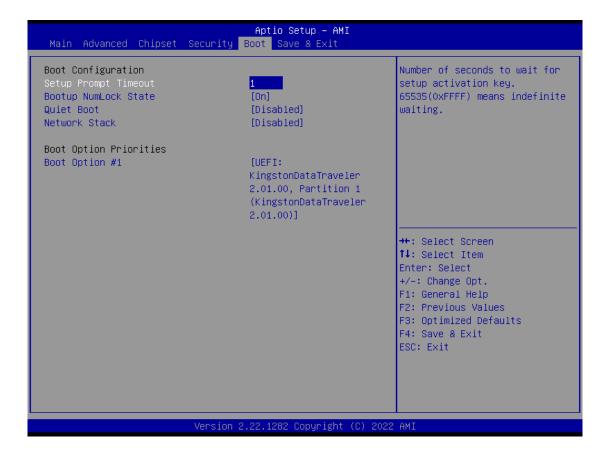
Install factory default Secure Boot key the platform rest and while the System is in Setup mode.

| Sec | Aptio Setup – AMI urity | | | | |
|---|--|--|--|--|--|
| Vendor Keys Factory Key Provision ▶ Restore Factory Keys ▶ Reset To Setup Mode | Valid [Disabled] | Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode | | | |
| Export Secure Boot variables Enroll Efi Image Device Guard Ready Remove 'UEFI CA' from DB Restore DB defaults | | | | | |
| Key Exchange Keys 1560 Authorized Signatures 3143 Forbidden Signatures 11064 | 1 Test(AMI) 1 Factory 2 Factory 192 Factory 0 No Keys | ++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit | | | |
| Ve | rsion 2.22.1282 Copyright (C) 2022 Aptio Setup – AMI | 2 AMI | | | |
| Security Security | | | | | |
| Vendor Keys Factory Key Provision ▶ Restore Factory Keys ▶ Reset To Setup Mode ▶ Export Secure Boot variables ▶ Enroll Efi Image | Valid [Disabled] | Install factory default Secure Boot keys after the platform reset and while the System is in Setup mode | | | |
| Device Guard Ready > Remove 'UEFICA' from DB > Restore DB defaults | Factory Key Provision ——— Disabled | | | | |
| Secure Boot variable Size > Platform Key(PK) 862 > Key Exchange Keys 1560 > Authorized Signatures 3143 > Forbidden Signatures 11064 > Authorized TimeStamps 0 > OsRecovery Signatures 0 | 1 2 Factory 192 Factory 0 No Keys | <pre> +: Select Screen 4: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre> | | | |
| | rsion 2.22.1282 Copyright (C) 2022 | 2 AMI | | | |

3.7 Boot Menu

- Setup Prompt Timeout Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
- Bootup NumLock State Use this item to select the power-on state for the keyboard NumLock.
- Quiet Boot Select to display either POST output messages or a splash screen during boot-up.
- Network Stack Enable or Disable UEFI Network Stack.

The Boot menu allows users to change boot options of the system.



3.8 Save & Exit Menu

The Save & Exit menu allows users to load your system configuration with optimal or fail-safe default values.

| Figure 3-17 Save & Ex | kit Menu | | | |
|--|--|--|--|--|
| Aptio Setup – AMI Main Advanced Chipset Security Boot Save & Exit | | | | |
| Save Options Save Changes and Exit Discard Changes and Exit Save Changes and Reset Discard Changes and Reset Save Changes Discard Changes Default Options | Exit system setup after saving the changes. | | | |
| Restore Defaults Save as User Defaults Restore User Defaults Boot Override UEFI: KingstonDataTraveler 2.01.00, Partition 1 (KingstonDataTraveler 2.01.00) | ++: Select Screen 11: 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 | | | | |

Figure 3-17 Save & Exit Menu

• Save Changes and Exit

When you have completed the system configuration changes, select this option to leave Setup and return to Main Menu. Select Save Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes to save changes and exit.

• Discard Changes and Exit

Select this option to quit Setup without making any permanent changes to the system configuration and return to Main Menu. Select Discard Changes and Exit from the Save & Exit menu and press <Enter>. Select Yes to discard changes and exit.

• Save Changes and Reset

When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select Save Changes and Reset from the Save & Exit menu and press <Enter>. Select Yes to save changes and reset.

• Discard Changes and Reset

Select this option to quit Setup without making any permanent changes to the system configuration and reboot the computer. Select Discard Changes and Reset from the Save & Exit menu and press <Enter>. Select Yes to discard changes and reset.

• Save Changes

When you have completed the system configuration changes, select this option to save changes. Select Save Changes from the Save & Exit menu and press <Enter>. Select Yes to save changes.

• Restore Defaults

Restore or Load Default values for all the setup options.

• Discard Changes

Select this option to quit Setup without making any permanent changes to the system configuration. Select Discard Changes from the Save & Exit menu and press <Enter>. Select Yes to discard changes.

• Restore Defaults

It automatically sets all Setup options to a complete set of default settings when you select this option. Select Restore Defaults from the Save & Exit menu and press <Enter>.

• Save as User Defaults

Select this option to save system configuration changes done so far as User Defaults. Select Save as User Defaults from the Save & Exit menu and press <Enter>.

• Restore User Defaults

It automatically sets all Setup options to a complete set of User Defaults when you select this option. Select Restore User Defaults from the Save & Exit menu and press <Enter>.

Boot Override

Select a drive to immediately boot that device regardless of the current boot order.

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SECTION 4 DRIVER and INSTALLATION

4.1 Operating System

The GOT321A-ELK-WCD is compatible with operating systems Windows 10/11 and Windows 10/11 IoT Enterprise. To facilitate the installation of system drivers, please carefully read the instructions in this section before any of such installation.

4.1.1 Driver download

Please download the GOT321A-ELK-WCD driver from Axiomtek's official website

| FXIOMTEK | | Products | Solutions | What's New | Resources | Support | Services | About Us | Contact Us |
|------------------------------|----------------------|----------|-----------|-------------------------|-------------|---|------------------|----------|------------|
| Downloads | | | | | | Download Datasheet Technical | (PDF) Support | | |
| Select a Product Series | Please select | | ~ |] | | Technical Online For | um | | |
| Search by Product Category | Please select | | ~ |]] | | Online RM (Internatio Online RM Partner Zo | nal) A (USA) | | |
| Recently Released Drivers | | | | J | | | | | |
| Model De | escription | | | | | Version | Download Fil | e Releas | e Date |
| IPC960-525-FL 5. | 5. Intel ME Driver | | | VA1.0 | 275,095.8KB | 2021/0 | 13/12 | | |
| IPC960-525-FL 6. | 6. Intel RST Driver | | | VA1.0 17,896.5KE | | 2021/0 | 13/12 | | |
| IPC960-525-FL 4. | Intel LAN Driver | | | | | VA1.0 | 383,368.4KB | 2021/0 | 13/12 |
| IPC960-525-FL 3. | Realtek Audio Driver | | | | | VA1.0 | 430,788KB | 2021/0 | 13/12 |
| IPC960-525-FL Int | tel Graphic Driver | | | | | VA1.0 | 247,419.7KB | 2021/0 | 13/12 |
| IPC960-525-FL Int | tel Chipset Driver | | | | | VA1.0 | KB | 2021/0 | 3/12 |
| GOT317-502-FR W | /in7_driver | | | | | VA1.2 | 812,892.5KB | 2021/0 | 3/08 |
| MVS100-323-FL IO |) Driver & SDK | | | | | VA1.0 | 16,964.8KB | 2021/0 | 2/03 |

4.2 Touch Screen

The GOT321A-ELK-WCD adopts a projected capacitive multi-touch screen of which specifications are listed below. The touch driver will be installed automatically to allow the user to operate the touch panel using two-finger touch functions on the Windows 10 and Windows 10 IoT Enterprise environments.

| Touch Screen | Projected capacitive multi-touch | |
|-------------------------|--|--|
| Touch Screen Controller | TPK_USB Touch Screen Controller IC | |
| Communications | USB interface | |
| Power Supply | 5V | |
| Power Consumption | <100mA +10mA | |
| Input Method | Finger or Cap.Stylus | |
| Resolution | 25ppi (Min.) Note: Based on the Windows definition, ppi (pixels per inch) | |
| Windows USB Driver | Non-Driver | |
| Calibration | Non-Calibration | |

APPENDIX A TPM BitLocker SETTINGS

1. Set up BitLocker Drive Encryption main storage. Press <Win + R> and type "Control Panel", and then select BitLocker Drive Encryption.

| 🗐 Run | | | × | |
|---|--|---|---|------------------------|
| | | ogram, folder, document, or vs will open it for you. | Internet | |
| Open: cor | ntrol | | ~ | |
| | ОК | Cancel <u>B</u> r | owse | |
| All Control Panel It | tems | | | - 0 |
| ← → ~ ↑ 🖂 | > Control Panel > All (| Control Panel Items > | ٽ ب | Search Control Panel |
| Adjust your com | nputer's settings | | | View by: Small icons 🔻 |
| Adjust your com | | J AutoPlay | 🐞 Backup and Restore (Wind | |
| | pols | 🖥 AutoPlay 💶 Color Management | 🐞 Backup and Restore (Wind 🎯 Credential Manager | |
| 卷 Administrative To | ools [i ncryption | | | |
| 續 Administrative To 桑 BitLocker Drive Ei | ncryption | Color Management | Credential Manager | |
| Administrative To BitLocker Drive Ei Date and Time | ncryption | Color Management | Credential Manager Device Manager | |
| Administrative To BitLocker Drive Ei Date and Time | ncryption | Color Management O Default Programs Ease of Access Center | Credential Manager | |
| Administrative To BitLocker Drive Ei Date and Time Devices and Print File History | ncryption | Color Management Default Programs Ease of Access Center Hash Player (32-bit) | Credential Manager Device Manager File Explorer Options Fonts | |
| Administrative To BitLocker Drive Ei Date and Time Date and Time Devices and Print File History HomeGroup | bols I ncryption I ters I Settings | Color Management Default Programs Ease of Access Center Flash Player (32-bit) Undexing Options | Credential Manager Device Manager File Explorer Options Fonts Infrared | |
| Administrative Te BitLocker Drive Er Date and Time To Devices and Print File History HomeGroup Intel® Graphics S | bols (incryption) (incryption) (incryption) (incryption) (increased on the second on t | Color Management Default Programs Ease of Access Center Flash Player (32-bit) Indexing Options Internet Options | Credential Manager Device Manager File Explorer Options Fonts Infrared Java | |
| Administrative Te BitLocker Drive Ei Date and Time To Devices and Print File History HomeGroup Intel® Graphics S Keyboard Network and Sha Power Options | ools E ncryption E ters E Settings E ring Center | Color Management Default Programs Ease of Access Center Flash Player (32-bit) Indexing Options Internet Options | Credential Manager Device Manager File Explorer Options Fonts Infrared Java Mouse | |
| Administrative To Real BitLocker Drive Ei Date and Time To Devices and Print File History Intel® Graphics S Keyboard Network and Sha | ools E ncryption E ters E Settings E ring Center | Color Management Default Programs Ease of Access Center Islash Player (32-bit) Indexing Options Internet Options Language Pen and Touch | Credential Manager Device Manager File Explorer Options Fonts Infrared Java Mouse Phone and Modem | ows 7) |
| Administrative Te BitLocker Drive Ei Date and Time To Devices and Print File History HomeGroup Intel® Graphics S Keyboard Network and Sha Power Options | ools Encryption Eters | Color Management Default Programs Ease of Access Center Flash Player (32-bit) Indexing Options Internet Options Language Pen and Touch Programs and Features | Credential Manager Device Manager File Explorer Options Fonts Infrared Java Mouse Phone and Modem Recovery | ows 7) |
| Administrative To Real BitLocker Drive Ei Date and Time To Devices and Print File History File History File History File History File History Keyboard Network and Sha Power Options File Region SiSoftware Sandre Storage Spaces | ools and a settings a setting Center a setting | Color Management Color Management Color Management Color Management Color Management Color Management Color Access Center Col | Credential Manager Device Manager File Explorer Options Fonts Infrared Java Mouse Phone and Modem Recovery Security and Maintenance Speech Recognition System | ows 7) |
| Administrative To Administrati | ools Incryption Incryption Incryption Incryption Increases Increas | Color Management Color Management Color Management Color Management Color Management Color Management Color Access Center Col | Credential Manager Device Manager File Explorer Options Fonts Infrared Java Mouse Phone and Modem Recovery Security and Maintenance Speech Recognition System System Troubleshooting | ows 7) |
| Administrative To Real BitLocker Drive Ei Date and Time To Devices and Print File History File History File History File History File History Keyboard Network and Sha Power Options File Region SiSoftware Sandre Storage Spaces | ools Incryption Incryption Incryption Increases Increase | Color Management Color Management Color Management Color Management Color Management Color Management Color Access Center Col | Credential Manager Device Manager File Explorer Options Fonts Infrared Java Mouse Phone and Modem Recovery Security and Maintenance Speech Recognition System | ows 7) |

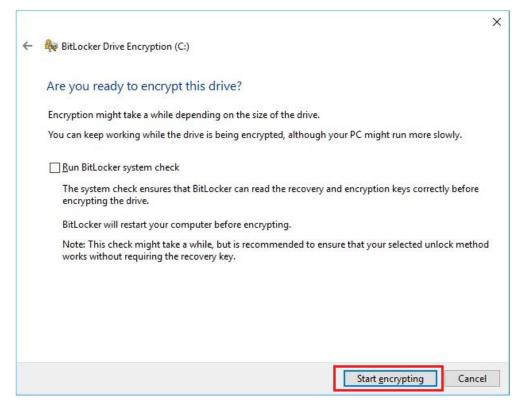
| 🕆 🕀 > Contro | I Panel > All Control Panel Items > BitLocker Drive Encryption | ~ Ö | Search Control Panel | ۶ |
|---------------------------------------|---|------------------|----------------------|---|
| Control Panel Home | BitLocker Drive Encryption Help protect your files and folders from unauthorized access by prot | tecting your dri | ves with BitLocker. | |
| | Operating system drive | | | |
| | Windows (C:) BitLocker off | ier | \otimes | |
| | Fixed data drives | | | |
| | Removable data drives - BitLocker To Go Insert a removable USB flash drive to use BitLocker To Go. | | | |
| | | | | |
| | | | | |
| See also TPM Administration | | | | |
| TPM Administration Disk Management | | | | |
| Disk Management Privacy statement | | | | |

2. Insert an external storage device, for example USB Storage. Back up BitLocker Recovery Key in a new file and save it to the USB Storage.

| 0 | RitLock | cer Dr | rive Encryption | | | | - | | × | | | | |
|-------------|--------------------|--------|---|--|-------|--|-------------------------|-------------|---------------------------|--------------|---|---|----------|
| Recy | < → | ~ / | 🕆 🎭 « All Control Panel Items | BitLocker Drive Encryption | νõ | Search (| ontrol Pan | el | Q | | | | |
| | Contr | 4 | BitLocker Drive Encryption (C: | 3 | 🤏 Sav | e BitLocke | recovery l | ey as | | | | × | |
| | | | w bittocker bitte energypton (e. | -) | ← - | ÷ ~ ↑ | ⇒ 16 | GB (D:) → | | ~ 5 | Search 16GB (D:) | م ر | |
| This Sho | | | How do you want to back | c up your recovery key? | Organ | nize 🔻 | New fold | er | 2 | | B | • • | |
| Sho | | | A recovery key can be used to acc It's a good idea to have more that | ccess your files and folders if you're having p an one and keep each in a safe place other th | rot 🎝 | Pictures HD Tune Music Videos | * ^ Pro 5.5 | Name EFI | NLE MARK Burnin Test P | 40 | Date modified 2/21/2018 4:25 PM 4/29/2019 10:59 AM 7/11/2013 6:42 PM | Type File folder File folder File folder | |
| Micr Ec | | | ightarrow Save to your Microso | oft account | | 彩像測試 | | SBC8 | | 10 4.0 | 3/3/2018 5:40 PM | File folder | |
| | | ſ | \rightarrow Save to a file | 1 | > 🗠 (| OneDrive | | | | | | | |
| Intel(F | | 1 | \rightarrow Print the recovery ke | ₽y | > 💻 1 | This PC I6GB (D:) | | | | | | | |
| | | | | | > 🥏 I | Vetwork | ~ | < | 3 | | | > | |
| PCor | | | How can I find my recovery key la | ater? | | | ne: BitLo pe: Text F | | y Key F809F878-040 | F-4A1E-A4AC- | 2F6D629A3DD7 | ~ ~ | |
| | See al- | | | | ^ Hid | e Folders | | | | | Save | Cancel | |
| | Disk Mi Privacy | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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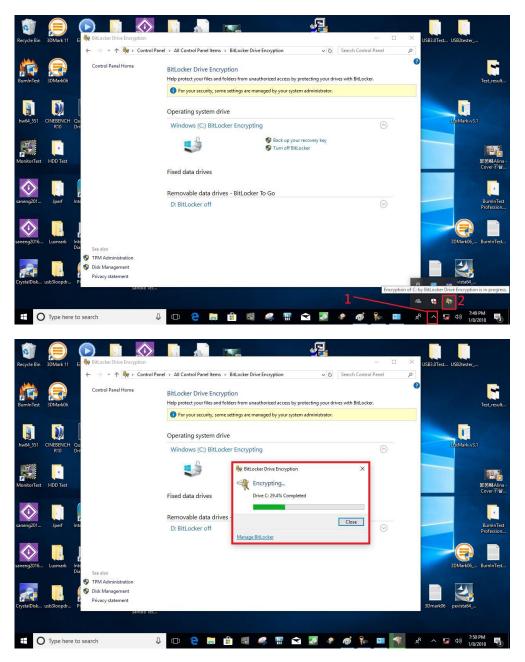
3. Please follow the steps below to encrypt your storage device:

| BitLocker Drive Encryption (C:) Choose how much of your drive to encrypt If you're setting up BitLocker on a new drive or a new PC, you only need to encrypt the part of the drive the's currently being used. BitLocker on a PC or drive that's already in use, consider encrypting the entire drive. Encrypting the entire drive ensures that all data is protected-even data that you deleted but that might still contain retrievable info. Encrypt gued disk space only (faster and best for new PCs and drives) 1 O Encrypt entire drive (slower but best for PCs and drives already in use) 2 Yett Cancel | | × |
|---|---|---|
| If you're setting up BitLocker on a new drive or a new PC, you only need to encrypt the part of the drive the scurrently being used. BitLocker encrypts new data automatically as you add it. If you're enabling BitLocker on a PC or drive that's already in use, consider encrypting the entire drive. Encrypting the entire drive ensures that all data is protected-even data that you deleted but that might still contain retrievable info. Image: the still delete and best for new PCs and drives. Encrypt used disk space only (faster and best for new PCs and drives) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive encryption (C:) Encrypt entire drive encryption mode to use Undows 10 (Version 1511) introduces a new disk encryption mode (XTS-AES). This mode provides additional integrity support, but it is not compatible with older versions of Windows. If this is a removable drive that you're going to use on older version of Windows, you should choose Compatible mode. If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode Image: Encryption mode (best for fixed drives on this device) 1 | ÷ | Reference BitLocker Drive Encryption (C:) |
| that's currently being used. BitLocker encrypts new data automatically as you add it. If you're enabling BitLocker on a PC or drive that's already in use, consider encrypting the entire drive. Encrypting the entire drive ensures that all data is protected-even data that you deleted but that might still contain retrievable info. Image: Encrypt used disk space only (faster and best for new PCs and drives) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Ment Cancel Ment Cancel Ment Choose which encryption (C:) Choose which encryption mode to use Windows 10 (Version 1511) introduces a new disk encryption mode (XTS-AES). This mode provides additional integrity support, but it is not compatible with older versions of Windows. If this is a removable drive that you're going to use on older versions of Windows, you should choose Compatible mode. If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode | | Choose how much of your drive to encrypt |
| Encrypting the entire drive ensures that all data is protected-even data that you deleted but that might still contain retrievable info. | | |
| Encrypt entire drive (slower but best for PCs and drives already in use) Encrypt entire drive (slower but best for PCs and drives already in use) Mext Cancel Mext Cancel Choose which encryption (C:) Choose which encryption mode to use Windows 10 (Version 1511) introduces a new disk encryption mode (XTS-AES). This mode provides additional integrity support, but it is not compatible with older versions of Windows. If this is a removable drive that you're going to use on older version of Windows, you should choose Compatible mode. If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode Mext encryption mode (best for fixed drives on this device) | | Encrypting the entire drive ensures that all data is protected-even data that you deleted but that might still |
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| BitLocker Drive Encryption (C:) Choose which encryption mode to use Windows 10 (Version 1511) introduces a new disk encryption mode (XTS-AES). This mode provides additional integrity support, but it is not compatible with older versions of Windows. If this is a removable drive that you're going to use on older version of Windows, you should choose Compatible mode. If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode New encryption mode (best for fixed drives on this device) | | 2 Next Cancel |
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| Windows 10 (Version 1511) introduces a new disk encryption mode (XTS-AES). This mode provides additional integrity support, but it is not compatible with older versions of Windows. If this is a removable drive that you're going to use on older version of Windows, you should choose Compatible mode. If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode | 4 | |
| additional integrity support, but it is not compatible with older versions of Windows. If this is a removable drive that you're going to use on older version of Windows, you should choose Compatible mode. If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode <u>New encryption mode (best for fixed drives on this device)</u> | | Choose which encryption mode to use |
| Compatible mode. If this is a fixed drive or if this drive will only be used on devices running at least Windows 10 (Version 1511) or later, you should choose the new encryption mode New encryption mode (best for fixed drives on this device) | | |
| or later, you should choose the new encryption mode <u>N</u>ew encryption mode (best for fixed drives on this device) | | |
| | | 에게 다음이 생겨야 한 것 같아요. 이번 것 같아요. |
| | 1 | New encryption mode (best for fixed drives on this device) |
| | 1 | Compatible mode (best for drives that can be moved from this device) |
| | | |
| | | |
| | | |
| | | 2 |
| 2 | | |
| 2 | | <u>N</u> ext Cancel |



Now, the system prompts that the operating system drive encryption is in progress, and the encryption progress is checked.

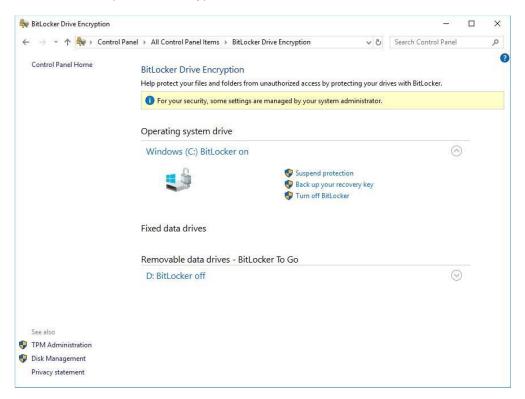
| Recycle Bin | SDMark 11 E | BitLocker Drive Encryption | Panel > All Control Panel Items > BitL | ocker Drive Encryption | - Search Control Panel | USB8.0Test USB2tester |
|---------------|-------------------------|----------------------------|---|---|---------------------------|--|
| | | e Edit View Tools | | | | |
| BurninTest | 3DMark06 | Control Panel Home | BitLocker Drive Encryption Help protect your files and folders | from unauthorized access by protecting your dr | ives with BitLocker. | Test_result |
| | | | For your security, some setting | igs are managed by your system administrator. | | |
| hw64_551 C | CINEBENCH Qu R10 Dri | | Operating system drive | | | LuxMark-v3.1 |
| | | | Windows (C:) BitLocker E | ncrypting | 0 | |
| MonitorTest | HDD Test | | | 😻 Back up your recovery key 💖 Turn off BitLocker | | 繁茵經Aina - Cover 不管 |
| \diamond | | | Fixed data drives | | | |
| saneng201 | Jperf Inte | | Removable data drives - B | itLocker To Go | ~ | BurnInTest Profession |
| saneng2016 | Luxmark Inte | See also | D: BitLocker off | | | 3DMarko6, BurninTest |
| CrystalDisk u | isb3loopdr P | | Las - | | 1 🗬 | Encryption in progress Encryption of C: by BitLocker Drive Encryption has started. Click for more information. BitLocker Drive Encryption Notification Utility |
| 0 | Type here to sea | arch | J O 'C 🚍 🔒 | S 🔍 🖬 😭 🌌 4 | Ø % 🛤 | 요 ⁴ ^ 추 福 대 대) ^{749 PM} 1/8/2018 북 3 |



Select and click the icon in the lower right corner to complete the encryption.

| BRLocker Dev | Envirtor | x | |
|--|--|--|--|
| | 🙀 > Control Panel -> All Control Panel Items -> BitLocker Drive Encryption | ✓ 6 Search Control Panel | |
| Control Panel | Sine BitLocker Drive Encryption Hill protect your files and falders from swashweard access by protecting your drives with bitLocks. Of pryour security, some settings are managed by your system administrates. | ° | |
| | C Bit oder on Warge Etc.der | 0 | |
| | Fixed data drives Removable data drives - Bitt ocker To Go I RANSCEND (d: Bittlocker off | 0 | |
| See also © TIPM Advisor © Disk Managee Privacy subter | ert. | | |
| | | | |

4. Confirm the completion of encryption.



5. Disable the TPM function in BIOS Setup Utility.

| TPM20 Device Found | | Enables or Disables BIOS |
|--------------------|---------------|--|
| Firmware Version: | 402.1 INTC | support for security devic |
| Vendor: | INIC | 0.S. will not show Securit Device. TCG EFI protocol a |
| | | INTIA interface will not b available. |
| | | |
| | | ↔: Select Screen |
| | | <pre> \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$</pre> |
| | | +/-: Change Opt. |
| | | F1: General Help F2: Previous Values |
| | | F3: Optimized Defaults |
| | | F4: Save & Exit |
| | | ESC: EXIT |
| | | |

6. If you see the following screen when the system is powered on, it means that the TPM module function is working fine. Note that BitLocker cannot be executed if your system does not support the TPM function.

| nter the recovery key for this dr | ive |
|---|--|
| | |
| or more information on how to ret http://windows.microsoft.com/recover | rieve this key, go to erykeyfaq from another PC or mobile device. |
| se the number keys or function ke | ys F1-F10(use F10 for 0). |
| ecovery key ID: 995386D1-889B-4AD | a-ba42-dcd3929af074 |
| Press Enter to continue Press Esc for more recovery o | options |



The user will experience the following situation when using a system not supporting TPM.

1. TPM information is not found in Device Manager.



2. When trying to turn on Bitlocker, the following error message shows up.

| 🛧 🔶 Cont | rol Panel > All Control Panel Items > BitLocker Drive Encryption |
|-----------------------|---|
| Control Panel Home | BitLocker Drive Encryption Help protect your files and folders from unauthorized access by protecting your drives with B |
| | Operating system drive |
| | C: BitLocker off |
| | Turn on BitLocker |
| | Fixed data drives |
| | Removable data drives - BitLocker To Go |
| | TRANSCEND (D:) BitLocker off |
| - 🏘 BitLocker Drive E | ncryption (C:) |
| Starting BitLock | ncryption (C:) |
| Starting BitLock | ncryption (C:) :er t use a Trusted Platform Module. Your administrator must set the "Allow BitLocker |
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