TABLET COMPUTER

DK13

USER'S GUIDE

BC

Revision History

Revision	Date	Changes	Author
1.0.9	2025/07/09	Update Work with Power Button info. Update Battery Shut Down Mode info. Update Specifications info.: Memory, Storage, Optional 2nd Battery, Environmental Specifications, Certifications	Annabelle Wu
1.0.8	2024/01/24	Add Managing Power info.: Shut Down Mode feature Update Power info.: Primary Battery and Shut Down Mode feature Update BVA & Surge Protector Module info.	Annabelle Wu
1.0.7	2023/08/24	Correct e-RMA info.: MilDef Crete's Website Update Specifications info.: Certification	Annabelle Wu
1.0.6	2023/06/27	Update Trademark info. Add Unpacking info. Change "BT" to "Bluetooth®"	Annabelle Wu
1.0.5	2023/01/05	Correct Specifications info: Materials and Recycling	Annabelle Wu
1.0.4	2022/11/18	Add and Update EMC and Safety info.: CE, UKCA, FCC	Annabelle Wu
1.0.3	2022/06/13	Correct Heater info	Patricia Huang
1.0.2	2022/03/31	Update Memory MHz info	Patricia Huang
1.0.1	2021/04/09	Update CE/FCC info Correct Docklite DL10 info	Patricia Huang

Notice

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FCC (Federal Communications Commission) Regulatory Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC 47 CFR Part 15 Subpart B
FCC 47 CFR Part 15 Subpart C
FCC 47 CFR Part 15 Subpart E
FCC§2.1093 (SAR)

Note:

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important:

Changes or modifications to this product not authorized by MilDef could void the electromagnetic compatibility (EMC) and wireless compliance and negate your authority to operate the product.

In order to maintain compliance with FCC regulations, compliant peripheral devices and shielded cables must be used with this equipment.

Radiation Exposure Statement

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.
The exposure standard for wireless devices employing a unit of measurement is known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg
RF exposure warming

Regulatory Information/Disclaimers

Installation and use of this computer must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

EU Declaration of Conformity

CE

The device is hereby confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive (2014/30/EU), Radio Equipment Directive (2014/53/EU) and Low Voltage Directive (2014/35/EU), if used for its intended use and that the following standards have been applied:

1. **Safety**
   Applied Standard(s):
   EN 62368-1: 2020+A11:2020

2. **Health**
   Applied Standard(s):
   EN 50566 : 2017

3. **Radio Frequency Spectrum Usage**
   Applied Standard(s):
   EN 300 328 V2.2.2 (2019-07)
   EN 301 893 V2.1.1 (2017-05)
   EN 303 413 V1.2.1 (2021-04)

4. **Electromagnetic Compatibility Directive**
   Applied Standard(s):
   EN 55032: 2015+A11:2020 Class B
   EN 61000-3-2: 2019+A1:2021 Class D
   EN 61000-3-3: 2013+A2:2021
   EN 55035: 2017+A11:2020
   ETSI EN 301 489-1 V2.2.3 (2019-11)
   ETSI EN 301 489-17 V3.2.4 (2020-09)
   ETSI EN 301 489-19 V2.2.0 (2020-09)

UKCA Declaration of Conformity

The device is hereby confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive 2016, Radio Equipment Directive 2017 and UKCA-Electrical Equipment (Safety) Regulation 2016, if used for its intended use and that the following standards have been applied:

1. **Safety**
   Applied Standard(s):
   BS EN 62368-1: 2020+A11:2020

2. **Health**
   Applied Standard(s):
   BS EN 50566 : 2017

3. **Radio Frequency Spectrum Usage**
   Applied Standard(s):
   ETSI EN 300 328 V2.2.2 (2019-07)
   ETSI EN 301 893 V2.1.1 (2017-05)
   ETSI EN 303 413 V1.2.1 (2021-04)

4. **Electromagnetic Compatibility Directive**
   Applied Standard(s):
   BS EN 55032: 2015+A1:2020 Class B
   BS EN 61000-3-2: 2019+A1:2021 Class D
   BS EN 61000-3-3 (2013+A2:2021)
   BS EN 55035: 2017+A11:2020
   ETSI EN 301 489-1 V2.2.3 (2019-11)
   ETSI EN 301 489-17 V3.2.4 (2020-09)
   ETSI EN 301 489-19 V2.2.0 (2020-09)

Power Conservation

This tablet computer consumes less power compared to conventional consumer computers. The power consumption may be further reduced by properly configuring the Power Management Setup.

It is recommended that the power saving features be enabled even when not running on battery power. Power Management features can conserve power without degrading system performance.

Power Safety

There are specific power requirements for your tablet computer:

- Only use an approved AC adapter designed for this tablet computer.
- There is a 3-prong grounded plug for the AC adapter. The 3rd prong is an important mechanism for ensuring product safety. Please do not neglect the importance of this mechanism. If you are unable to access a compatible outlet, please hire a qualified electrician to install a compatible outlet for you.
- When unplugging the AC power cord, please make sure to disconnect the cord by pulling from the plug head instead of pulling from the wire to prevent wire damage.
- Make sure the power outlet and any other extension cord(s) you use can support the total current load of all the connected devices.
- Before cleaning the tablet computer, please make sure it is disconnected from any external power source.

Warning

Before any upgrade procedures, make sure the power is turned off, and all the cables are disconnected (including telephone lines). Also, it is advisable to remove your battery to prevent your tablet computer from accidentally turning on.

Battery Preservation

Precaution

- Only use batteries designed for this computer. Using incompatible battery types may cause explosion, leakage or damage to the computer.
- Do not store your battery in high moisture condition, low temperature or high temperature. Proper storage temperature is 5~20°C and capacity is suggested to remain 50%.
- Do not put your computer and battery near any heat source (oven, stove…).
- Do not remove the battery from the computer while the computer is powered on.
- Do not continuously use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer is able to continuously work with a damaged battery, the circuit damage may occur and possibly cause fire.
- Always use the charger designed for this computer to recharge the battery. Incorrect recharging may cause the battery to explode.
- Do not try to service a battery by yourself. For battery service or replacement, please contact your service representatives.
- Please dispose of damaged battery promptly and carefully. Explosion or leakage may occur, if the battery is exposed to fire, improperly handled or discarded.
- If the battery will not be used for a long period, please charge the battery to 50% and remove AC adapter. If the battery is stored in a system, it should be recharged to 50 every 3 months. If the battery is stored solely, it should be recharged every 6 months. This could prevent the battery from being over discharge and damaged.
- If your system always connects the AC power supply, the battery should be discharged to 50% every two weeks.

Battery Capacity Decline

The capacity of a Li-ion battery decreases over time due to its chemistry features.

Normal Li-ion battery can be fully charged and discharged 300~500 cycles. A battery which is properly used in room temperature (25℃) can be charged and discharged about 300 times (or a year) before its capacity gradually decrease to 80%.

The decrease rate of battery capacity depends on factors including system design, model number, power consumption, software program and system power management. With extreme temperature or abusing the battery might lose 70% of its capacity in a relatively short time.

Battery protection

If a battery keeps being charged with high voltage, the cell would age faster. To prevent this, once the battery is charged to 100%, the system will not keep charging it and the capacity might decrease and remain between 90~100%.

Notice:

For safety, recharging will stop if the internal temperature of the battery is out of range (<0°C; >50°C). Please note that recharging could have stopped before the ambient temperature reaching these boundaries because the internal temperature of the battery does not equal to the ambient temperature.

Battery Disposal & Caution

The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its service life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal. Danger of explosion may possibly occur, if the battery is incorrectly replaced. Replace only with the same or the equivalent battery recommended by the manufacturer. Discard the used battery according to the manufacturer's instructions.

Environmental Information, Material Safety & Recycling

All materials used in the manufacturing of this equipment are recyclable or environmentally friendly. Please recycle the packing materials in accordance with local regulations at the end of the product's service life.

Notice:

- The equipment may contain insignificant amount of hazardous substances for health and environment below control level.
- To avoid spreading such substances into the eco system and to minimize the pressure on the natural environment, you are encouraged to reuse or recycle most of the materials in a safe way after the product’s service life.
- For more information on collection, reuse and recycle of materials, please consult local or regional waste administrations for more information. You can also contact your dealer for more information on the environmental details of the equipment.
- The symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Please check local regulations for disposal of electronic products.

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Chapter 1 - Getting Started

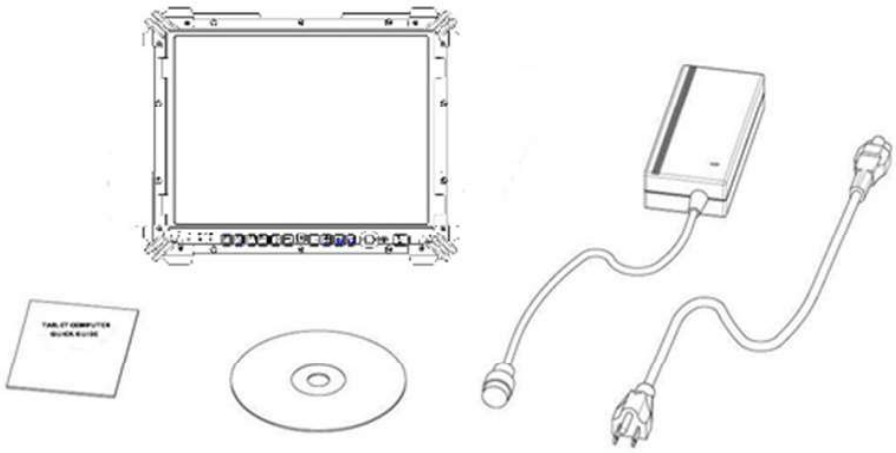
Unpacking

Caution:

- *Fully charge the battery before using it for the first time.*

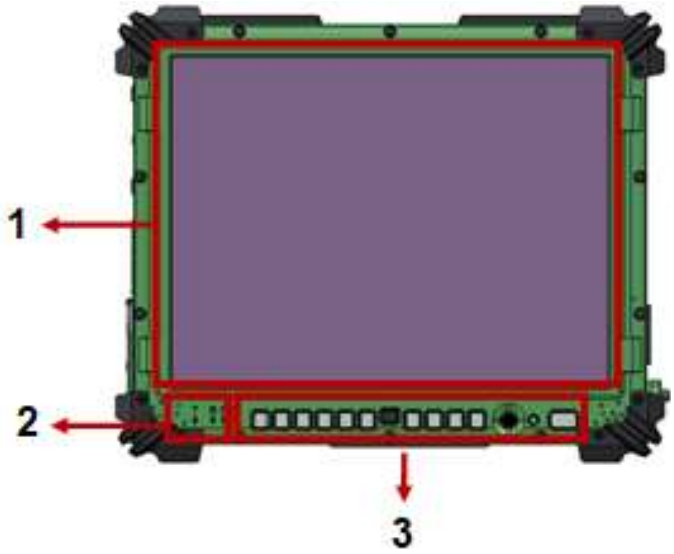
The following components come with your computer. If anything is missing or damaged, please notify the dealer immediately.

- Computer unit
- AC Adapter
- AC Power Cord
- Utility DVD
- Quick Guide



Appearance Overview

Front



1. Touch Screen
2. LED Indicators
3. Function Keys

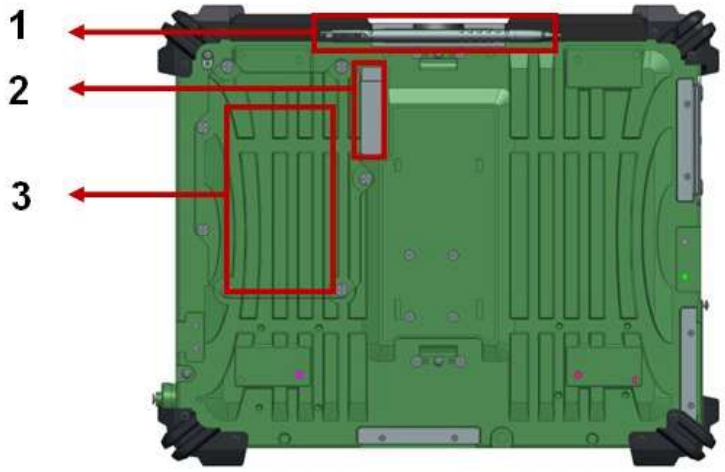
Icon						
Function	F1	F2	F3	F4	Tab	-
	Esc	Ctrl	↓	Alt	↑	Del

Icon							
Function	Function Lock	+	←	→	Track Pointer	Function Backlight	Left Mouse Button
		Enter	Brightness Down	Brightness Up			

Note:

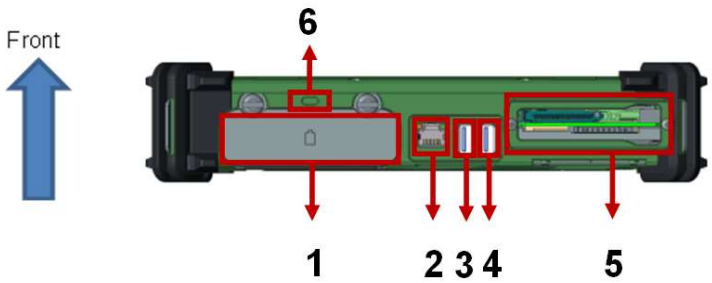
- *To prevent wrongly trigger, do not press any function buttons when using keyboard.*

Rear



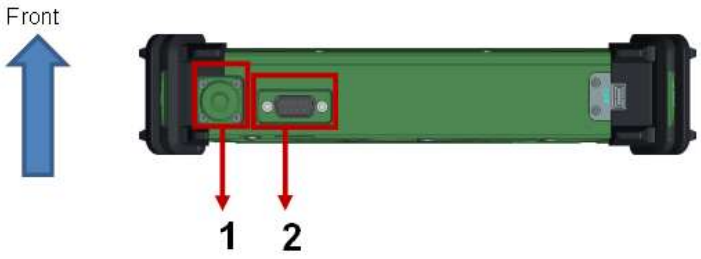
1. Stylus Holder
2. 2nd Battery Connector x 1
3. SSD

Left



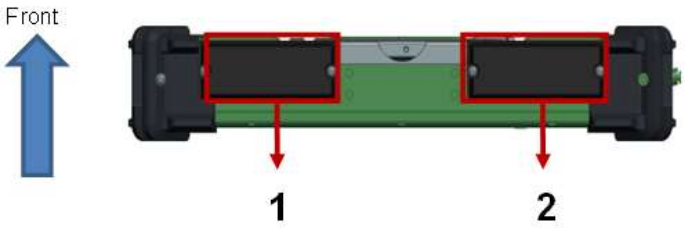
1. Battery Slot x 1
2. GLAN RJ45 x 1
3. USB 3.1 Gen.1 x 1
4. USB 3.1 Gen.1 x 1 (Fast Charging)
5. Multi-Bay
   - Express Card Slot x 1 (Top)
   - SIM Card Slot x 1+ SD Card Slot x 1 (Bottom)
6. Kensington Lock Slot

Right



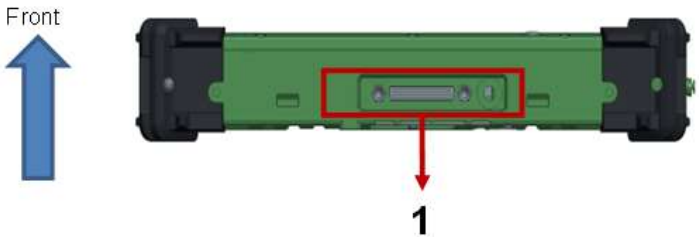
1. DC Conn. x 1
   (Standard: 2 pin; Optional: Military 3 pin)
2. Serial Port DB9 x 1
   (Default: RS232)

Top



1. Optional WLAN Antenna
2. Optional Bluetooth® Antenna/ GPS Antenna

Bottom



1. Docklite Port (120 pin)

Chapter 2 - Operating Information

Start Using Your Tablet Computer

Always turn on your tablet computer by using the power button. Press the power button about 2 seconds and the tablet will boot up. This is the standard operating procedure to start using your tablet computer. After turning on the power of your tablet computer, it will start with the Operating System (OS) installed.

Boot Up

When you turn on the power, your computer will start to load the OS into the system memory. This start-up procedure is called “boot up”.

Power On Self-Test (POST)

Each time your computer is turned on, the BIOS will automatically perform a self-test of CPU, memory, hardware devices, and so on.

Stop Using Your Tablet Computer

Each time when you finish working with your tablet computer, there are several ways to stop your tablet computer from operating.

Shut down

Directly click “Shut down” from your OS to turn OFF the power of your computer. Before shutting down, please do remember to save unfinished works and close your applications to prevent your SSD from suffering possible data loss or damage. “Shut down” will turn OFF power of your computer. If you want to start your computer again, you need to turn it ON again by pressing the power button.

Sleep

Under “Sleep” mode, the system will temporarily save your work into the computer’s RAM. If you want to start your computer again, please press the power button to resume.

Hibernate

Under “Hibernate” mode, the system will save your work into SSD. If you want to start your computer again, you need to press and hold the power button (approx. 2 sec.) until the SSD indicator lights on.

Force Shut Down

In the event that your tablet computer hangs or stops responding, you can perform a force shut down by pressing and holding the power button for 4~5 seconds. Please note that any unsaved work or data will be lost this way.

Work with Power Button

Always turn on your device by using the power button. The device is equipped with a heater kit to enable work under low temperature. The heater will heat up the LCD to the temperature for booting up the system. Also, the heater will constantly monitor LCD temperature. Once the temperature becomes lower, the heater will heat up again to maintain the temperature for operation.

Note:

- When ambient temperature is under -5°C (the default setting for your tablet computer), the system may not boot up immediately. System will beep with Heater LED light flashing orange to indicate that the heater is in operation. After the system reaches the pre-set value, it will boot up automatically, and it will be forced to boot up if it is heated for 5 minutes.
- In emergency situations, you can skip the heating process by pressing and holding the power button for 9 ~ 11 seconds then release. The speaker will beep with a special sound to signify that the heating process has been skipped (Please note that not all devices are guaranteed to work properly in this case).
- Press the power button again during the heating process will shut down the computer.
- Heater is not supported under battery mode.

The following is a list of functions associated with your tablet computer's power button:

1. Press and hold for 9 ~ 11 seconds:
   The system will skip heating process and force boot up.
2. Press and hold for 5 ~ 8 seconds:
   Enable/Disable the sound of Heater.
3. Press and hold for 4 seconds under OS:
   Shut down the system.
4. Press the power button for functions including:
   a. Power on the system.
   b. Force Shut Down.
   c. Sleep/Hibernate (Dependent on OS settings).

Installing Operating System

Your computer is designed to operate with Microsoft Windows 10 / 64-bit Operating System. Please connect your computer with an external USB-interface drive to start the OS installation.

Note:

- *A USB hub may be required during installation to connect with an external USB-interface ODD, as the System USB port may not supply enough power. Please connect your USB hub with extra power supply to complete the installation.*

Using Indicators and Keypad

Your tablet computer is designed with backlight buttons for easy and quick operations. Also, each LED indicator shows different meanings. The description of each LED indicator and button functions is provided for your operational reference.

LED Indicators

LED Indicator	Description
	**Power/ S3 Indicator:** Green/ Flashing Red
	**Charging/ Battery Low Indicator:** Orange/ Flashing Orange
	**SSD/ Heater Indicator:** Green/ Orange
	**Wireless Function Indicator:** Blue

Button	Description
Track pointer	Move the cursor on the screen.
Function Backlight	Increase Function Key Backlight
Left Mouse Button	Serve as Mouse Left Click

Some of the functions of the first layer buttons include:

Button Layer 1	Description
F1	Function Key F1/ BIOS General Help
F2	Function Key F2 / BIOS Previous Values
F3	Function Key F3 / BIOS Optimized Defaults
F4	Function Key F4 / BIOS Save & Exit
Tab	Tabulation
Minus (-) Sign	BIOS change option
Plus (+) Sign	BIOS change option
Left Arrow (←) Key	BIOS Select screen
Right Arrow (→) Key	BIOS Select screen

To perform 2nd layer combinational keystroke functions (keystroke functions printed in **blue**), press and hold the **[Fn]** key, then press the corresponding key combinations.

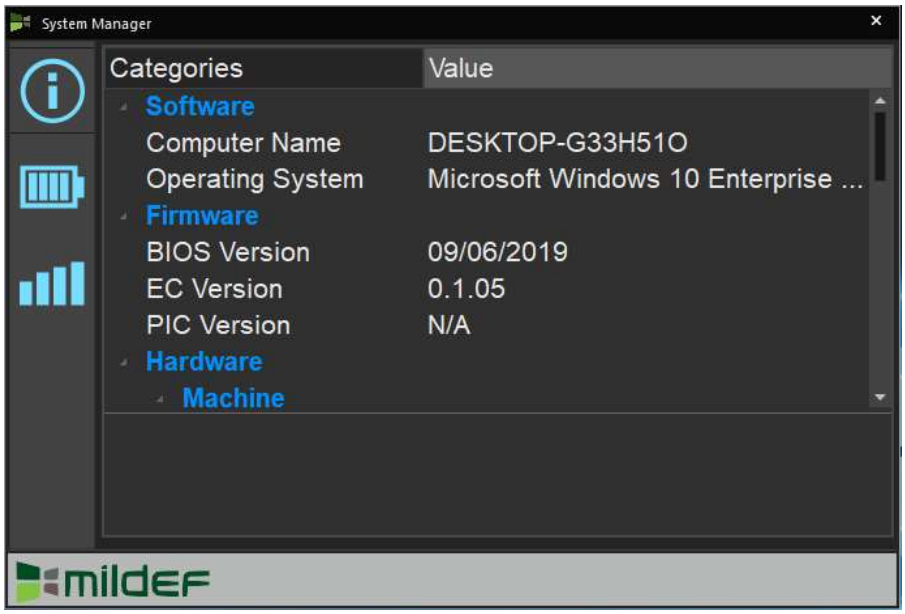
A list of useful combinational button functions is provided below for operational reference:

Button Layer 2	Description
[Fn] + [Esc]	Escape Key
[Fn] + [Ctrl]	Control Key
[Fn] + [↑]	Up Arrow Key
[Fn] + [↓]	Down Arrow Key
[Fn] + [Alt]	Alt Key
[Fn] + [ ]	Increase LCD brightness
[Fn] + [ ]	Decrease LCD brightness
[Fn] + [ ]	Enter Key

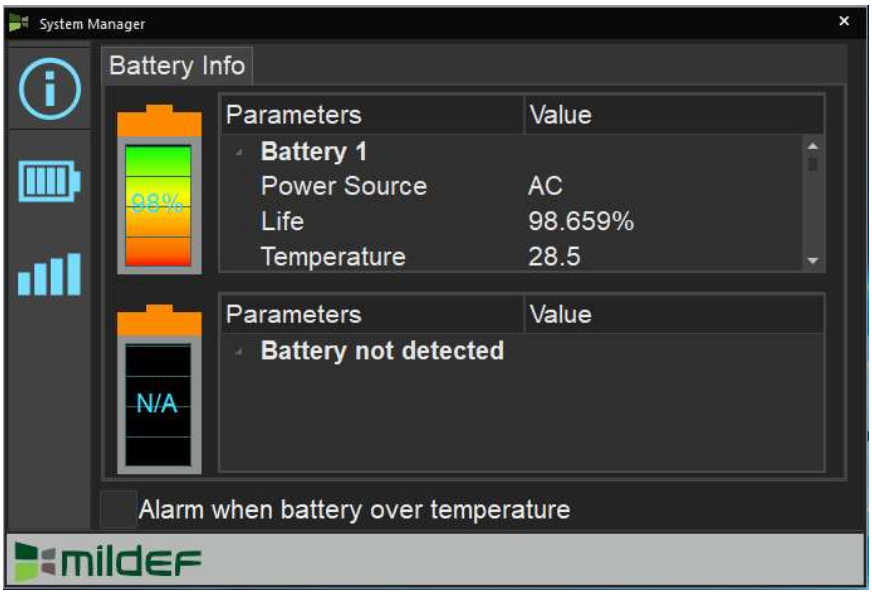
System Manager

System Manager is an app which allows user to access information (System, battery), and set RF device, function keys easily.

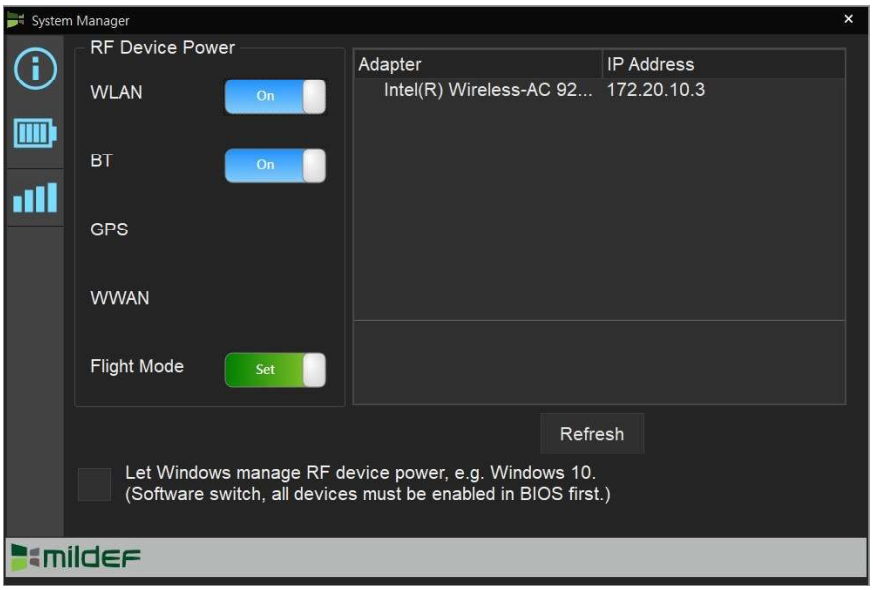
1. System information:



2. Battery information:



3. RF Device control panel:



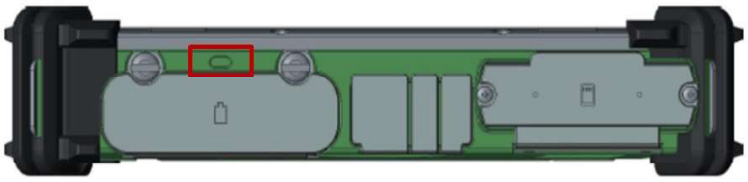
Available Function Items List

None
Open/ Execute a selected file
Open URL in default browser
Change display output
Brightness up
Brightness down
Volume up
Volume down
Volume mute
Launch on-screen keyboard
Launch Windows Mobility Center
Launch File Explorer

Note:

- *"System manager" is a universal app so some pages may be different according to your system. For example, function key setting page will be unavailable for those devices without user settable function key.*

Using Kensington Lock Slot



Loop the lock cable around a stationary object such as a table and plug the Kensington Lock into the Kensington Lock Slot to lock it.

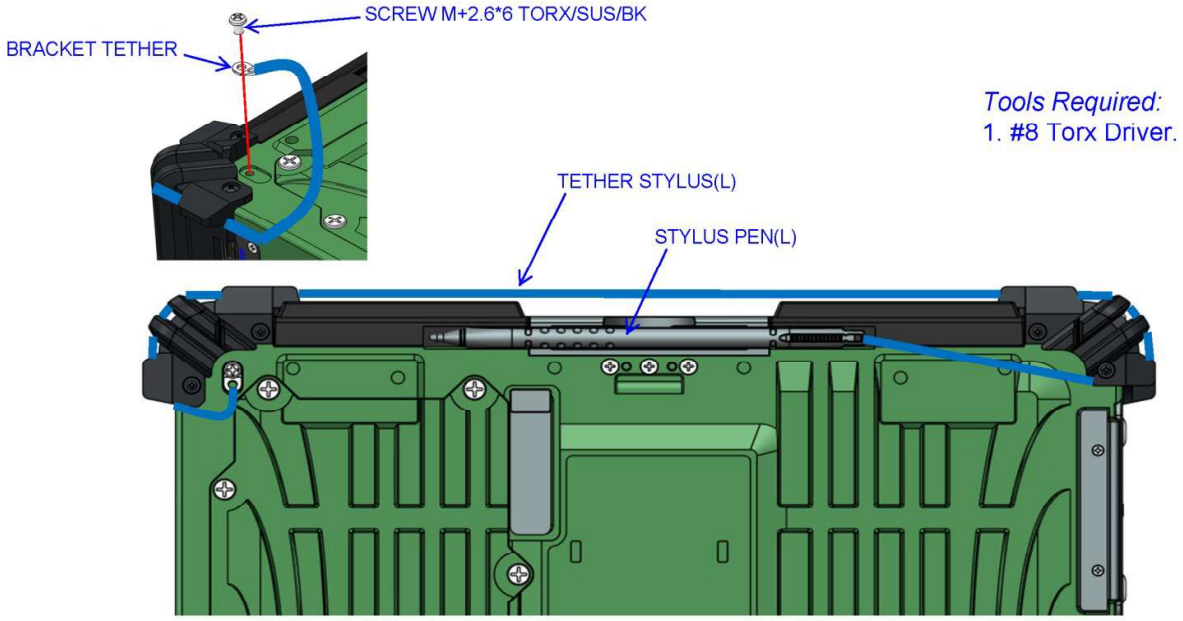
Note:

- *Kensington Lock is a widely available 3rd party product.*

Installing Stylus Pen

To install a Stylus Pen:

1. Fix the Bracket Tether with a screw.
2. Wind the Tether around the computer.
3. Fix the Stylus Pen in the correct position.

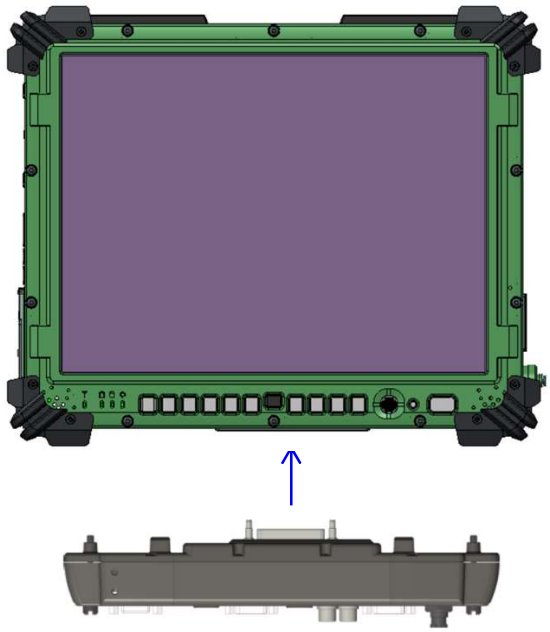


Mounting Docklight DL10

Docklight acts as docking unit or port enhancer. It contains more ports that are not available on system unit.

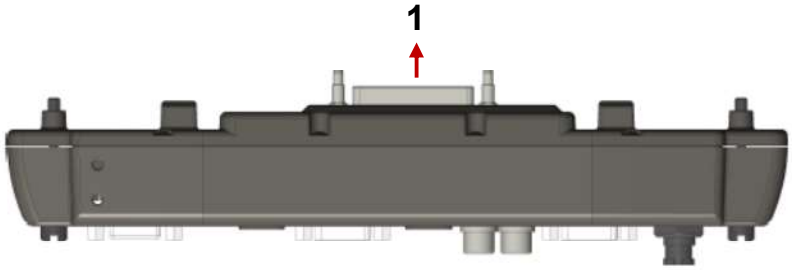
To mount a Docklight DL10

1. Open the rubber cap on the docking connector.
2. Align the docking connector.
3. Attach Docklight.
4. Fix the screws.



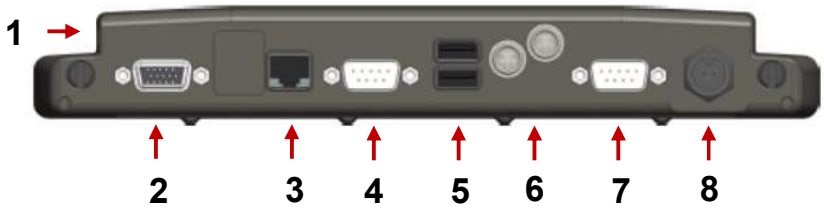
Docklight DL10 Ports

Top



1. Docking Connector

Bottom and Left



1. Audio Jacks (Microphone/Speaker) x 2
2. VGA DB15 Port x 1
3. Optional GLAN RJ45 x 1
4. Serial Port (COM3: Default RS232) x 1
5. USB Port 1, 2 (Standard type) x 2
6. USB Port 3, 4 (Proprietary sealed type) x 2
7. Serial Port (COM2: Default RS232) x 1
8. DC-In Conn. x 1
   -Standard: DC-In 2 pin
   -Optional: Military 3 pin

Chapter 3- Managing Power

AC Adapter

The AC adapter performs two functions:

- It powers the computer from an external AC source.
- It charges the computer battery.

The adapter automatically detects the AC line voltage (110V or 220V) and adjusts accordingly.

The following are recommended when using the AC adapter:

- Use a properly grounded AC outlet.
- Use one AC outlet exclusively for the computer. Having other appliances on the same line may cause interference.
- Use a power strip with built-in surge protection.

Connect the AC adapter:

- Plug the AC cord to the adapter.
- Plug the other end of the AC cord into the wall outlet. Make sure the green LED on the adapter turns on.
- Attach the DC plug into the power jack of the computer.

AC Adapter Indicator

The green LED indicates that AC power is ready.

Battery

The computer will automatically switch to battery when the external power source (AC adapter or optional vehicle adapter) is disconnected.

Battery Power Saving Tips

The computer comes with an intelligent power-saving feature. You may extend the battery life by:

Setup power saving functions in Operating System Power Management options (e.g. Windows Power Options).

Lower the intensity of the display by brightness control.

Turn the computer into standby (by Sleep or Power button) when it is temporarily not in use.

Shut down the computer when it will not be in use for longer period of time.

Battery Low

When the battery is nearly exhausted, the computer gives the following “Battery Low” warnings:

Windows battery low warning.

The charger LED flashes.

Once the “Battery Low” warning occurs, please:

Save and close the files you are currently working on then shut down the computer.

Plug in AC or vehicle adapter to recharge the battery.

Charging the Battery

There are two battery packs in the tablet computer; on the left side is the primary battery, and on the rear side is the second. When the tablet computer is connected to AC adapter, the primary battery will be charged first, and then the second battery. When the tablet computer is powered by the battery, secondary will be discharged first, and then the primary one. Attach the AC adapter or vehicle adapter to charge battery, when the battery is full, battery will automatically stop charging. You could check if the battery is being charged by “battery indicator LED”, the LED is off when charging is finished.

	Charging (with power adapter attached)	**Discharging** (without power adapter attached)
Primary Battery (Left)	First priority	Second priority
Secondary Battery (Rear)	Second priority	First priority

Battery Shut Down Mode

The battery is designed with Shutdown Mode and it will automatically enter this mode to prolong its storage time and to avoid itself from over-discharging. Shutdown Mode will be activated:

- When the battery itself is not in use for over 45 days

The battery in Shutdown Mode may be sustained for approximately 180 days. To deactivate Shutdown Mode, please connect battery to the handheld and then to the AC Adapter. The charge indicator lights orange means the deactivation of Shutdown Mode has completed.

Battery Characteristics

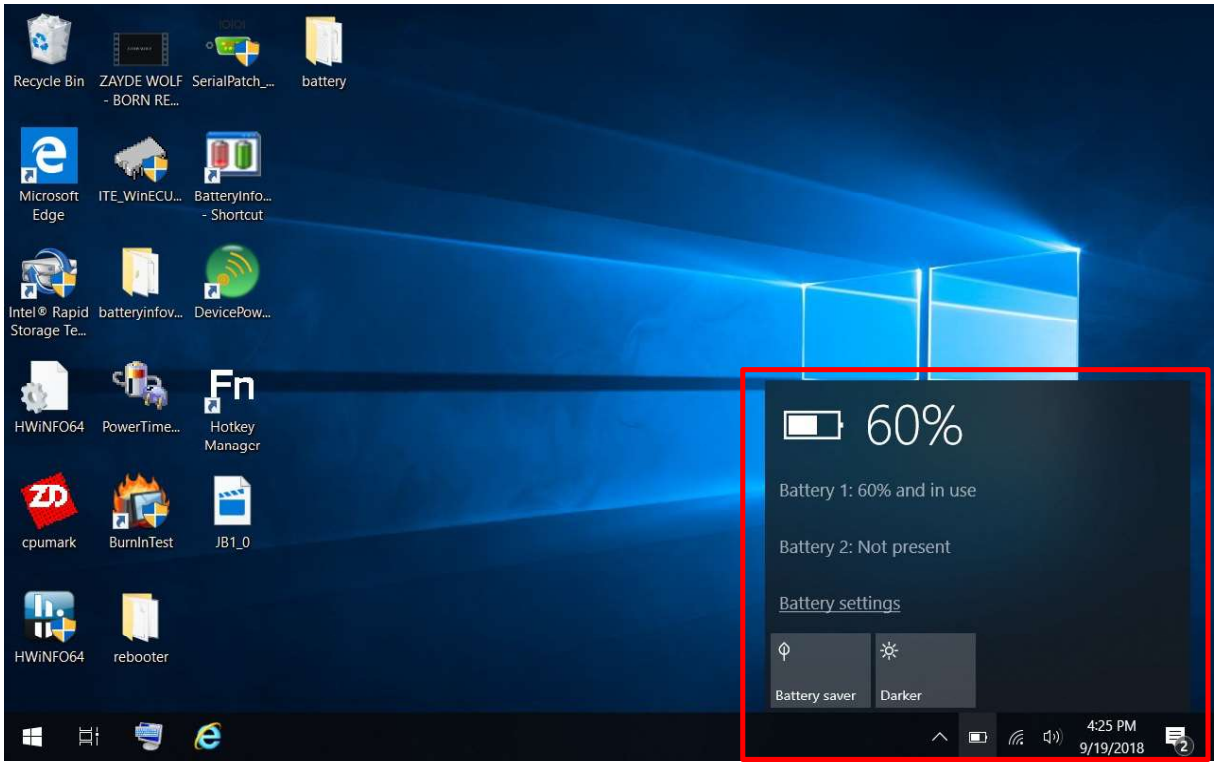
Battery power will decrease gradually in storage. The rate depends on “self-discharge rate” and the storage environment. Self-discharge rate of rechargeable batteries is approximately 1% per day. High humidity and high temperature accelerate discharge. Very low temperature may “freeze” the battery chemicals thus decreases the capacity. The following shows some guidelines for users to maintain the battery.

1. If the battery will not be used for a long period of time, it is suggested to do the procedure every six months: discharge the battery to 0%, charge to 100%, and then discharge to 50% to store the battery. For the battery without using for more than 2 years, it may result in battery aging and is not recommended to use it.

2. About self-discharge rate, it is related to storage temperature. When store the battery in -20℃~20℃ environment, the battery may self-discharge to 0% less than one year; when in -20℃~45℃, it may self-discharge to 0% less than three month; when in -20 ℃~60℃, it may self-discharge to 0% less than one month.

Battery Level

You may check battery status from Operating System. In Windows, you can click the power/battery icon to reveal the battery gauge window. The following is the illustration of Battery Gauge in Windows OS.



Note:

- *The battery gauge should only be used as a reference. Please do not expect it to show the exact amount of the power remaining. There is no memory effect on Lithium Ion battery cells. However, discharge the battery to nearly empty every month will help calibrating the internal gauge.*

Battery Recalibration

Battery recalibration allows a user to calibrate the GAUGE IC parameter of the battery pack. When the battery stays fully charged or in a low charge state for a long period of time, it causes the battery gauge to have some minor discrepancies. Therefore, users are recommended to carry out battery recalibration to correctly calibrate the battery GAUGE IC. To perform battery recalibration, please follow the steps as below:

1. Update BIOS & EC to the latest version.

2. Insert the battery to the computer, and connect it to AC adapter.

3. Enter the BIOS => Choose “Advanced menu” => Choose “Battery Recalibration” => Press “Enter”.

4. When the “Start Battery Recalibration” pop-up appears, press “Yes” to continue. (Before you run the battery calibration, please make sure that the battery level must be LOWER than 95%; otherwise, the calibration cannot work.)

5. The recalibration is now processing. You can see the following recalibration status on the screen:

- Calibration Frequency: How many times the calibration is processed
- Battery Capacity: Current battery capacity
- Battery Charge Mode: Charge/Discharge
- Battery Learning Mode: Normal (charge) /Learn (discharge)
-

6. A pop-up appears when the calibration is completed. Then click “OK”.

7. Press “Yes” to reboot the computer when “Reset Without Saving” pop-up appears.

Note:

- *Do not turn off the LCD and do not remove AC adapter during the calibration.*
- *One cycle of recalibration process indicates “Charge to Full => Start Learn Mode => Discharge => Complete Learn Mode => Charge to Full”. It will take approx. eight hours for a cycle.*
- *It requires five cycles to complete the battery recalibration. Then the recalibration will stop automatically.*
- *If you want to terminate the calibrating, simply shut down the computer by pressing Power Button or just press "CTRL+ALT+DEL" to restart.*

ACPI Support

Your computer supports ACPI (Advanced Configuration and Power Interface) for power management. With ACPI and an ACPI-compliant operating system (such as Microsoft Windows), this feature will allow you to reduce the power consumption and conserve energy. By supporting ACPI, the AC adapter LED and the Power indicator LED will show in different ways. The followings are detailed descriptions of LED indicators and their meanings:

Sleep:

AC adapter LED is ON (while connecting with power)
Power LED indicator is flashing Green; other LED indicators are OFF

Hibernate:

AC adapter LED is ON (while connecting with power)
Power LED indicator is OFF; other LED indicators are OFF

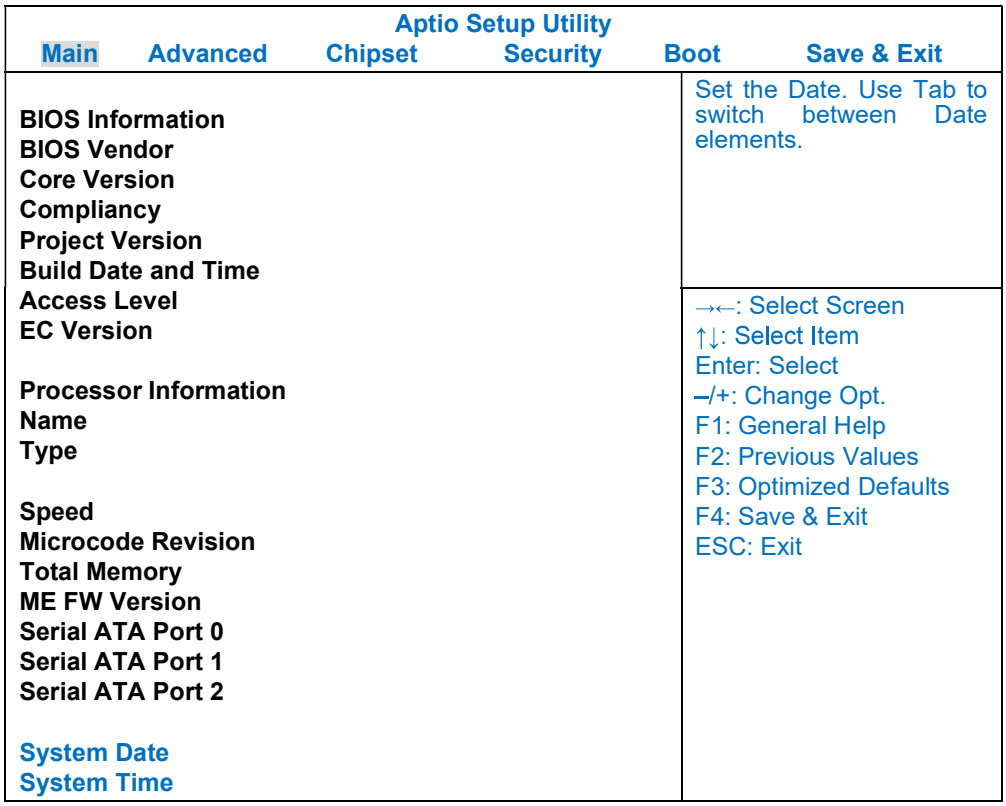
Shut down:

AC adapter LED is ON (while connecting with power)
Power LED indicator is OFF; other LED indicators are OFF

Chapter 4 - BIOS Setup

Press **[F2]** at boot up to enter BIOS setup. Use arrow keys to select options and **[+/-]** to modify them. When finished, move to "**Exit**" and press **[Enter]** then confirm save by pressing **[Y]**.

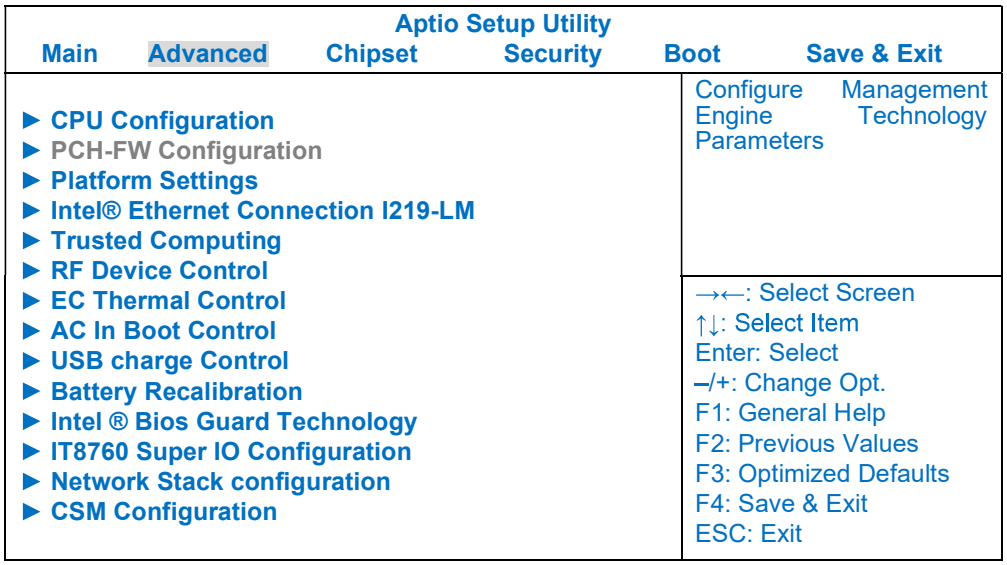
Main Menu



Note:

- *The contents may vary depending on computer configurations.*
- *Incorrect settings may cause system malfunction. To correct it, restore the Optimized Defaults with F3.*

Advanced Menu

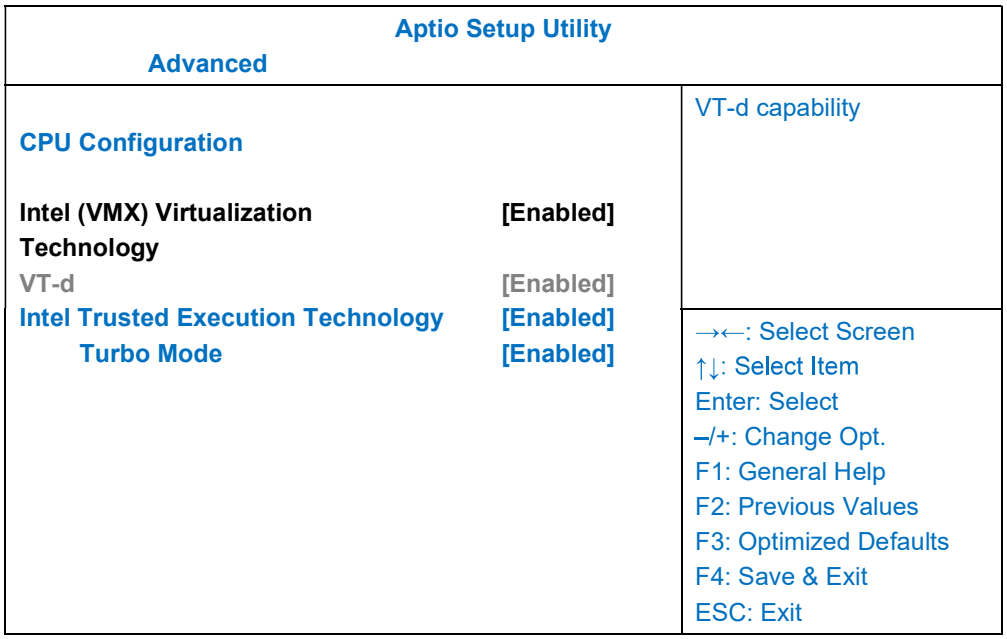


Advanced Menu Selections

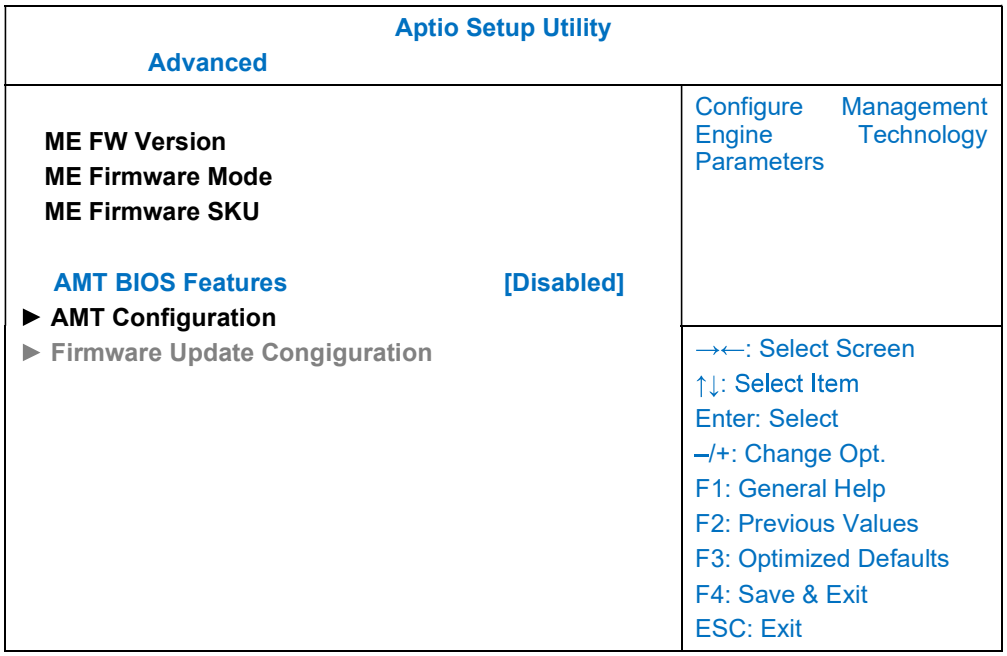
You can make the following selections on the Advanced Menu.

Feature	Options	Description
CPU Configuration	Disabled Enabled	CPU Configuration Parameters
PCH-FW Configuration	Firmware update Configuration	Configure Management Engine Technology Parameter
Platform Settings	EU USA	Platfrom related settings
Intel® Ethernet Connection I219-LM	Link Speed	Auto Negotiated 10 Mbps Half 10 Mbps Full 100 Mbps Half 100 Mbps Full
	Wake On LAN	Disabled Enabled
Trusted Computing	Security Device Support	Disabled Enabled
	Pending operation	None TPM Clear
RF Device Control	Disabled Enabled	GSM, GPS, Bluetooth®, WLAN
EC Thermal Control	60 C 65C 70 C 75 C 80C 85C	EC Thermal Control Setting
AC In Boot	Disabled Enabled	AC In Boot Setting
USB charge Control	Disabled Enabled	Enable / Disable USB Charging in mode
Battery Recalibration	Yes No	Start Battery recalibration function
Intel® Bios Guard Technology	Disabled Enabled	Enable / Disable Intel Bios Guard Support
IT8760 Super IO Configuration	Serial Port 1 Configuration	Enable / Disable Serial Port (COM)
	Serial Port 2 Configuration	Enable / Disable Serial Port (COM)
	Serial Port 3 Configuration	Enable / Disable Serial Port (COM)
	Serial Port 4 Configuration	Enable / Disable Serial Port (COM)
Network Stack Configuration	Disabled Enabled	Enable / Disable UEFI Network Stack
CSM Configuration	Disabled Enabled	Enable / Disable CSM Support

CPU Configuration Sub-Menu



PCH-FW Configuration Sub-Menu



Platform Settings Sub-Menu

Aptio Setup Utility Advanced	
Wireless Regulatory Domain Setting SAR [EU]	Set related parameter based on area.
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Intel® Ethernet Connection I219-LM Sub-Menu

Aptio Setup Utility Advanced	
Port Configuration Menu ► NIC configuration **Blink LEDs** **Port configuration information** **UEFI Driver :** **Adapter PBA :** **Chip Type** **PCI Device ID** **PCI Address** **Link Status** **Mac Address**	Click to configure the network device port
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Trusted Computing Sub-Menu

Aptio Setup Utility Advanced		
TPM20 Device Found **Vendor: IFX** **Firmware Version: 5.61** Security Device Support **Pending operation**	 [Enabled] **[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.
		→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

RF Device Control Configuration Sub-Menu

Aptio Setup Utility Advanced		
RF Device Control		RF Device Control Setting
GSM STATUS **GPS STATUS** GPS **BT STATUS** **BT** **WLAN STATUS** **WLAN**	**Not Present** **Present** [Enabled] **Present** **[Enabled]** **Present** **[Enabled]**	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

EC Thermal Control Sub-Menu

Aptio Setup Utility Advanced	
EC Thermal Control Thermal cooling trip point [75 C]	EC Thermal Control Setting
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

AC In Boot Control Sub-Menu

Aptio Setup Utility Advanced	
AC In Boot AC In Boot Control [Disabled]	AC In Boot Setting
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

USB charge Control Sub-Menu

Aptio Setup Utility Advanced	
USB charge Cintrol USB charge Enable [Disabled]	Enable/Disable USB Charging in mode
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Battery Recalibration Sub-Menu

Aptio Setup Utility Advanced	
Battery Recalibration Utility **Calibration Frequency** **Battery Capacity** **Battery Charge Mode** **Battery Learning Mode** **Note: Only support single battery recalibration in the same time, while the Utility is executing, please don't close the LCD and don't disconnect the AC adapter. The battery recalibration will follow the steps and takes about 12hrs (by battery capacity) to complete the battery recalibration process.**	Start Battery recalibration function
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Intel ® Bios Guard Technology Sub-Menu

Aptio Setup Utility Advanced	
Intel Bios Guard Support [Disabled]	Enable/ Disable Intel Bios Guard Support
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

IT8760 Super IO Configuration Sub-Menu

Aptio Setup Utility Advanced	
IT8760 Super IO Configuration **Super IO Chip** **IT8760** ▶ **Serial Port 1 Configuration** ▶ **Serial Port 2 Configuration** ▶ **Serial Port 3 Configuration** ▶ **Serial Port 4 Configuration**	Set Parameters of Serial Port 1 (COMA)
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Network Stack Configuration Sub-Menu

Aptio Setup Utility Advanced	
Network Stack [Disabled]	Enable/Disable UEFI Network Stack
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

CSM Configuration Sub-Menu

Aptio Setup Utility Advanced	
Compatibility Support Module Configuration CSM Support [Disabled]	Enable/Disable CSM Support.
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Chipset Menu

Aptio Setup Utility					
Main	Advanced	Chipset	Security	Boot	Save & Exit

► 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

PCH-IO Configuration Sub-Menu

Aptio Setup Utility Chipset	
PCH-IO Configuration ► HD Audio Configuration PCH LAN Controller [Enabled] Wake on LAN [Disabled] SLP_LAN# Low on DC Powet [Enabled]	HD Audio Subsystem Configuration Settings
	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Security Menu

Aptio Setup Utility					
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** **HDD Security Configuration:** **P1: XXXXXXXXXXXX** **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

HDD Security Configuration Sub-Menu

Aptio Setup Utility	
Security	

HDD Password Description: **Allows Access to Set, Modify and Clear HardDisk User and Master Passwords. User Password needs to be installed for Enabling Security. Master password can be Modified only when successfully unlocked with Master Password in POST.** **HDD PASSWORD CONFIGRATION:**	Set HDD User Password. ***Advisable to Power Cycle System after setting Hard Disk Passwords***. Discard or Save changes option in setup does not have any impact on HDD when password is set or removed. If the'Set HDD User Password' option is grayed out, do power cycle to enable the option again.
Security Supported : Yes **Security Enabled : No** **Security Locked : No** **Security Frozen : No** **HDD User Pwd Status NOT INSTALLED** **HDD Master Pwd Status NOT INSTALLED** Set User Password **Set Master Password**	→←: Select Screen ↑↓: Select Item Enter: Select –/+: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Setting Password

1. Once you set HDD passwords successfully, you must enter user password to boot in the future. The master password provides an alternative entry in case the user password is lost.
2. Clearing the master password in BIOS setup will also clear the current user password. Master password is used as a backup key, it's better not to be changed frequently.
3. You can set your master password and user password with a length between 1 and 32 characters. If you want to clear current password, type nothing when creating a new password.
4. After you set a password, "Pwd Status" will change from "NOT INSTALLED" to "INSTALLED" and the "security enabled" status will change to "YES".
5. Your setting will take effect after reboot.

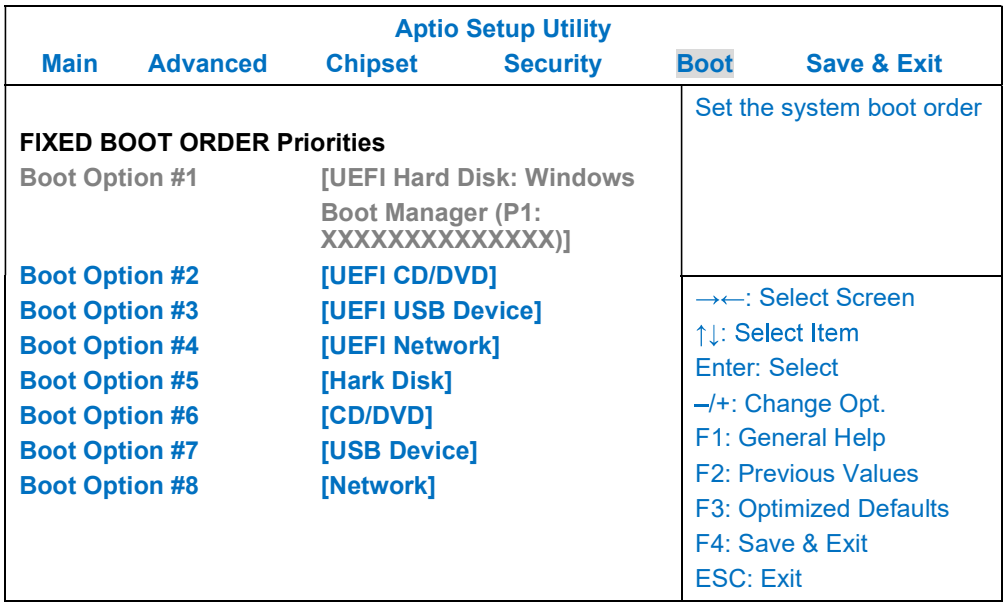
Note:

- *If the master password is lost or it is not set earlier than the user password, losing the user password would make accessing impossible. So please set the master password at first and keep it carefully.*

Resetting Password

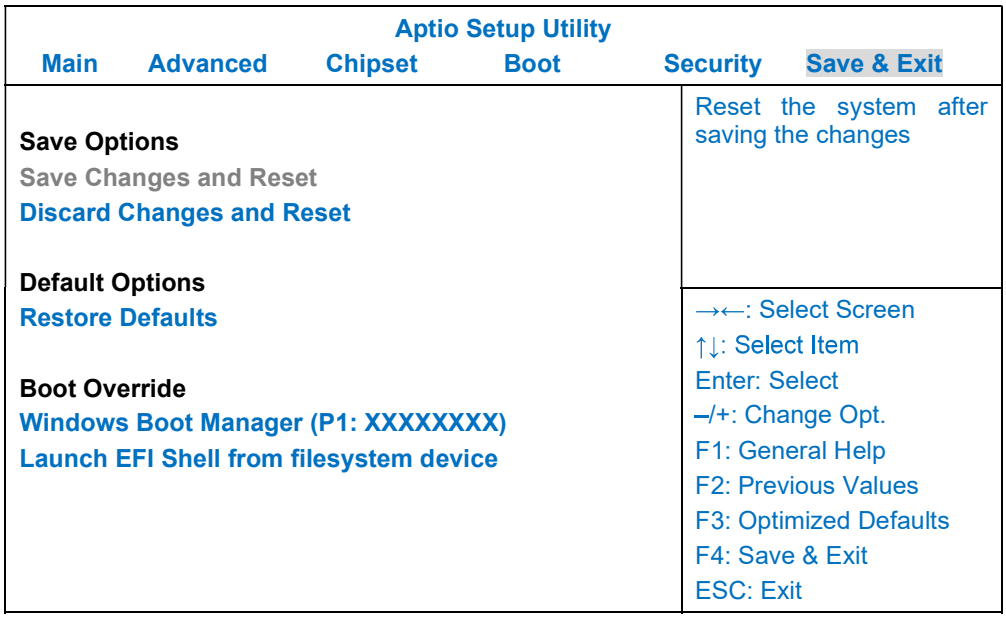
1. After typing an invalid user password three times, a message will show "HDD is locked". Pressing "Enter" will leave the screen message.
2. Press "F2" immediately to enter the BIOS setup where the lost user password could be cleared with the master password.
3. Once the HDD is locked, users have no right to access. You can only enter again by the correct user password or clear it by the master password.
4. A warm boot will cause HDD Security Frozen in the selection. Only a cold boot can lift the HDD Security frozen and allow further operations in the BIOS setup. (After a cold boot, users can try to enter again with the correct user password or just reset it with the master password)

Boot Menu



The system will try to boot from device on top then the 2nd and so on. If there is more than one device in each category, only the device on top of sub-menu can boot up.

Save & Exit Menu



Chapter 5 – Drivers and Applications

The Utility DVD includes all the drivers for the devices installed in your tablet computer. Please consult your dealer if there are any driver missing. Also, you could update the driver or check if there any driver need to be installed by "Windows device manager". Please check the ”readme.txt” file on Utility DVD to get the information for driver installation.

Chapter 6 – Specifications

Platform

Intel® Kaby Lake-U Platform

Processor

Intel® 7th Generation Dual Core™ i7-7600U Processor (4M Cache, up to 3.90 GHz)

Memory

Max. 32GB

- Industrial grade
- 8GB/16GB/32GB
- DDR4 SO-DIMM x 1, 2400/2666MHz

Graphics

Intel® HD Graphics 620

Display

- Standard:
  - 12.1" XGA LCD
  - Resistive Single-Touch Screen
  - Optical Bonding
  - Resolution: 1024 x 768 pixels
  - Brightness (Min. ~ Typ.): 450~650 nits

- Optional:
  - Invisible mode on/ off

Note:

- *Invisible Mode On/Off controls all light sources on/off, including LCD B/L, LED Indicators & Keypad B/L.*

Storage

- 2.5” SATAIII SSD
- 128GB/256GB/512GB/1TB
- Interface: SATAIII
- Height: 7mm
- Industrial-Grade

Audio

- HD Audio and Stereo Speakers

I/O Ports

Left:

- GLAN RJ45 x 1
- USB 3.1 Gen. 1 x 2
- Multi Bay
  -Express Card Slot x 1
  -SIM Card Slot x 1 + SD Card Slot x 1

Right:

- Serial Port DB9 x 1

Rear:

- 2nd Battery Conn. x 1

Bottom:

- Docklite Connector (120 pin) x 1

Power

- **AC Adapter**

Input Voltage:	AC 100 - 240V
Frequency:	50/60 Hz
Output Voltage:	DC 19V
Maximum Power:	90 Watts
Dimensions:	133 mm (W) x 58mm (D) x 30mm (H)
Weight:	400 g (0.88 lb.)

- **DC-In:**

12~32V with BVA & Surge Protector
Std. DC-in: Industry 2 pin
Optional DC-in: Military 3 pin

- **Primary Battery (BDKD3A)**

Type:	Lithium Ion
Capacity:	10.8V/ 9125mAh
Operating Temperature	Charge: 10 ~ 45°C
	Discharge: -20 ~ 60°C
Dimensions:	163.2 mm (W) x 76.8 mm (D) x 21.1 mm (H)
Weight:	480 g

- **Optional 2nd Battery (BDRD3A):**

Type:	Lithium Ion
Capacity:	10.8V/ 9100mAh
Operating Temperature	Charge: -10 ~ 55°C
	Discharge: -10 ~ 55°C
Dimensions:	169.3 mm (W) x 90 mm (D) x 22.5 mm (H)
Weight:	460 g

Note:

- *These battery packs are designed with Shut Down Mode feature.*
- *The battery LED indicators has no function when entering SDM.*
- *For more information, please refer to Chapter 3 - Managing Power.*

Case

- Magnesium
- Color: Black and NATO Green

Environmental Specifications

- **Operating Temperature**:
  Standard Operating: -20°C* ~ +50°C***
  Optional Operating: -30°C** ~ +50°C***
- **Storage Temperature**: -40°C ~ +70°C

Note:

- *To ensure system stability, please connect your laptop to external power source when operating below 0°C and above 50°C ambient temperature.*

**Instant Cold Boot via AC Mode*
***Cold Boot via AC Mode, with LCD Heater.*
****via AC Mode.*

Dimensions and Weight

- Dimensions (mm): 310 (L) x 255 (W) x 54 (H)
- Weight: 2.77 kg

Note:

- *Weight includes DRAM x 1, WLAN/Bluetooth® Module, GPS, 2nd GLAN Card, battery x 1, SSD x 1*
- *Weight and dimensions vary depending on system configurations.*

Certification

CE, FCC, UKCA, WEEE, REACH, RoHS, IP65, MIL-STD-810H, Optional MIL-STD-461G (G.A.), Optional MIL-STD-461G (G.N.)

Note:

- *IP65 is tested without I/O caps.*
- *IP65 is not compliant when the I/O ports are attached with external connectors.*

Materials and Recycling

Materials of the computer are as follows:

Metal case:	Magnesium alloy, AZ91D
PCB:	FR-4, UL 94V0
Battery:	Rechargeable Lithium Ion cells
Packing:	Carton: Unbleached paper
	Cushion: Recyclable PE
	Carrying bag: Recyclable PE Fiber
	Quick Guide: Paper

Please recycle the parts according to local regulations.

Chapter 7 – Optional Devices

Communication

- **WLAN/ Bluetooth®:**
  - Intel Dual Band wireless- AC 9260
  - Board Form Factor: M.2 2230 E-key Card
  - WLAN Certified: 802.11 a/b/g/n/ac
  - Bluetooth®: Supports Bluetooth® 5.0
  - Interface: PCIe (WLAN)/USB (Bluetooth®)
- **GNSS:**
  - Ublox M8N (USB interface)
- **2nd GLAN Card:**
  - Intel I210 GLAN Card
  - Mini PCIe full-size form factor

Memory

The memory card will expand your memory to facilitate better system performance. Industrial grade DDR4 SO-DIMM x 1 is available, supporting 8/16/32GB DDR4 2400/2666 memory card. The maximum capacity is 32GB.

Trust Platform Module (TPM2.0)

BIOS password and Kensington cable lock slot are available to safely secure your computer. Optional TPM (Trusted Platform Module) version 2.0 is also supported, preventing unauthorized access to your computer.

BVA & Surge Protector Module

BVA & Surge Protector Module is designed for all equipment to directly connect with the vehicle power system. Containing the reverse polarity protection and the breaking of high voltage input, the module is able to be against high 100V at 50ms surge.

Note:

- *If you'd like to use DC-in 12V, please make sure the DC-in conn. is more than 12V, and the DC cable should withstand more than 8A.*

Stand Unit

Stand unit can hold the system unit and Docklight with adjustable view angle. It can be used in the office or in a vehicle.

- **Physical Caracteristcs**
  - Dimensions (cm): 28 (L) x 16 (W)x 36 (H)
  - Weight: 2.1 kg

Multi-Battery Charger DK

Multi-Battery Charger DK provides three slots (Primary x 2; Secondary x 1), each slot works independently. It takes 2~3 hours to charge a primary battery while charging a secondary battery takes 3~4 hours. The operating temperature ranges from -20°C ~ 50°C.

- **Electronic characteristics**
  - DC Input Range: 12V~32V
  - Battery Charging Time (Approx.):
  - 1 primary = 2~3 hr
  - 1 secondary = 3~4 hr
  - 1 primary + 1 secondary = 5~6 hr
  - 2 primary + 1 secondary = 7~8 hr
  - CE/FCC Certified

- **Physical Caracteristcs**
  - Dimensions (mm): 160 (L) x 180 (W) x 83.5 (H)
  - Weight: 620 g

- **Environmental Ratings**
  - Operating Temperature: 0°C ~ 45°C
  - Storage Temperature: -40°C ~ 70°C

Docklight DL10

The Docklight can attach to computer or stand unit for mobile or stationary operation.

- **Ports**
  - Serial Port x 2
  - USB2.0 x 4,
  - VGA x 1,
  - DC-In x 1,
  - Optional GLAN RJ45 x 1
  - Audio (speaker out, microphone in),
- **Physical Characteristics**
  - Dimensions: 250 mm (W) x 35 mm (D) x 58.6 mm (H)
  - Weight: Approximately 0.35 kg
- **DC input:** 12~32V
- **Environmental & Certifications:** CE, FCC, IP54

Note:

- *Serial Ports: COM2/COM3 default RS232*
- *USB Ports: 2 standard and 2 proprietary environmentally sealed USB jacks.*
- *Audio Port: 3.5 mm Jack*
- *Optional Giga LAN requires 2nd Giga LAN card be installed in DK13.*

Chapter 8 – Maintenance and Service

Cleaning

ALWAYS turn OFF the power, unplug the power cord and remove the battery before cleaning.

The exterior of the system and display may be wiped with a clean, soft, and lint-free cloth. If there is difficulty removing dirt, apply non-ammonia, non-alcohol based glass cleaner to the cloth and wipe.

An air gun is recommended for cleaning water and dust. For salty water please clean with fresh water then blow-dry with an air gun.

Troubleshooting

Should the tablet computer fail to function properly, the troubleshooting steps below may be followed.

- Power Problems:

When I turn on the Tablet computer, it does not respond.

- If you are using battery power, check if the battery is charged
- If you are using AC power, ensure that the connection of AC adapter is correct.

I cannot return from Hibernation while on battery power

- The battery might be drained. Please plug the tablet into AC power.
- Hard reset the device by pressing the power button for 4 seconds

Unexpected or improper shutdown causes BIOS to reset to Optimized Default

- This could be a power problem. Please connect the AC power adapter to fix the abnormal shutdown problem.

- Minimize the configuration, i.e. remove extra peripherals and devices.
- Remove the modules one by one (SSD, Battery, etc.).
- Remove the software suspected.
- Set BIOS fail-safe default.
- Re-install operating system and application software.