iPOS plus Advanced

User Manual
(Edition December 2018)

01750299682 D

Diebold Nixdorf

DieboldNixdorf.com

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1 Manufacturer's Certification

	The device complies with the requirements of the EEC directive 2014/30/EU with regard to ‘Electro-magnetic compatibility" and 2014/35/EU “Low Voltage Directive” and RoHS directive 2011/65/EU.
	In addition, the BEETLE /iPOS Plus Advanced has received the UL symbol and cUL symbol.

1.1 FCC Class-A Declaration

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Modifications not authorized by the manufacturer may void users’ authority to operate this device.

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.

CAN UCES-3 (A)/NMB-3(A)

1.2 Energy Efficiency

iPOS Plus Advanced is tested in an accredited test lab and can meet the Eligibility Criteria for Integrated Desktop laid down in ENERGY STAR version 6.0 for Computers. On a request basis, an application can be made to Energy Star for listing.

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1.3 Wireless Declaration of Conformity

Hereby, Diebold Nixdorf declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EC.

Cs̆ky [Czech]:	Diebold Nixdorf tímto prohlašuje, že tento zařízení je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2014/53/ES.
Dansk [Danish]:	Undertegnede Diebold Nixdorf erklærer herved, at følgende udstyr Enhed overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EF.
Deutsch [German]:	Hiermit erklärt Diebold Nixdorf, dass sich das Gerät in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EG befindet.
Eesti [Estonian]:	Käesolevaga kinnitab Diebold Nixdorf seadme vastavust direktiivi 2014/53/EÜ põhinõuetele ja nimetatud dire ktiivist tulenevatele teistele asjakohastele sätetele.
English:	Hereby, Diebold Nixdorf declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EC.
Español [Spanish]:	Por medio de la presente declara que el dispositivo cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/CE.
Ελληνική [Greek]:	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Diebold Nixdorf ΔΗΛΩΝΕΙ ΟΤΙ συσκευή ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/ΕΚ.
Français [French]:	Par la présente Diebold Nixdorf déclare que l'appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/CE.
Italiano [Italian]:	Con la presente Diebold Nixdorf dichiara che questo dispositivo è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/CE.
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Português [Portuguese]:	Diebold Nixdorf declara que este dispositivo está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/CE.
Slovensko [Slovenian]:	Diebold Nixdorf izjavlja, da je ta Naprava v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2014/53/ES.
Slovensky [Slovak]:	Diebold Nixdorf týmto vyhlasuje, že zariadenie spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/ES.
Suomi [Finnish]:	Diebold Nixdorf vakuuttaa täten että laite on direktiivin 2014/53/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden eh tojen mukainen.
Svenska [Swedish]:	Härmed intygar Diebold Nixdorf att denna enhet står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EG.
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Norsk [Norwegian]:	Diebold Nixdorf erklærer herved at utstyret enhet er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/EF.

The declaration of conformity may be consulted at: http://www.dieboldnixdorf.com

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1.4 Important Notes

Diebold Nixdorf is not responsible for any radio and television malfunctions which emerge from unauthorized changes in the device. Make sure that only cables and devices may be connected which are admitted by Diebold Nixdorf. The user is responsible for any malfunctions that emerge from the actions mentioned before.

	The device may only be installed, or repaired by authorized qualified personnel. Unauthorized opening of the device and inexpertly carried-out repairs may not only seriously jeopardize the safety of the user, but also cancel all warranty and liability agreements.
	Expansion cards with electrostatically sensitive devices (ESD) may be marked with this sticker.

When opening the device or handling modules fitted with ESD, please observe the following instructions, which pertain to all electrostatic sensitive devices (ESDs):

1. Always use the antistatic kit.
2. Statically discharge yourself, for example by touching an earthed object (such as a heat radiator) before beginning to work with ESD-labeled components.
3. Likewise, all equipment and tools used in working with such components must be free of static charge.
4. Pull the mains plug before inserting or removing such components.
5. Only handle such components by their edges.
6. Never touch any terminal pins of the strip conductors on such components.

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1.5 Safety Notes

The iPOS plus Advanced conforms to the current safety standards for data processing equipment.

- If this device is taken from a cold environment into the operating room, moisture condensation may form. The device must be absolutely dry before being put into service; an acclimatization period of at least two hours must therefore be observed.
- This device is equipped with a safety-tested power cable and may be connected only to a prescribed grounded-contact power socket.
- When setting up the device, ensure that the power socket on the device and the grounded-contact power socket are easily accessible.
- Whenever work of any kind is done on the device, as well as when data cables are plugged and/or unplugged, the device must be completely disconnected from the line voltage. To do so, turn the device off and unplug the power cord.
- To disconnect the device from the supply voltage completely, switch off the device and disconnect the power plug of the system.
- Never plug in or unplug data communication lines during thunderstorms.
- Protect devices from vibrations, dust, moisture and heat.
- Always dispose of used parts, such as batteries, in an environmentally safe manner.
- In emergencies (e.g. damaged housing or damaged power cable, penetration by liquids or foreign bodies), the device must be switched off immediately, the power plug disconnected and the Customer Service of Diebold Nixdorf or your dealer must be notified.
- Your iPOS plus Advanced system is the result of modern technical innovation. So please see for according structural and technical surroundings to guarantee a faultless and efficient work of your iPOS plus Advanced. Therefore, you should connect your iPOS plus Advanced or other IT-devices only to power supply systems with separately guided protective earth conductor (PE). This kind of electricity system is known as TN-S network. Do not use PEN conductors!
- Please also observe the recommendations of the norm DIN VDE 0100, Part 540, Appendix C2 as well as EN50174-2, §5.4.3.Thus you can help to avoid possible malfunctions.
- If you replace a storage medium, make sure that you only use the storage medium recommended or approved by Diebold Nixdorf.
- You can connect or disconnect USB devices during operation of your iPOS plus Advanced, provided that these devices comply with the specifications according to usb.org. Other peripheral devices (such as Powered USB printer) should be connected to or disconnected from your iPOS plus Advanced system only after the iPOS plus Advanced has been switched off.

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1.6 Supplier's Declaration of Conformity

Product Description: POS Terminal

Model: BEETLE /iPOS plus Advanced

Party issuing Supplier’s Declaration of Conformity

Diebold Nixdorf Singapore PTE. LTD.

151 Lorong Chuan New Tech Park #05-01 A/B

Singapore 556741

Phone: +65 6747 3828

Responsible Party – U.S. Contact Information

Diebold Nixdorf

5995 Mayfair Road

N. Canton, OH 44720 / USA

Phone: +1 330 490 5049

FCC Compliance Statement (for products subject to Part 15)

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.

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2 Introduction

2.1 About This Manual

This documentation is intended to help you to work with the iPOS plus Advanced (2nd generation) system and to serve as a reference work. The detailed table of contents will help you find the desired information quickly and easily.

	Notes in the manual are marked by this symbol.
	This symbol is used for warnings.

The type and scope of application programs depend on the customer's own selection; therefore, software will not be discussed further in this manual.

2.2 Care of the iPOS Plus Advanced

Clean your system's housing at regular intervals with a dry, lint-free cloth. If this does not suffice please use a suitable plastic-surface cleaner which you can order from Diebold Nixdorf.

For more information about cleaning read the chapter "Projective Capacitive Touch Screen" and "Resistive Touch Screen". When cleaning always make sure that the power plug is disconnected and that no liquid finds its way into the device.

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2.3 Recycling the iPOS Plus Advanced

Environmental protection does not begin when the time has come to dispose of the iPOS plus Advanced; it begins with the manufacturer. This product was designed according to our internal norm “Environmental conscious product design and development”.

The iPOS plus Advanced system is manufactured without the use of CFC and CHC and is produced mainly from reusable components and materials.

Please do not stick labels onto plastic case parts. This would help us to reuse components and material.

But there are still some parts that are not reusable. Diebold Nixdorf guarantees the environmentally safe disposal of these parts in a Recycling Center, which is certified pursuant to ISO 9001 and ISO 14001.

You can protect our environment by only switching on your equipment when it is actually needed. If possible, even avoid the stand-by-mode as this wastes energy, too. Also switch your equipment off when you take a longer break or finish your work.

Please contact your competent branch or the Recycling Center Paderborn (for European countries) for information on how to return and reuse devices and disposable materials under the following mail address.

Email: info@dieboldnixdorf.com or on the internet.

2.4 Warranty

In general, damages due to:

- improper or insufficient maintenance,
- improper use of the product or unauthorized modifications of the product,
- inadequate location or surroundings

will not be covered by the warranty.

For further information on the stipulation consult your contract.

All parts of the product which are subject to wear and tear are not included in the warranty engagement. For detailed warranty arrangements please consult your contract documents.

Please order spare parts at the Diebold Nixdorf customer service.

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2.5 Lithium Battery

CAUTION!

Incorrect replacement of the Lithium Battery may lead to a risk of explosion

The end user must replace the lithium battery only by identical batteries or types recommended by Diebold Nixdorf.

Do not throw Lithium Batteries into the trashcan. It must be disposed of in accordance with local regulations concerning special waste.

Make sure that you insert the Battery the right way round. The plus pole must be on top!

WARNING!

Always make sure that the system is switched off and the power cable is disconnected from the system before you replace the battery.

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2.6 Unpacking & Checking the Delivery Unit

Unpack the parts and check to see whether the delivery matches the information on the delivery note. The delivery comprises the respective screen module. Data cables, necessary for operation, can be ordered separately. If damage has occurred during shipping or if the package contents do not match the delivery note, immediately inform your Diebold Nixdorf sales outlet.

Transport the device only in its original packaging (to protect it against impact and shock).

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3 Basic Settings

This iPOS plus Advanced (2nd Generation) features a new motherboard based on Intel newer 6th Generation Core Processor with a more enhanced performance from the previous generations. Apart from the slimmer aluminium housing which reduces the overall thickness by about 10mm, it also shares many common parts.

The 6th Generation is the last of the Intel Core Processor series that supports Windows 7. If the application environment is not restricted by the Windows Editions, there is, on a project basis, an optional 7th Generation Core Processor to choose from.

3.1 Highlights

The iPOS plus Advanced configuration can consist of the following components:

3.1.1 Processor Type

Celeron G3900TE

Intel Core i3-6100TE

Intel Core i5-6500TE

Intel Core i3-7101TE

Intel Core i5-7500T

3.1.2 RAM

2 x DDR4 SODIMM socket

DDR4 SODIMM

Maximum size is 16GB

3.1.3 Mass Storage Options

2.5", 7mm HDD or SSD

M.2 2280 SATA SSD

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3.1.4 Display

15" Color TFT LED backlight with touch options:

- Projected capacitive touch or
- 5-wire Resistive Touch screen

3.1.5 New Interface Ports

- USB Type C, Alternate DP + PD (Q170 variant only)
- 24V Powered USB

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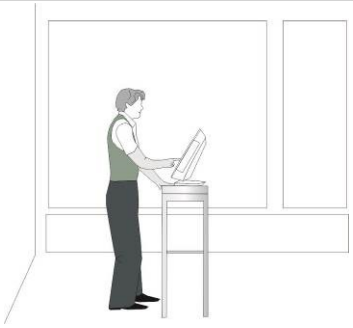
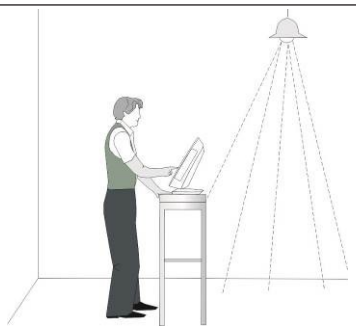
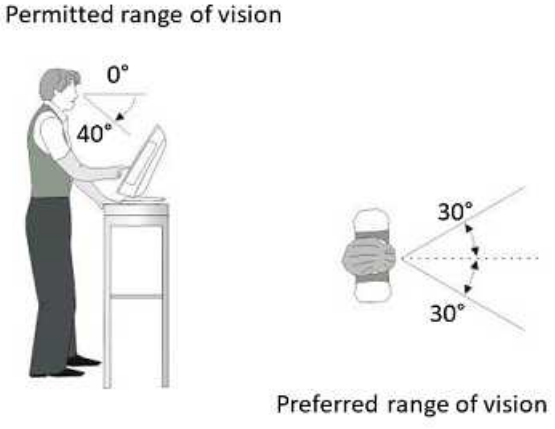
3.2 Setting Up the Device

The iPOS plus Advanced was developed for an in-house installation. The device is designed to be mounted on a stand (desktop version), or on the wall (wall mount version) or on a pole.

Set up the iPOS plus Advanced system where it will not be exposed to extreme environmental conditions. Protect the device from vibrations, dust, moisture, heat and strong magnetic fields.

3.3 Ergonomic Terminal Workplace

Please observe the following when setting up your terminal workplace:

	Avoid direct glaring and reflective glaring. Use the screen only in a controlled luminance surrounding. Install the device with a viewing direction that is parallel to the windows.
	Avoid reflective glaring caused by electric light sources.
	Position the screen within a preferred and permitted range of vision, so that you can look onto the screen from above.

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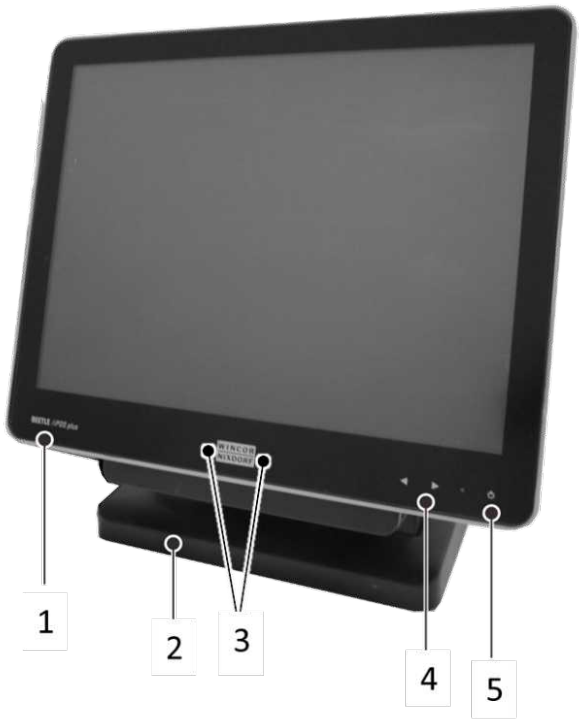
4 Overview

4.1 Front View with Stand



1	Display
2	Stand
3	Ambient light and Proximity Sensors
4	Brightness adjustment, LEDs
5	Power status indicator

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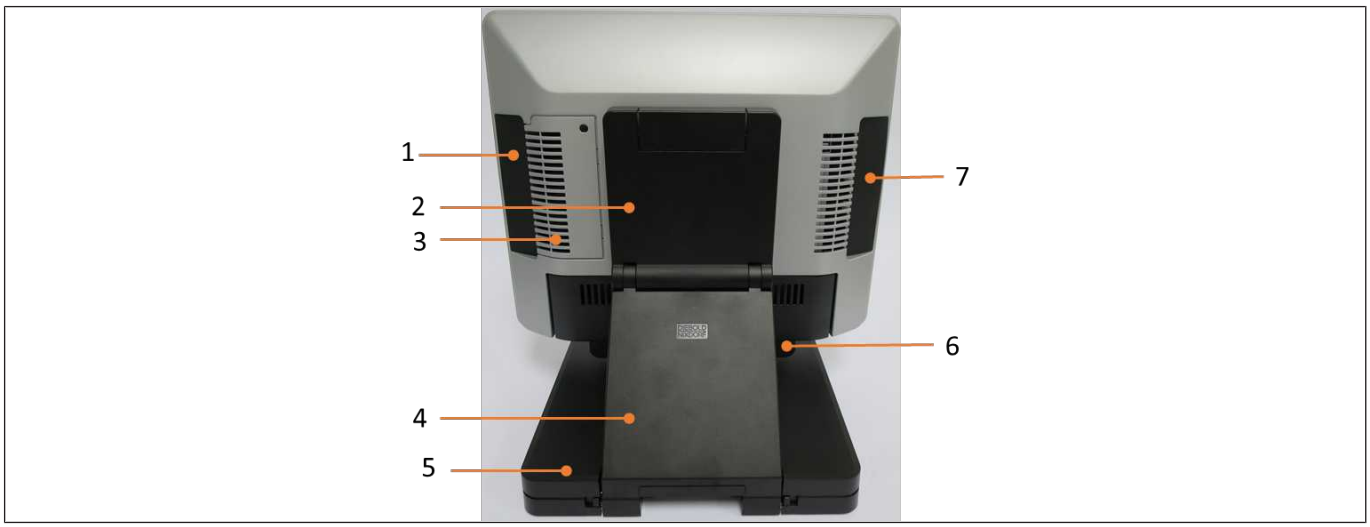
4.2 Back View with Stand



1	Side-attach peripheral connection cover
2	VESA mount cover
3	Access cover
4	Hinge cover
5	Base cover of stand
6	Cable connection cover
7	Side-attach peripheral connection cover

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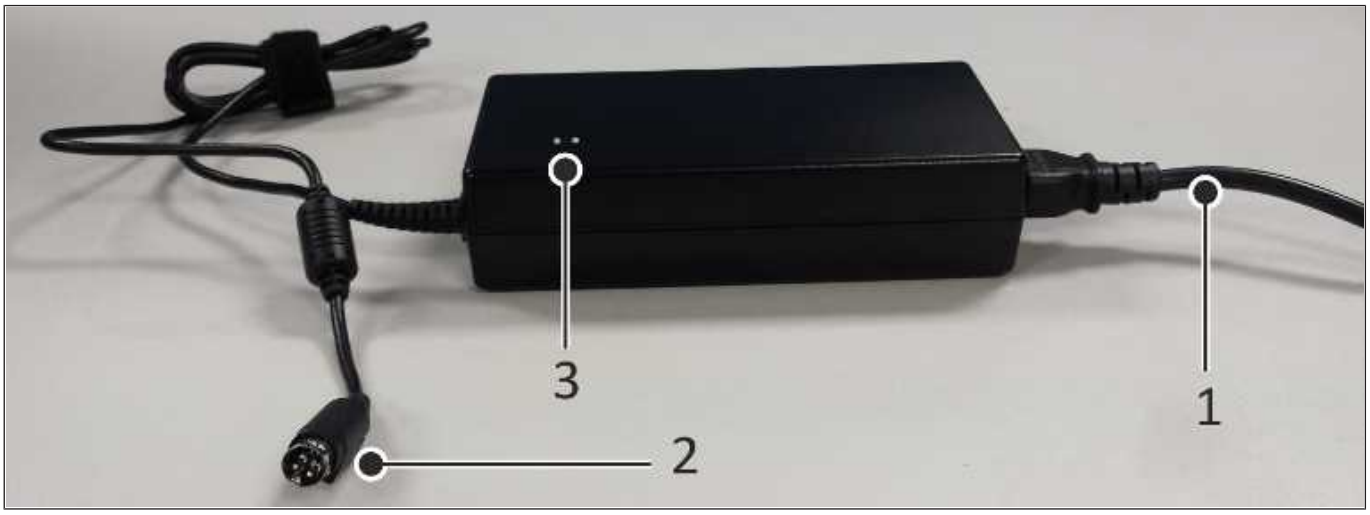
4.3 AC Power Adapter



1	AC Power Cord
2	DC Power Out
3	Power Indicator

The external power supply is applicable for common line voltage.

It automatically adjusts itself to the particular voltage (for grid input voltage and power supply see appendix).

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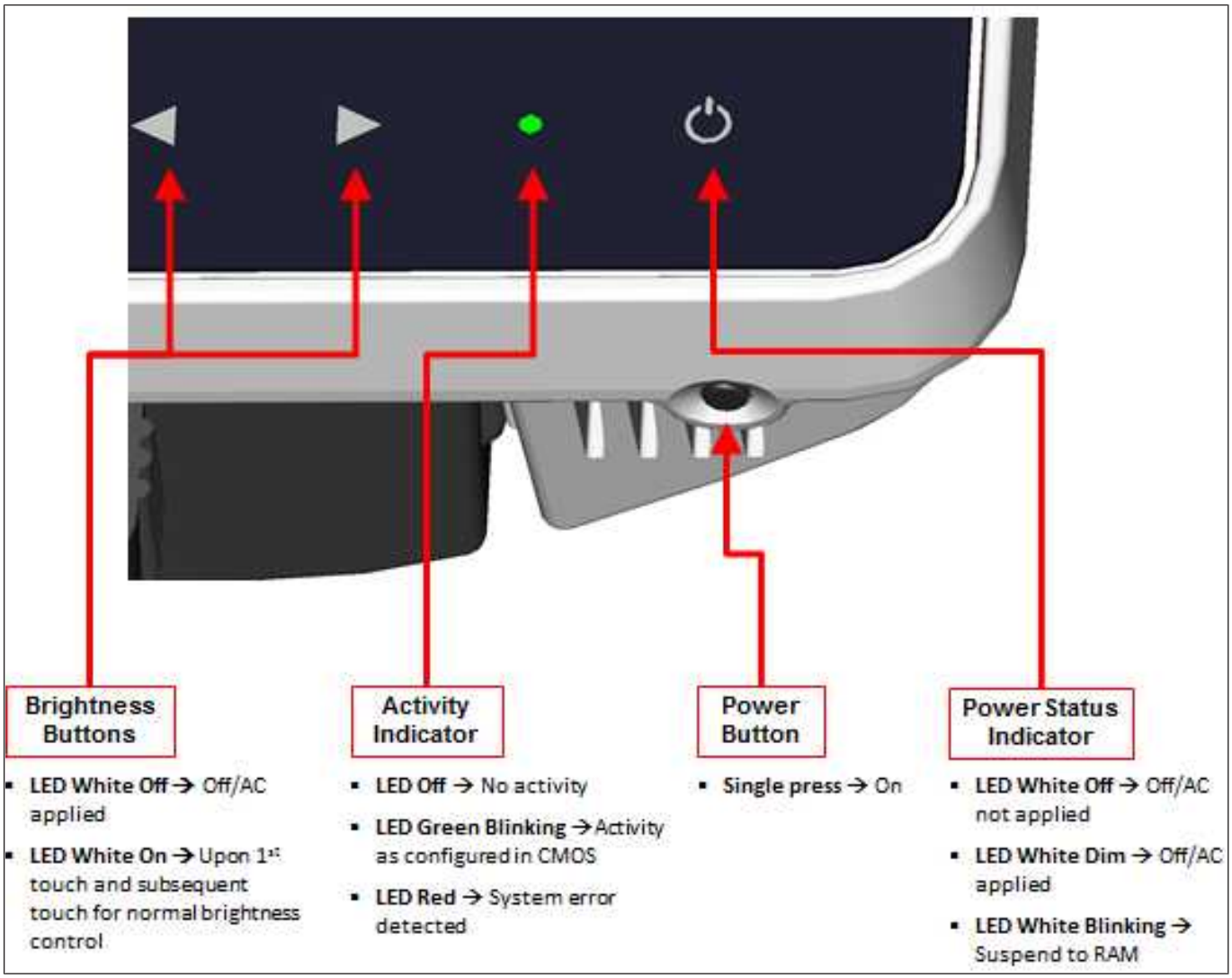
4.4 Front Panel



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5 Projected Capacitive Touch Screen

5.1 General Information

The use of projected-capacitive touch screens has all the benefits a normal capacitive touch screen has:

- fast processing of touch information
- high sensitivity (use with hands, conductive pencils and also with thin gloves)
- high resolution
- improved legibility and display brightness due to optimal light transmission
- anti-glare-surface

In addition the technology of projected-capacitive touch screens is characterized by significant higher robustness and stability, because the active touch surface – different from common capacitive touch screens which were used until now - is located on the back side of the touch screen. Thus the active touch surface is not touched directly anymore and therefore will not wear off by normal use. As most of the surface contaminations do not cause an interference of the touch screen, this technology can be used in public or under severe environmental conditions.

5.2 Instructions for Using the Touch Screen

The touch screen responds to the lightest touches. The touch with only one finger is like the use of the left mouse button. The use of the touch screen with two fingers generates a zoom if the fingers are brought together or pulled apart. With a circular motion of the fingers the element on the display can be rotated. This function must be supported by either the operating system or by the application.

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5.3 Cleaning Instructions

Always turn off the system before cleaning.

	The glass surface of your Touch Screen should be cleaned with a mild, abrasive free, commercially available glass cleaning product. All pH neutral materials (pH 6 to 8) are good for cleaning. Cleaners with pH values 9 to 10 are not recommended. Cleaning with water and isopropyl alcohol is possible as well. Do not use solvents containing acetic acid. Use a soft, fine-meshed cloth to clean the surface. Dampen the cloth slightly and then clean the screen.
	A wrong maintenance may cause damages to the screen, which are not covered by warranty.

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6 Resistive Touch Screen

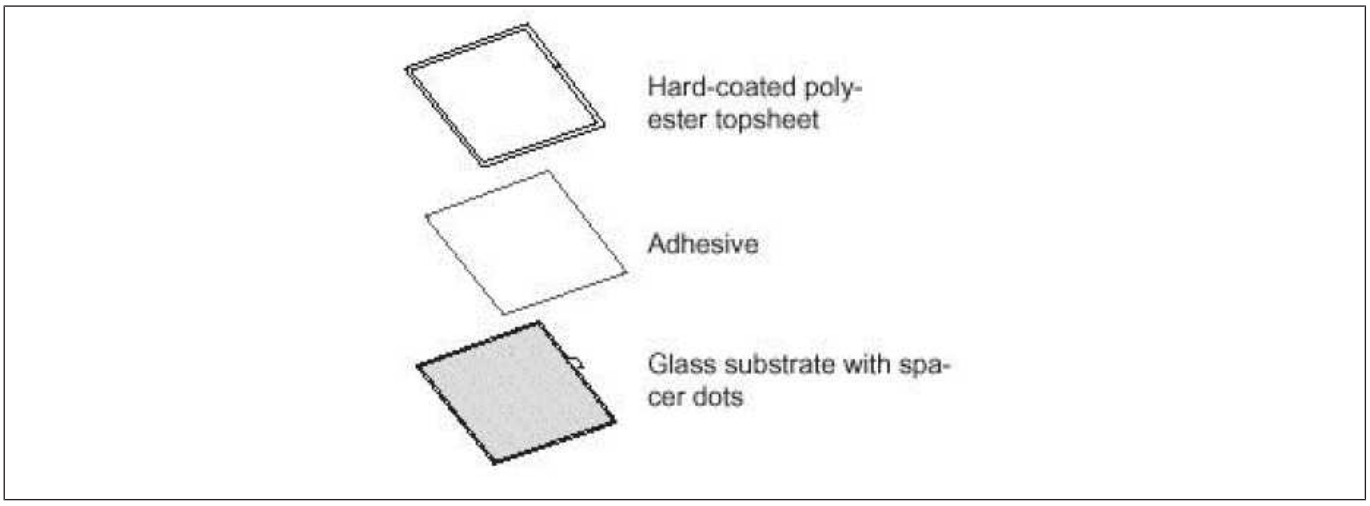
6.1 General Information

The resistive TFT Touch Screen is constructed by a hard-coated polyester top sheet that is overlaid on a conductively coated glass layer.

Voltage is applied to the top sheet. As the user touches the screen, the top sheet compresses into contact with the glass layer, and current flows to the four corners in proportion to the distance from the edge. The controller then calculates the position of the finger or stylus, based on the current flow.

Because the controller derives both the “X” and “Y” touch coordinates from the stable glass layer, the accuracy and operation of the touch screen is unaffected by damage to the top sheet caused by extended use or neglect.

6.2 Construction of the Resistive Touch Screen



6.3 Instructions for Using the Touch Screen

Touching the touch screen has the same effect as clicking the left mouse button. You only need to apply a little pressure with the fingertip.

In this resistive process not only fingertip contact is recognized. The screen does react in any way if touched, for example, with a stylus. The recommended material for a stylus is polyacetal. The stylus should have a minimum spherical radius of 0.8 mm and contain no sharp edges or burrs that may cause damage to the top sheet.

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6.4 Cleaning Instructions

Always turn off the system before cleaning.

	The surface of your Touch Screen should be cleaned with a water-based solvent or a non-abrasive cleaner. Do not use solvents containing acetic acid or methylene chloride. Use a soft, fine-meshed cloth to clean the surface. Dampen the cloth slightly and then clean the screen.
	A wrong maintenance may cause damages to the screen, which are not covered by warranty.

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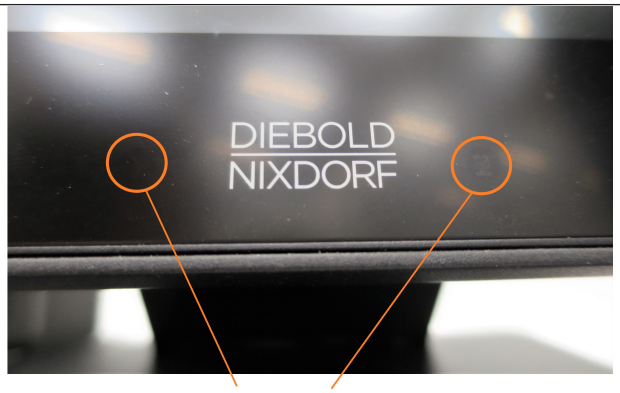
7 Proximity & Ambient Light Sensor



7.1 Operation of the Proximity Sensor

1) When Proximity Sensor is enabled, if there is no object within the detection range for 1 minute or more, the backlight will be dimmed to 10% brightness level.

2) When an object is present and the backlight is in the dimmed state, the backlight brightness level will be restored to the original brightness level before it was dimmed.

To enable Proximity Sensor, go to BIOS menu, Chipset -> M058 MCU Configuration, and set it to Enabled.

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7.2 Operation of the Ambient Light Sensor

1) When the Ambient Light Sensor setting in BIOS changes from Disabled to Enabled, an auto-calibration is performed when the system boots up.

Auto-calibration is only done once after a transition of the BIOS setting from Disabled to Enabled.

2) The purpose of Auto-calibration is to capture the actual ambient condition of the environment in which the machine is set up. Once captured, the ambient light level in lux will be saved in CMOS. This will represent the nominal value.

3) The auto-adjustment of the brightness level follows a linear relationship with a default slope of 0.5. When the ambient light level changes, a new brightness level is computed.

4) The ambient light level is sampled continuously, only when it is determined to be stable over a duration of approximately 7 seconds will the newly computed display brightness value be applied.

To enable Ambient Light Sensor, go to BIOS menu, Chipset -> M058 MCU Configuration, and set it to Enabled.

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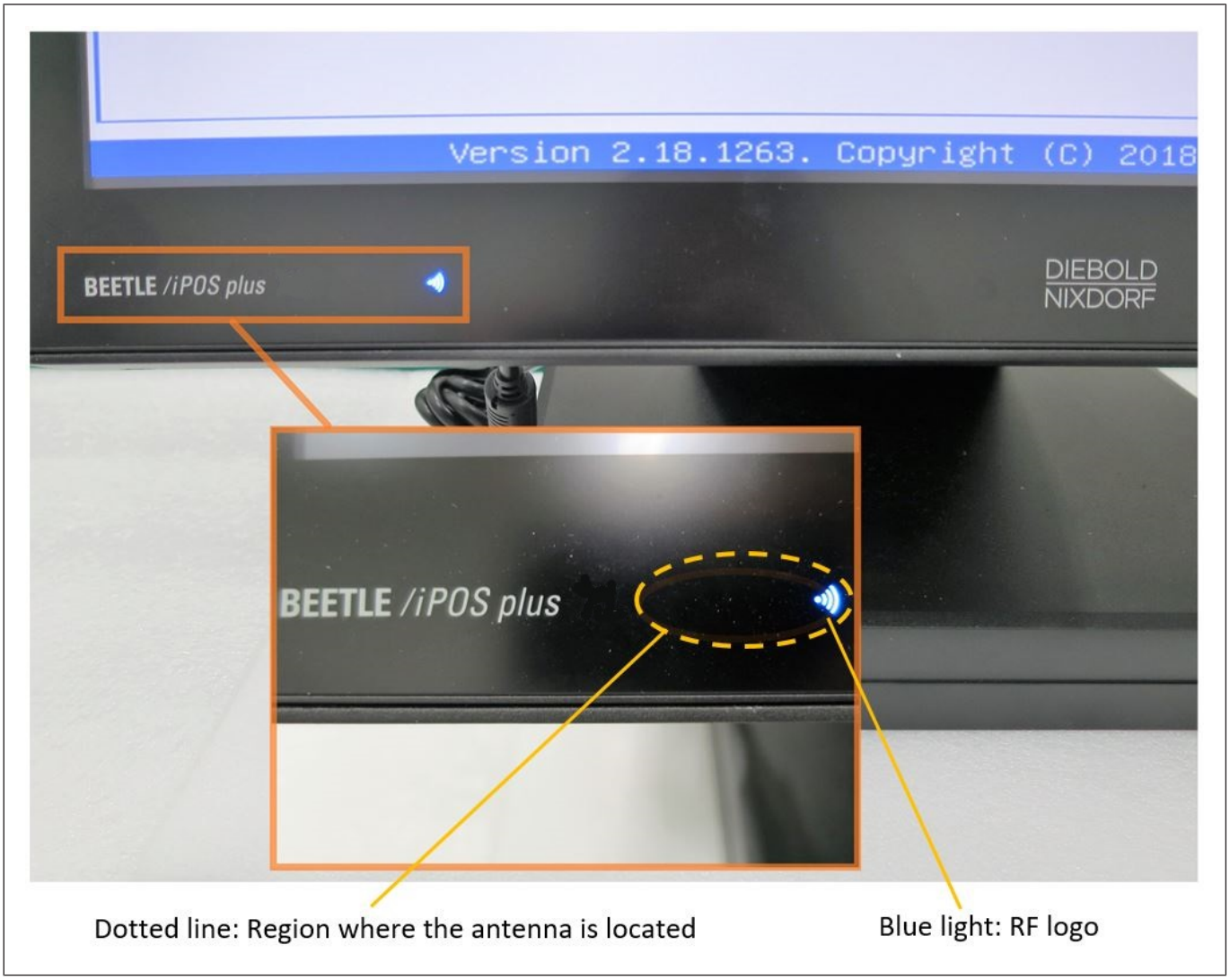
8 RFID/NFC Reader

8.1 Operation of the RFID/NFC Reader

If the system is configured with RFID/NFC option, please place the RFID/NFC tag at the region shown below. Reading distance varies depending on the tag, in general the range is up to 10mm away from the front surface of the system.

When system is powered ON, the RF logo is illuminated. When in reading mode and a tag is brought within range the RF logo indicator will blink to signify reading in progress.



9 Planning the Installation

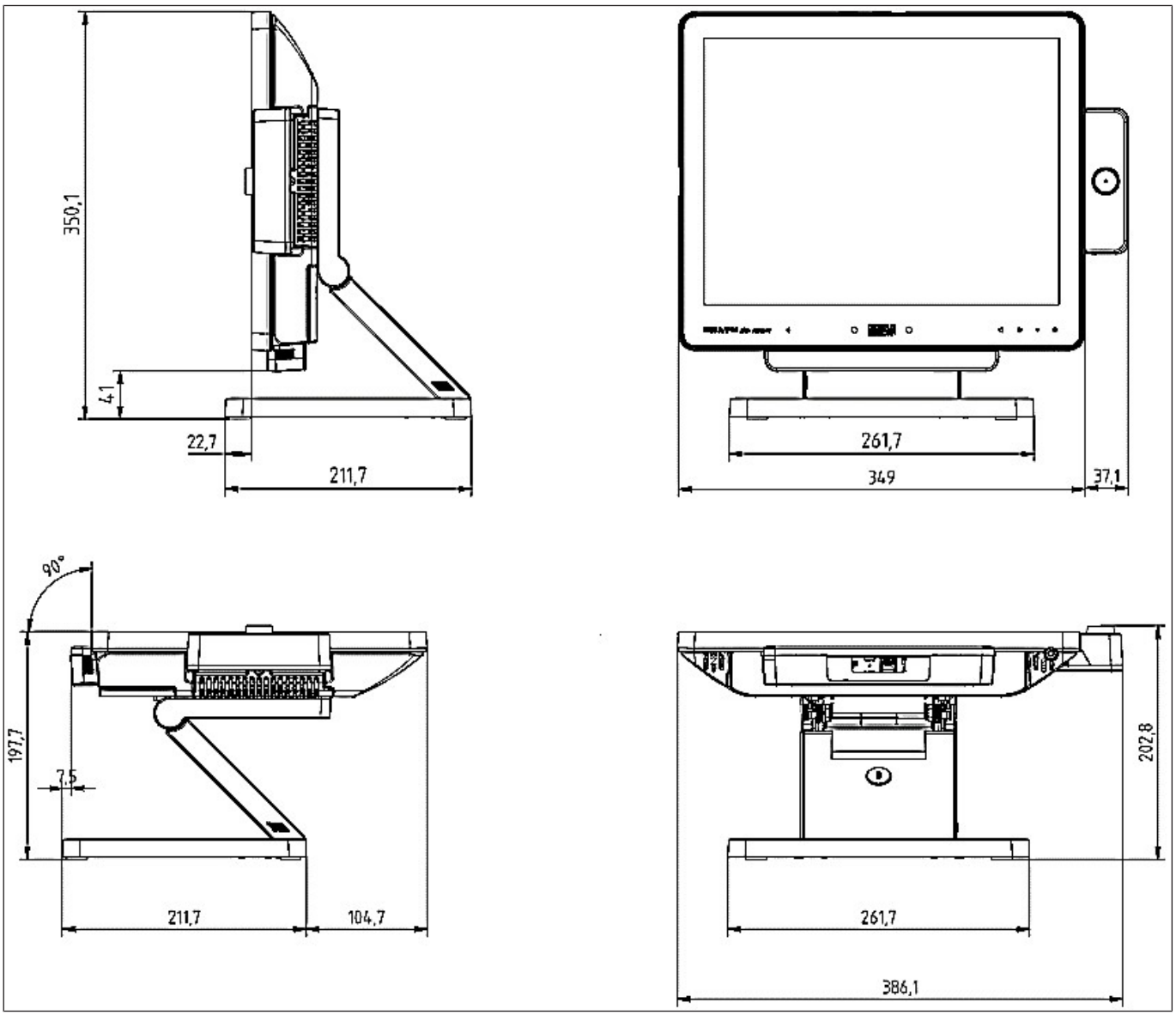
This chapter provides you with the information you need to prepare for the installation of the system.

9.1 Dimensions

Please refer to the drawings below for dimensions of the desktop and wall mount versions. All dimensions are specified in millimetres. The views of the systems are not drawn to scale.

9.2 Desktop version

9.2.1 Desktop Stand Standard



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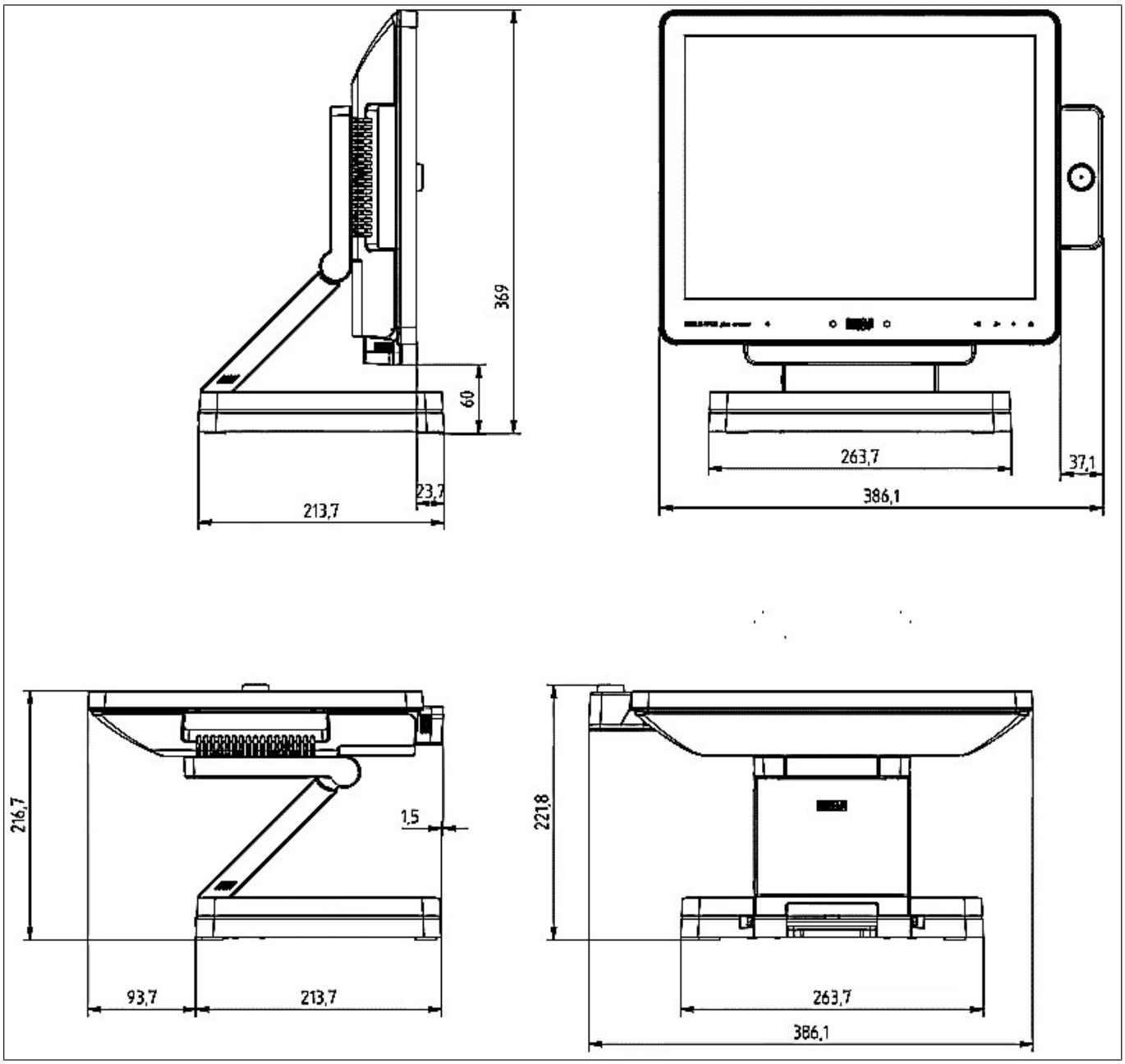
9.2.2 Desktop Stand Enhanced



- For more information about the Desktop Stand, its different versions and features, and its installation method, please refer to the ‘Desktop Stand Installation Manual’ (01750293377).

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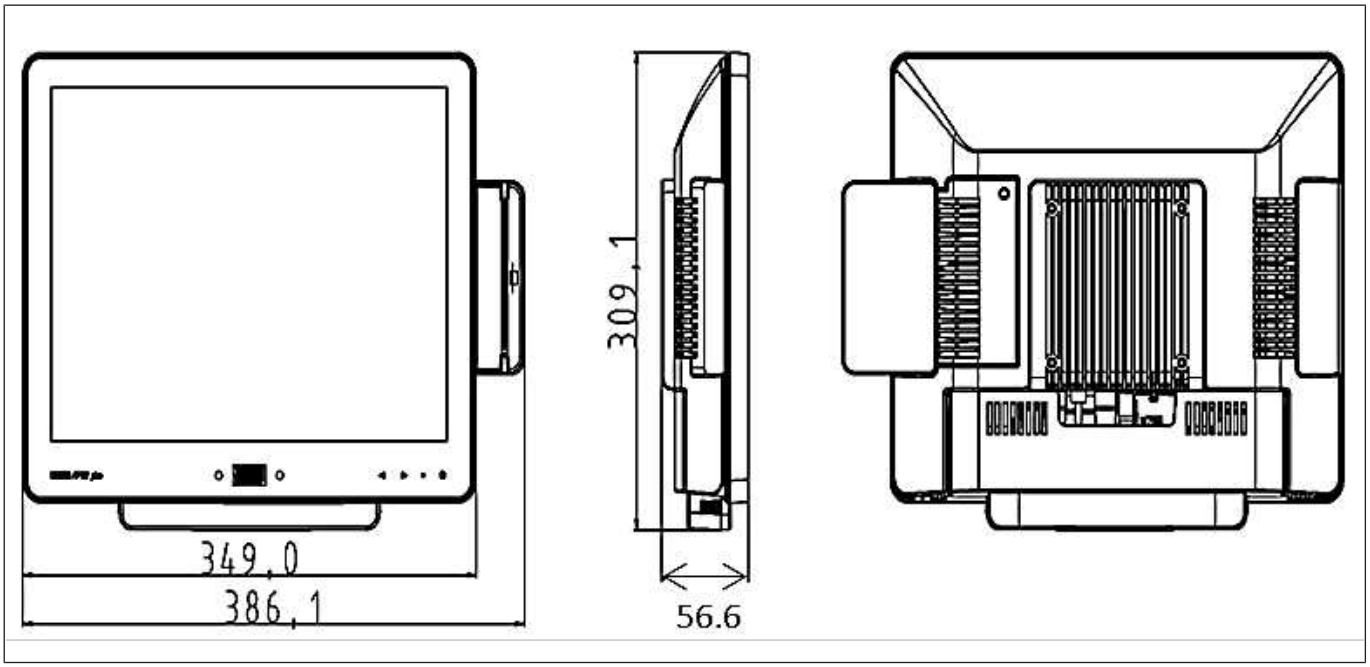
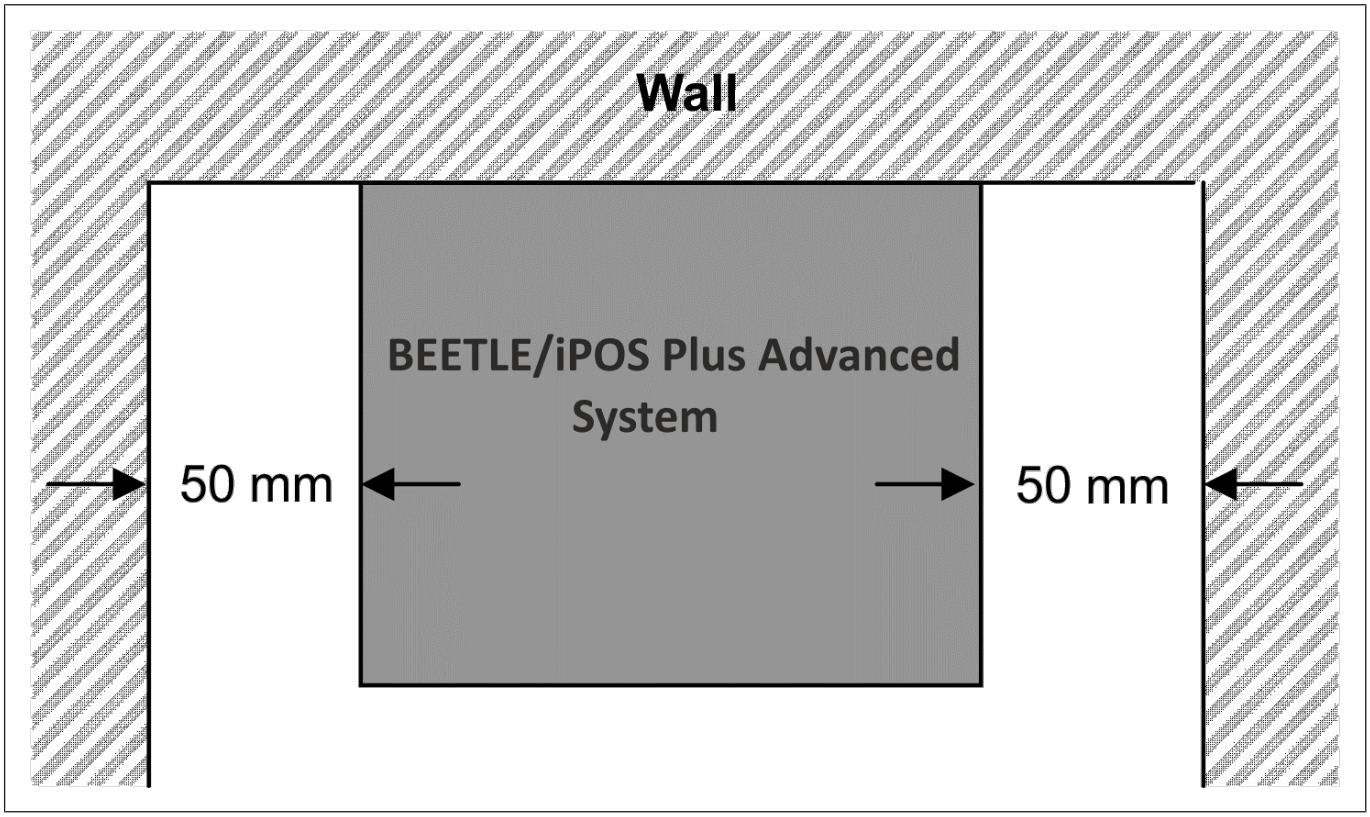
9.3 Wall mount version



9.4 Required operation space



	Maintain at least 50 mm from the side of the system to ensure proper ventilation during the operation of the system.

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9.5 Installation Site Requirement

9.5.1 Desktop version

When selecting the installation site, ensure that:

- The area is flat leveled.
- The system to be installed on a table surface and not on a floor.

9.5.2 Wall mount version

- To reduce the risk that someone may accidentally walk into the system, locations such as walkway areas, hallways or crowded areas are not recommended.
- Make sure that all applicable building and electric codes and accessibility requirements are followed.
- The mounting area must have adequate viewing area and ventilation, as well as access to an AC power outlet.
- The mounting method must be able to support the combined weight of the system and the suspended weight of all cables attached to the system.
- The system must be mounted to a solid concrete or brick wall with flat smooth surface.

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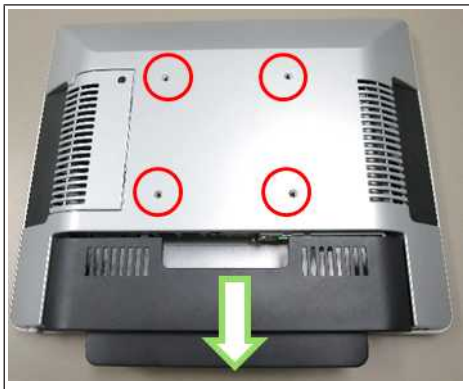
10 Installing to a stand

Take the stand and the monitor out of the packaging. For installation you will need a Torx screwdriver to loosen and tighten the Torx screws.

10.1 Preparing the display

	Put in the Torx screws into the four screw holes, as marked with the red circles, and tighten them only half-way through. Remove the cable connection cover at the bottom of the display, as illustrated with the green arrow.

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10.2 Preparing the stand

	The stand as seen.
	Remove the hinge cover from its bottom.
	Remove the VESA mount cover from its bottom.

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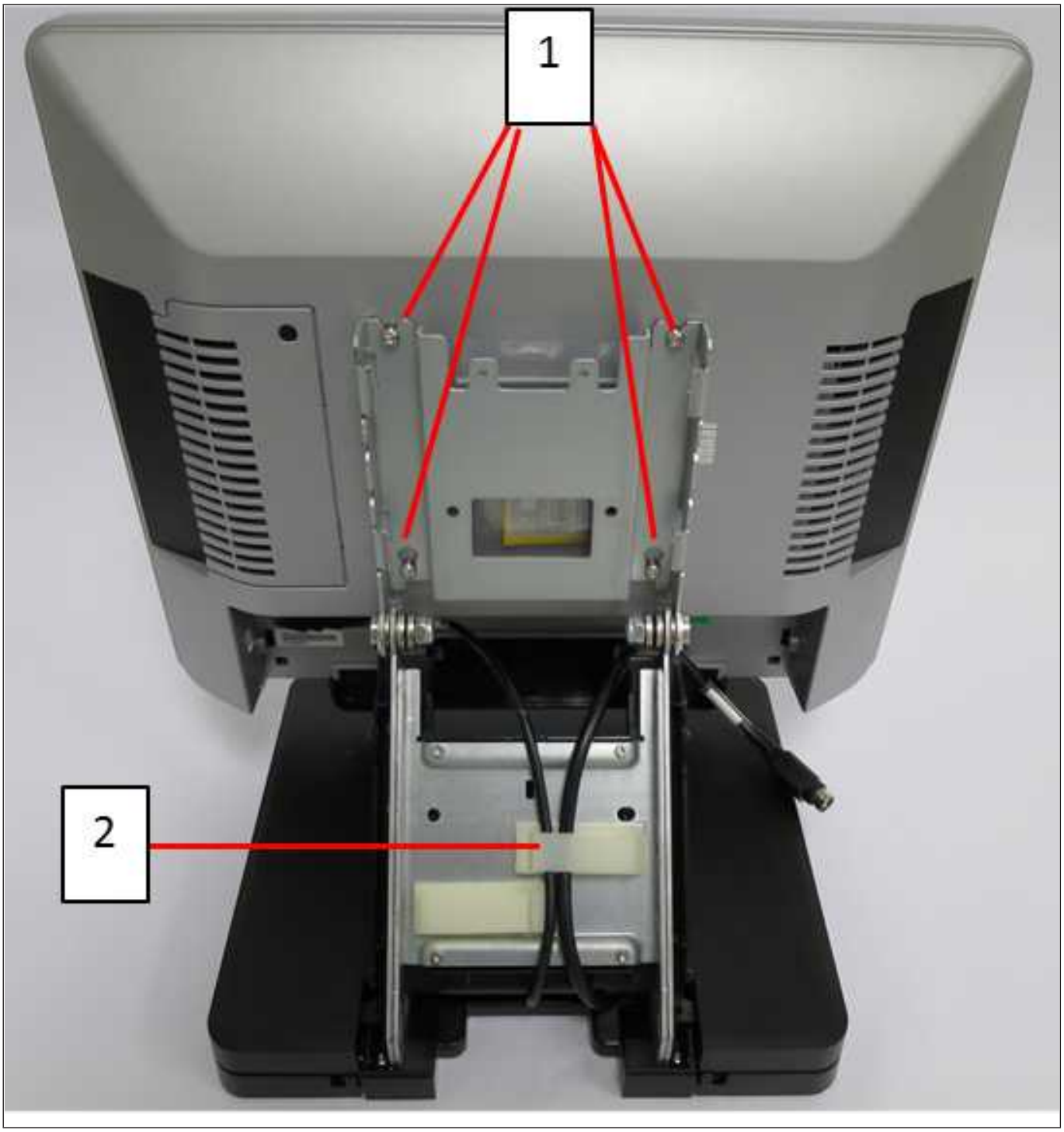
10.3 Installing display to the stand



Fit the display to the stand by hooking the four half-tightened Torx screws that are found fastened on the display, onto the four U-shaped grooves found on the frame of the stand (1). Then, tighten the screws.

Stick on the cable clamps and route cables through these clamps (2).

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	Re-attach the hinge cover.
	And re-attach the VESA mount cover.

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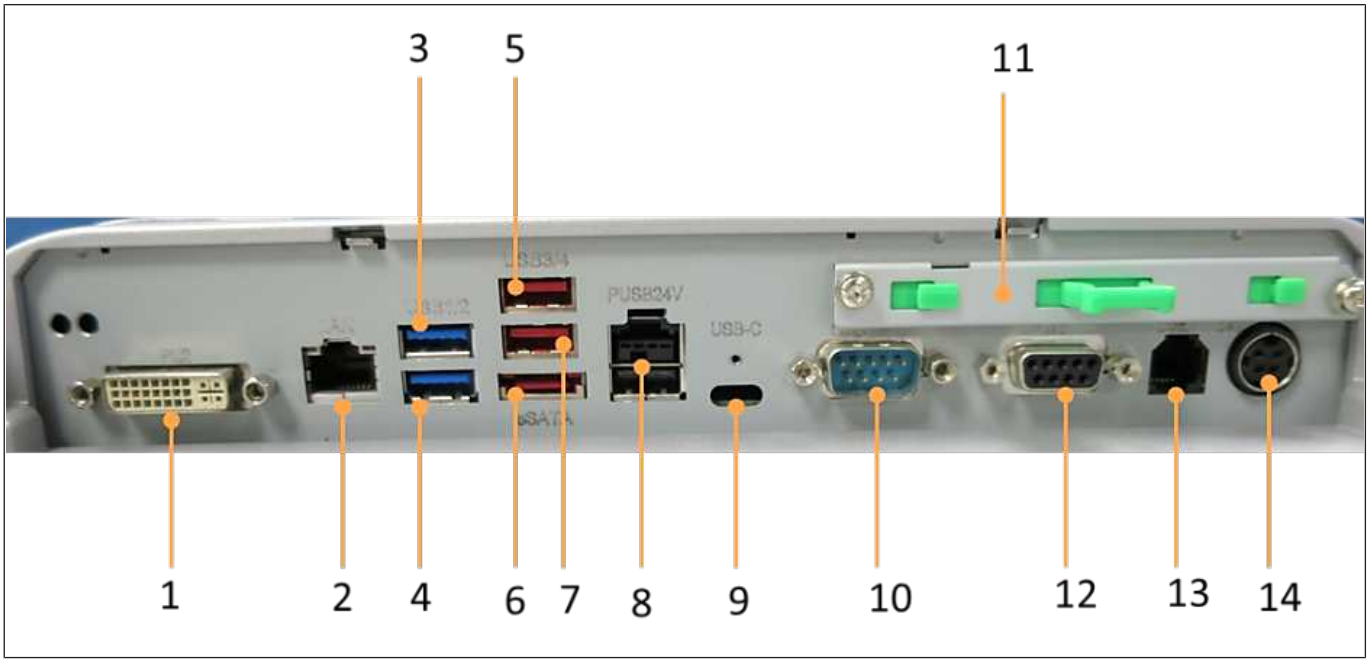
11 Connector Panel

The following sockets are located under the cable connection cover of the display:



1	PLINK2/DVI-D
2	LAN (RJ45)
3	USB 3.0 (USB1)
4	USB 3.0 (USB2)
5	USB 2.0 (USB3)
6	eSATA
7	USB 2.0 (USB4)
8	PUSB24V
9	* USB-C with DP
10	Standard RS232C (COM1, DB9 male)
11	Mass storage (HDD/SSD)
12	Powered RS232C (COM2, DB9 female)
13	RJ12 (Cash drawer)
14	Connection to power (24V DC Input)

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	Make sure that all additional devices have a CE certificate.
	Please note that MAX 70W load is allowed for any combination of the interface connectors.

* The iPOS plus Advanced has 2 variants of motherboard. The Q170 variant supports USB-C, but the H110 does not.

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11.1 Connecting Cables

All devices belonging to the modular iPOS plus Advanced that have a separate power cable must be connected to the same electric circuit.

Connect the system as described below.

	Tilt the display to the back, and remove the cable connection cover to uncover the connector panel.
	Connect the cables to their assigned ports. (As seen in the picture, 24V cable is on the left and USB cable on the right). Once cables are connected, re-attach the cable connection over.

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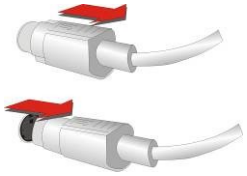
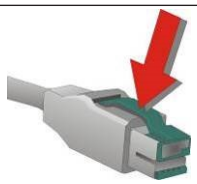
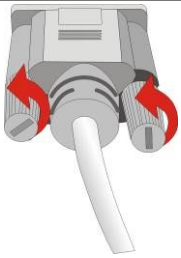
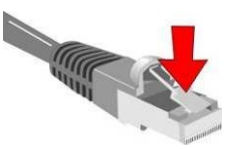
11.2 Disconnecting Cables

Never unplug a cable by pulling on the cable; always take direct hold of the plug itself. Follow the procedure below when disconnecting cables:

- Turn off all power and equipment switches.
- Remove the cable cover.
- Unplug all power plugs from the grounded-contact power sockets.
- Unplug all data communication cables from the sockets of the data networks.
- Unplug all cables from the devices.

	With MINI-DIN plugs (Diebold Nixdorf keyboards), the plug remains inserted until released. Pull the plastic covering from the connecting socket with your thumb. The lock is released. The metal of the plug is visible.
	To release a RJ12 plug push the latch under the plug to the top.
	You loosen the USB-A- connector by pushing the covering of the connector.
	The P- USB connector is disengaged by pressing the spring that is marked by an arrow.
	Manually loosen the knurled screws of the COM or DVI interface connector.
	To release a RJ45 plug push down the latch (see arrow).

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12 Storage Media

Following storage media are available

- 1x 2.5” format-factor docking drive bay for 7mm thick hard disk or
- Solid State Disk (SSD)

A solid state disk drive is a data storage drive that uses memory elements in place of a rotating disk to store data. The SSD easily substitutes the hard disk and emulates a hard disk drive interface. Most SSDs are flash memory-based.

12.1 Replacement of Hard Disk Drive

First, ensure that the device is **switched off** and the power connector is disconnected.

Tilt the display to the back, and remove the cable connection cover to uncover the connector panel.

The HDD or SSD is in the drive carrier located on the left.

Remove both the screws that fix the drive carrier to the connector panel, and pull out the drive carrier.

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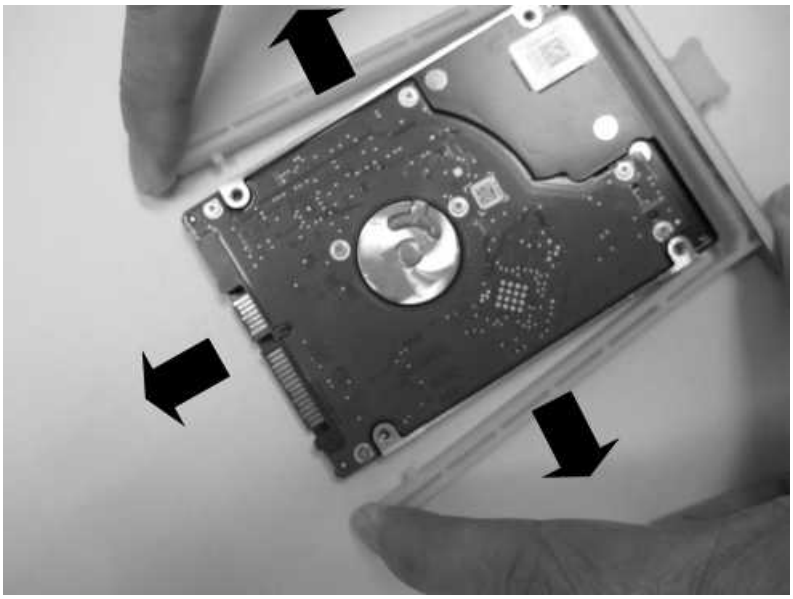
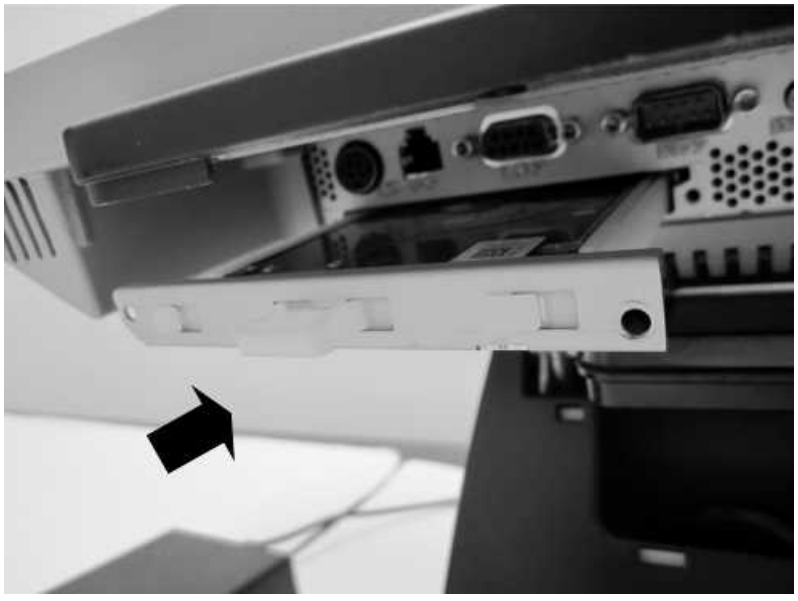


Release the catches on the drive carrier and pull out the hard disk.

Handle the hard disk with care while removing or installing it. Do not touch the exposed electronics.

Replace with the new hard disk and fix it back to the drive carrier.



Insert the disk carrier into the connector panel.

Fix it with the two screw that were removed previously.

The replacement is now complete.

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12.2 Second Hard Disk Drive

There is an option to install a second hard disk drive in the iPOS plus Advanced. This is available in a kit. Please contact your local representatives for details.

- For information on how to install the second hard disk drive, please refer to the ‘Desktop Stand Installation Manual’ (01750293377 A), section: ‘Additional features of the Desktop Stand Enhanced’.

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12.3 Replacement of the RAM

First, ensure that the device is **switched off** and that the power connector is disconnected.

Remove the peripheral connection cover. You may use a flat-tipped screwdriver to help open it.

Loosen or remove the screw to the RAM cover, then remove the RAM cover.

To unhook the RAM, locate the 2 latches by its sides (illustrated with circles), and press them in an outwards direction (illustrated with arrows).

The RAM is now unhooked and can be removed and replaced.

In replacing with a new RAM, push it downwards until it latches on and a “click” sound can be heard.

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13 Installing Wireless LAN Module

	Lay the display screen down on a cushioned surface to prevent damage. Proceed to remove back (left) cover by removing one screw.
	After removal of the cover, two black wireless LAN connector cables can be found in the section as illustrated.

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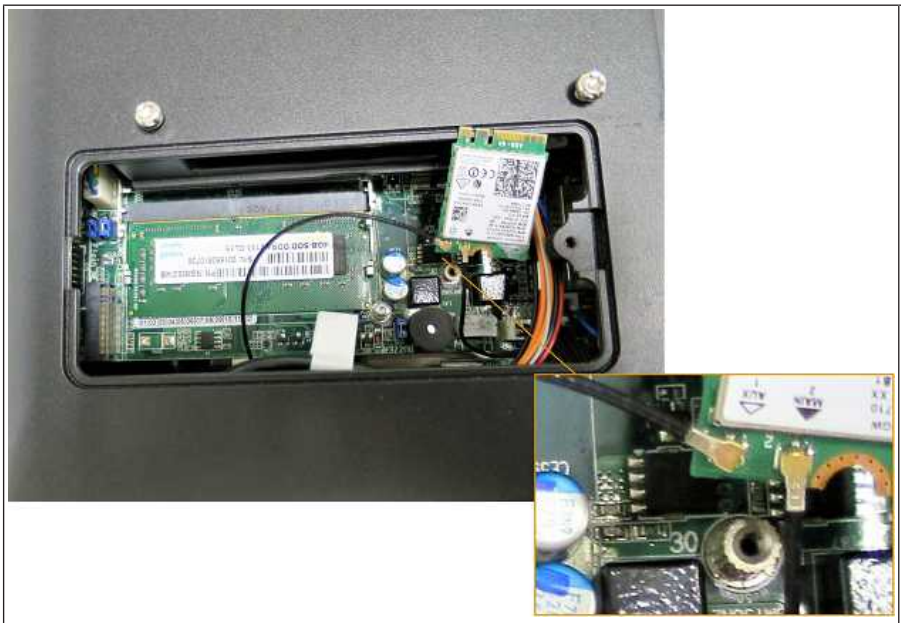

Find the two wireless LAN connector cables. Connect the shorter cable to the Main and the longer one to the AUX.

Once connected, fit the wireless LAN module into the module slot as indicated.

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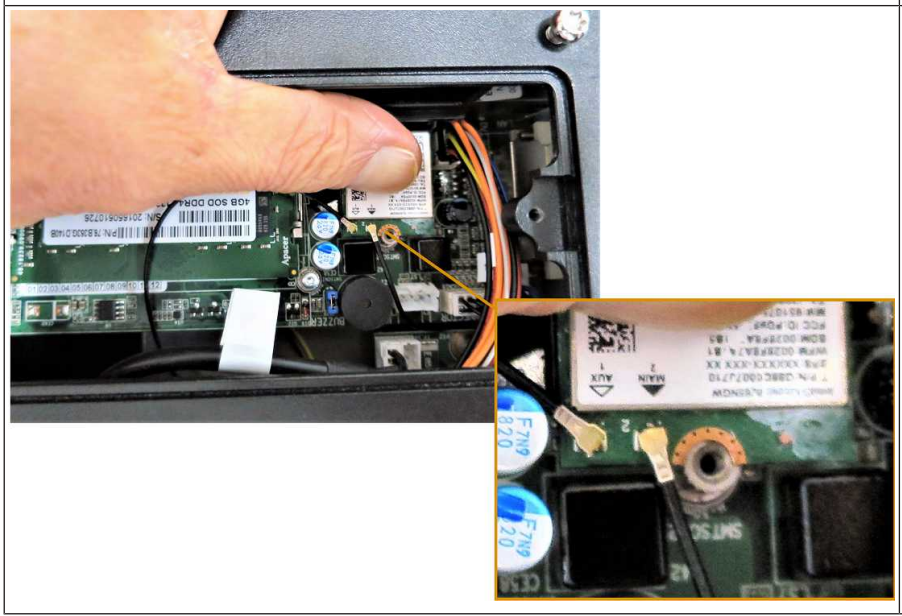
	A fitted module is as seen here.
	After module is fitted into the slot, push it down to align it as follows.

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	Proceed to fasten the screw provided into the nozzle, to secure the module.

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14 Installing System to a Wall

Unpack the parts from the wall mount kit and check whether the delivery matches the details of the delivery note.

14.1 Things you need

The kit contains:

Wall mount back plate Quantity: 1 piece	Wall mount front plate Quantity: 1 piece	M4x8 Torx screws Quantity: 4 pieces

For installation you will need the following (not supplied):

- a drill set
- a Torx screwdriver
- a marker
- 4 pieces of fasteners*

*__Fastener types__

Fasteners are not included in the wall mount kit. The recommended fastener types to wall mount the system are:

Fischer universal plug (UX 6 x 50) (http://www.fischer.de)

Recommended Screw for wall is Pan head self-tapping M5 x 55.

Drill Diameter: 6 mm

Min Hole Depth: 60 mm

Load per anchor for concrete: 60 kg (Safety factor accounted for)

Load per anchor for Solid brick: 30 kg (Safety factor accounted for)

Thorsman wall plug (TP 6 x 30) (http://www.thorsman.com)

Recommended Screw for wall is Pan head Wood Screw TGS-C3- 4.8 x 38L

Drill Diameter: 6 mm

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Min Hole Depth: 40 mm

Load per anchor for concrete: 40 kg

Load per anchor for Solid brick: 30 kg

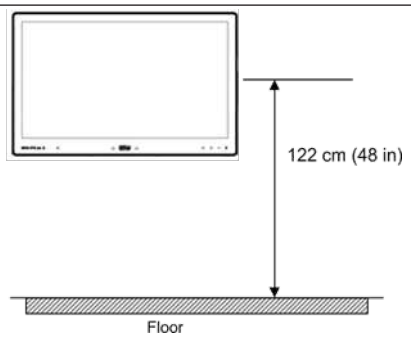
Safety factor: 6

14.2 Mounting height

The mounting height of the system should be appropriate and comfortable for the majority of users.

Based on the recommendation of the ADA (American Disability Association), it is recommended that the highest point of the display should not exceed 1370mm height.

It is also recommended that the system is approximately 122cm (48 in) from the floor to the centre of the display when the user is in the standing position.



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14.3 Mounting location

Once you have determine the mounting height, with the help of the wall mount back plate, mark the location of the four holes on the wall.

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14.4 Installation

	The wall mount plate must be installed by a professional and qualified installer who is familiar with the building construction methods and the electrical code that are govern by the local laws on the public access areas. Use only Diebold Nixdorf wall mount plate.

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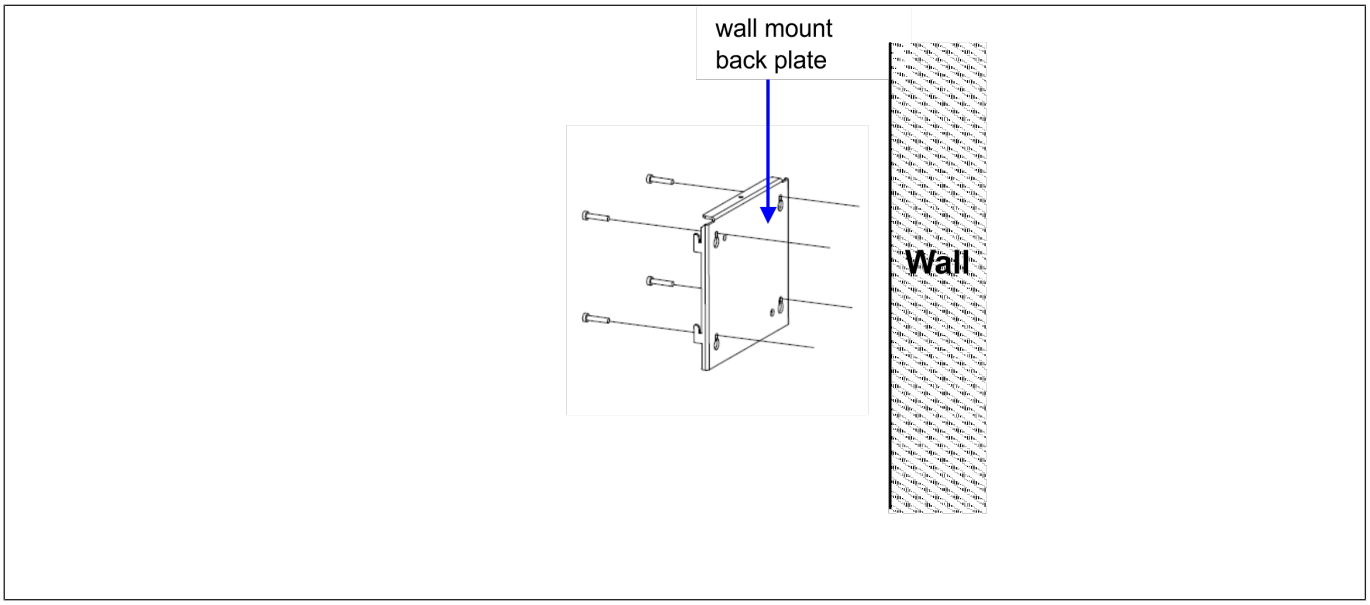
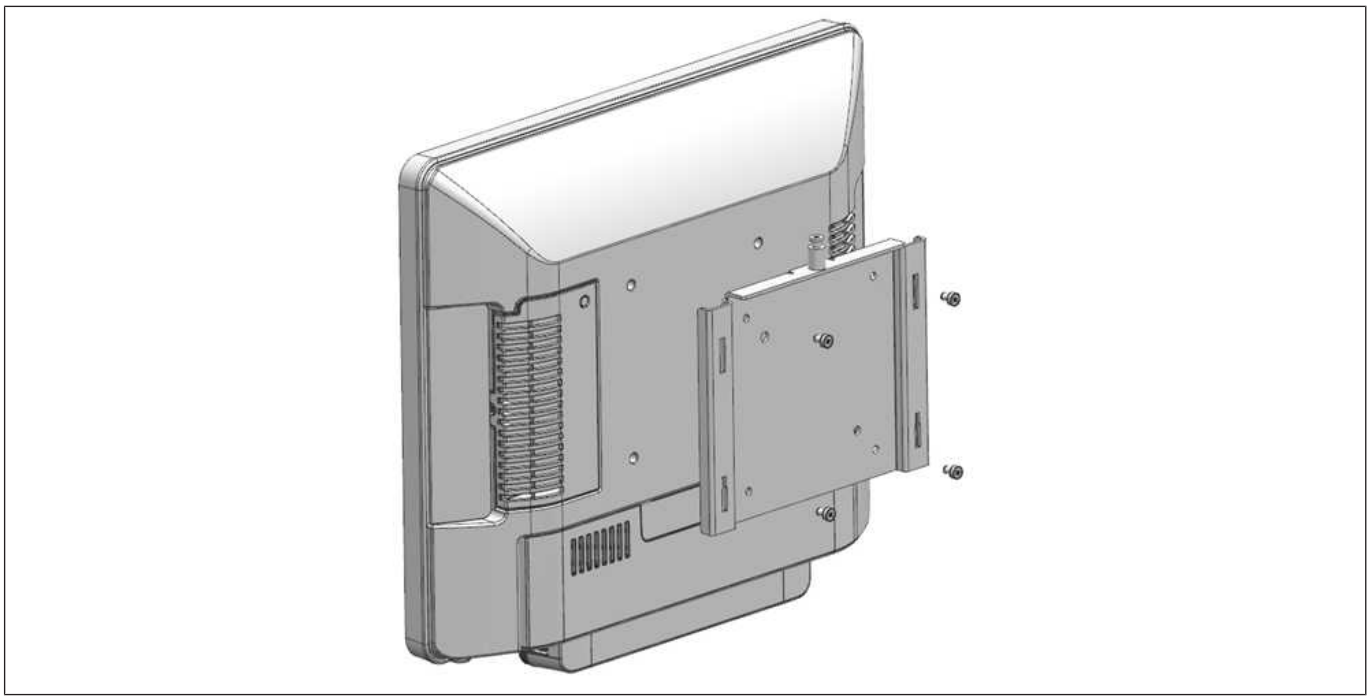
14.4.1 Fix wall mount back plate to the wall

- Prepare the mounting points penetrating from the wall according to the dimension of the mounting holes on the back of the system.
- When the system is mounted onto the wall, ensure that the wall mount back plate must be attached permanently and securely to prevent the system from falling and damaged. Failing to do so may also cause injury to others.
- Use the recommended fasteners (not supplied) to attach the wall mount back plate onto the concrete wall.
- Check and ensure that the wall mount back plate is mounted squarely by using a bubble level.
- After installation, ensure that the screw heads are flushed or below the outer surface of the wall mount back plate.
- Ensure that the wall mount back plate is firmly and securely attached to the wall



14.4.2 Fix wall mount front plate to the system

- Align the 4 mounting holes of the wall mount front plate onto the mounting holes at the back of the display.



- Secure the wall mount front plate onto the display using the M4 screws provided in the wall mount kit.

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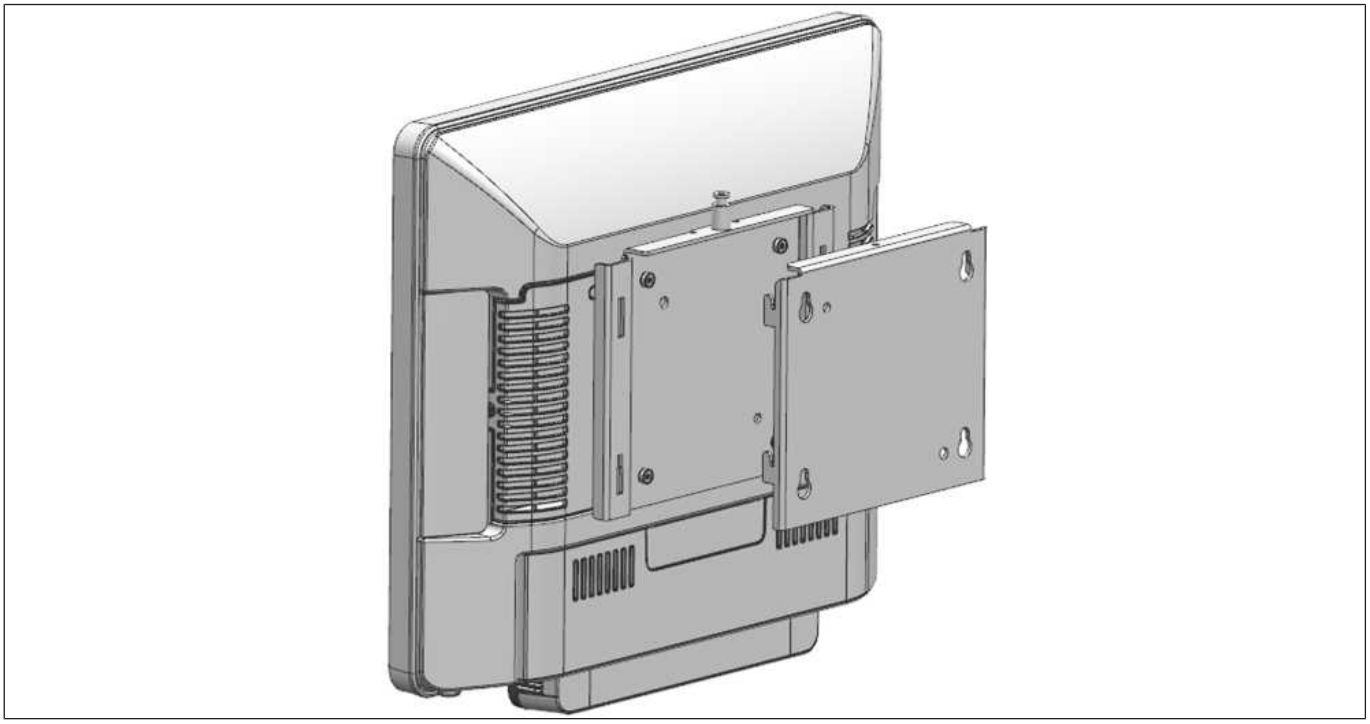
14.4.3 Secure the system to the wall

- Ensure that the power cable has been connected onto the system.
- Hook the system with its wall mount front plate installed, onto the wall mount back plate that has been mounted on the wall. Ensure that the hooks at both sides of the wall mount back plate are securely locked on the slots of the wall mount front plate.



- Tighten the thumb screw on the top of the wall mount front plate to secure the hooks of the wall mount plates.
- Dress the cables routing according to the store set up or the overall installation site plan.

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15 Peripherals

15.1 Magnetic Swipe Card Reader (MSR) (Optional)

There are two types of MSR module to choose from, the standard ISO 3-track or the dual-head JIS1/JIS2. Card reading is bi-directional.

The MSR module can be mounted either on the right or left side of the display.

15.1.1 How to operate

Run the swipe card through the slit of the swipe card reader from top to bottom in a quick and steady movement. Make sure that the magnetic strip is to the right. When using swipe cards, the following should be observed:

- Swipe cards should never be allowed to come into contact with liquids.
- Swipe cards should not be bent or folded in any way.
- Swipe cards should not be allowed to come into close contact with a magnetic field.

Swipe cards should only be inserted in the top of the specially designed slit of the reading device. If the card is inserted in another place, this could damage the reading head.

15.1.2 Cleaning instructions

In order to guarantee good reading results, the swipe card reader should be cleaned from time to time. This is carried out by using a special cleaning card that can be purchased from Diebold Nixdorf.

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15.2 Waiter Lock (Optional)

Each transaction is correctly assigned to the personnel by using the magnetic key. The magnetic keys are available in 10 different colors. The magnet keys are waterproof, shatterproof and with the 16-digit key number, are also safe for clear identification.

The operation of the system is very simple, the key is placed onto the magnetic probe (see figure). The key is held magnetically to the probe and transmits the data by an electrical USB interface.

The readout of the data may be integrated easily in a software application.

For guide on software application programming, please refer to BA9x MSR/Waiter Lock Programming Manual.

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15.3 Installing the Swipe Card Reader, Waiter Lock

Unpack the parts and check whether the delivery matches the details of the delivery note.

The kit contains the Magnetic Swipe Card Reader (MSR) with holder or the Waiter Lock with holder and two screws.

Magnetic Swipe Card Reader kit	Waiter Lock kit

The Magnetic Swipe Card Reader and Waiter Lock can be installed on either the right or the left side of the screen. You will find a flap / peripheral connection cover at the rear side of the system at the position for the peripherals.

	Remove the flap using a flat-tipped screwdriver, exposing one end of a connecting cable.
	Release the catch on one side of the peripheral’s holder.

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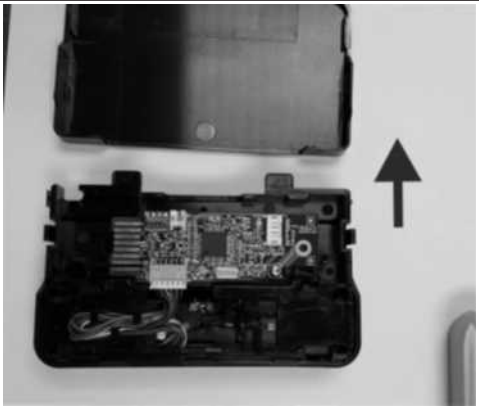
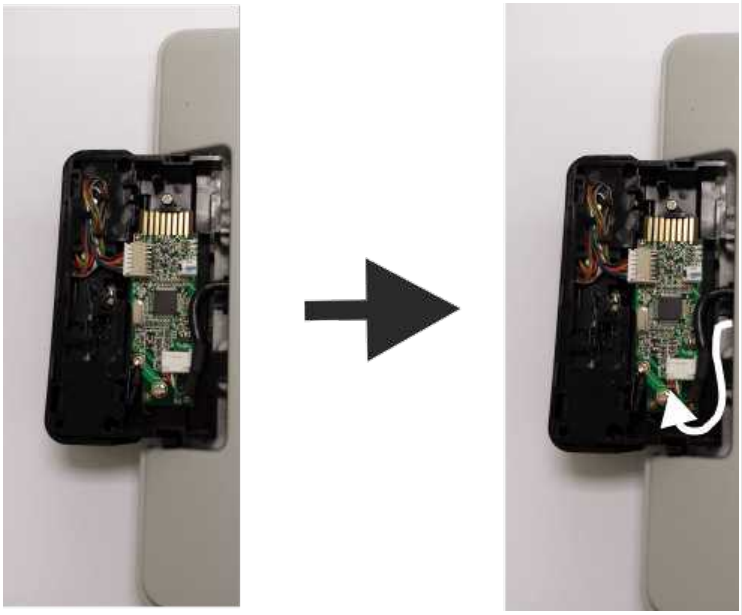
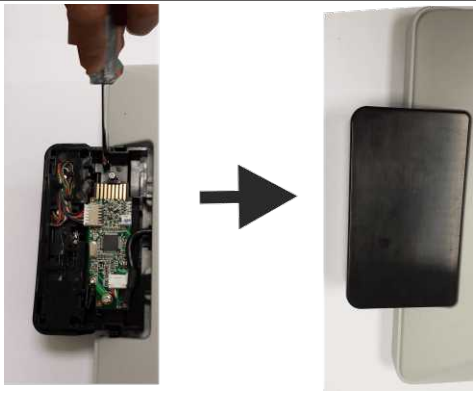
	Remove the back cover of the holder.
	Locate the holder to the side of the display that was previously uncovered. Route the connecting cable into the holder and connect to the connector.
	Use the two screws supplied to secure the holder to the display. Replace the back cover of the peripheral. The installation is now complete.

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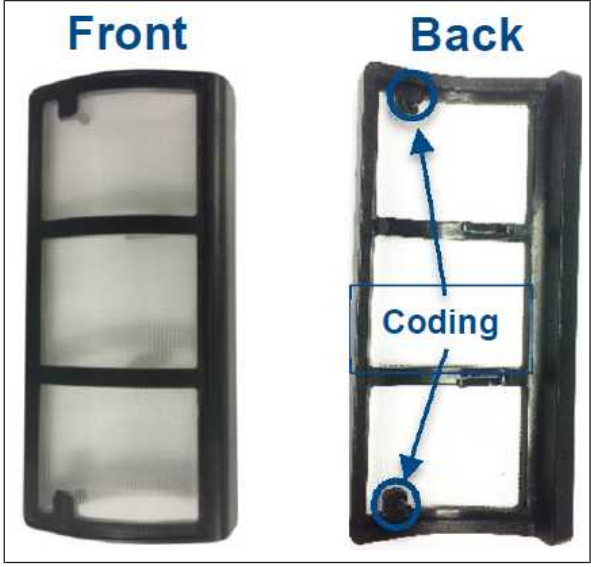
15.4 Lint Filter (Optional)



By equipping the iPOS plus Advanced with the lint filter, the system would be protected against lint and fibres that may enter through the cooling air flow.

Using the lint filter basically helps reduce the effort for system maintenance (internal cleaning of the system).

This lint filter will be available in black only. It can be used with black or silver coloured systems.

The order number for the lint filter is as follows:

Lint Filter for BEETLE /iPOS plus Advanced: CRBIPPA-UPG-LF (01750292269)

15.4.1 Installing Lint Filter

The installation of the filter is quick and easy.

Snap in the lint filter to the right inlet vents of the system (viewed from behind):

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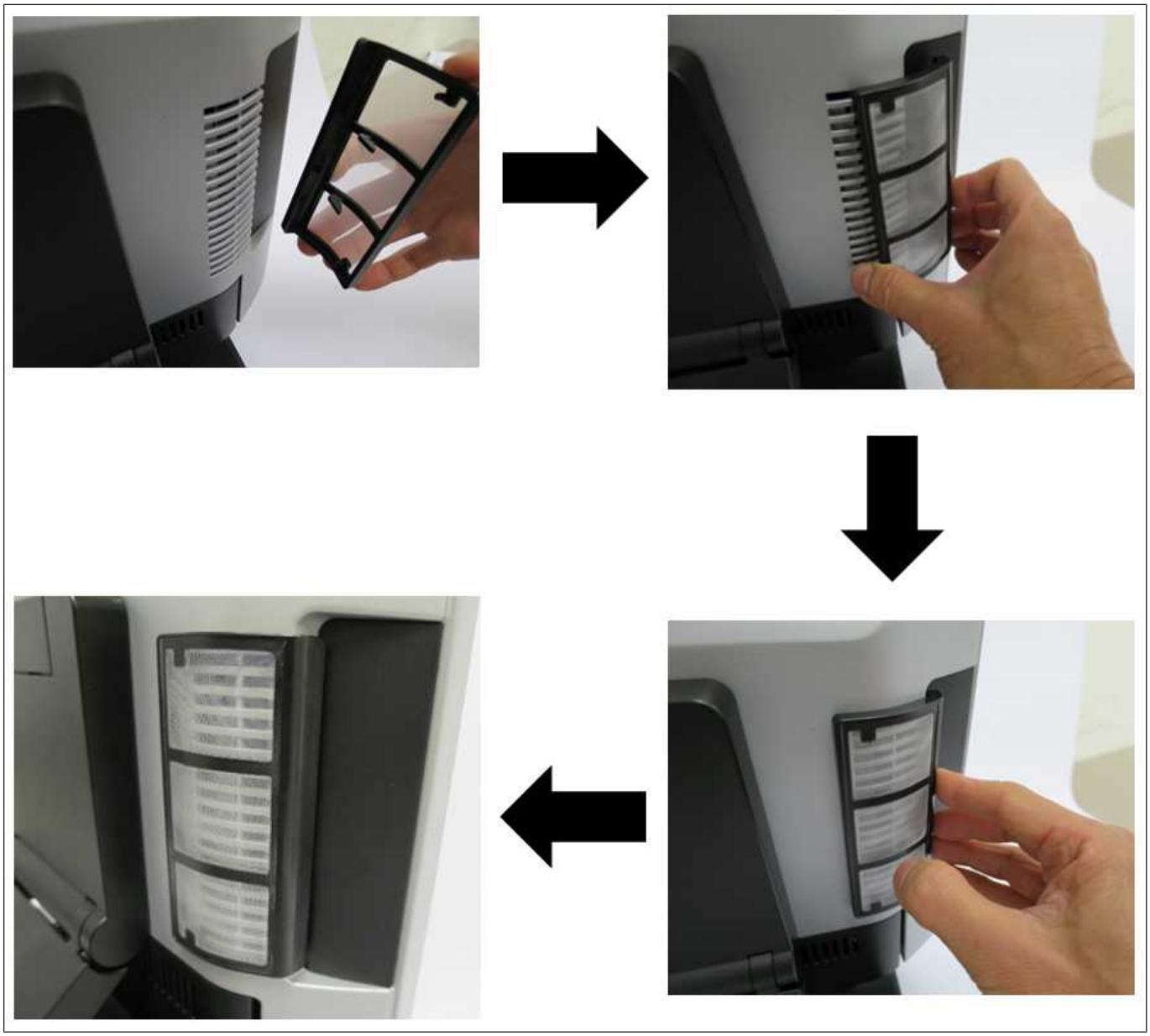
Take note that the arrows indicate the direction in which the lint filter installs to the right inlet vents of the system – from right to the left.

Be sure that the lint filter is fully engaged to the inlet vents when pushing or pressing it in. An engagement may be felt or an engagement sound may be heard.

As the lint filter is coded, only one direction of installation is possible. And, it can only be installed to the right inlet vents of the system (viewed from behind).

The below pictures will illustrate the sequence of the installation:



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15.4.2 Cleaning and Maintenance

Clean the lint filter at least once a week. In case the system is in an environment that has high lint and dust exposure, clean it more often. But, as soon as a thin lint film has become visible on the filter's surface, clean the lint filter immediately.

During cleaning, the system must be switched off to prevent the removed lint and dust from entering the system by the air flow. Also, make sure that no moisture or liquid penetrates the system.

There are two ways to clean the lint filter:

(1) For a quick and simple cleaning, remove the filter from the system, then clean it with the palm of your hand or by using a damp microfiber cloth.

(2) For a more thorough cleaning, remove the filter from the system, and carefully rinse it under a gentle stream of water. Then dry out the filter completely, before mounting it back onto the system.

Take note that if the filter mesh were to be subjected to excessive pressure, then it can come loose or become separated from the plastic frame of the filter. If this were to happen, then do not continue to use the filter. The filter must therefore be replaced. In any case where the filter cannot continue to be cleaned, it must be replaced.

15.4.3 Liability and Warranty

The system can become damaged if liquid or moisture finds its way past the lint filter and into the system during the cleaning.

Diebold Nixdorf will not be liable or responsible for these damages.

Do note that the lint filter is a supplementary part. There is no warranty claim for inadequate operation or malfunctions of the filter due to wear and tear.

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16 Starting Up the System

After installing the iPOS plus Advanced, switch on the system by using the Power button on the front panel.

The system first performs an automatic self-test to test its basic functions.

For example, you may see the following message (irrespective of processor type) on the monitor:

```
WN „ID xx/xx Date“
```

xx/xx is the placeholder of the BIOS version number.

Following the completion of the BIOS boot up, the BIOS will attempt to boot up an operating system from a bootable media. The BIOS default boot order from highest priority is,

1. HDD/SSD
2. USB Key
3. USB HDD
4. USB ODD
5. LAN PXE ROM (Network)

If no bootable media is present, a message will be prompted on the display.

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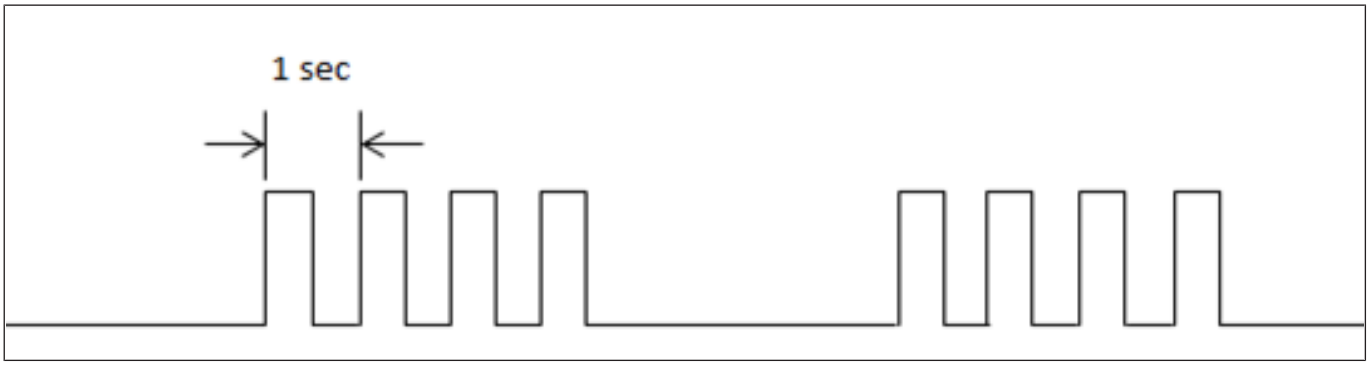
17 Error Reporting

When an error condition is detected, it is reported by a repetitive train of blinking red LED. Decode by counting the number of blinks in a train and check against the error code table below.



Number of Pulses	Error Description
1	Hard Disk 1 failed (internal hard disk)
2	Hard Disk 2 failed (external hard disk)
3	Processor Hot
4	Processor fan is faulty
5	Capacitive Sense board is faulty
6	ALS / PS board is faulty
7	PCH Hot

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18 Default BIOS Settings

The tables below indicate the BIOS default setting for reference purpose. Upon power ON, enter BIOS setup by pressing ‘Delete’.

Please take note of any special BIOS setting according to your customer’s usage before resuming the BIOS setting to its default.

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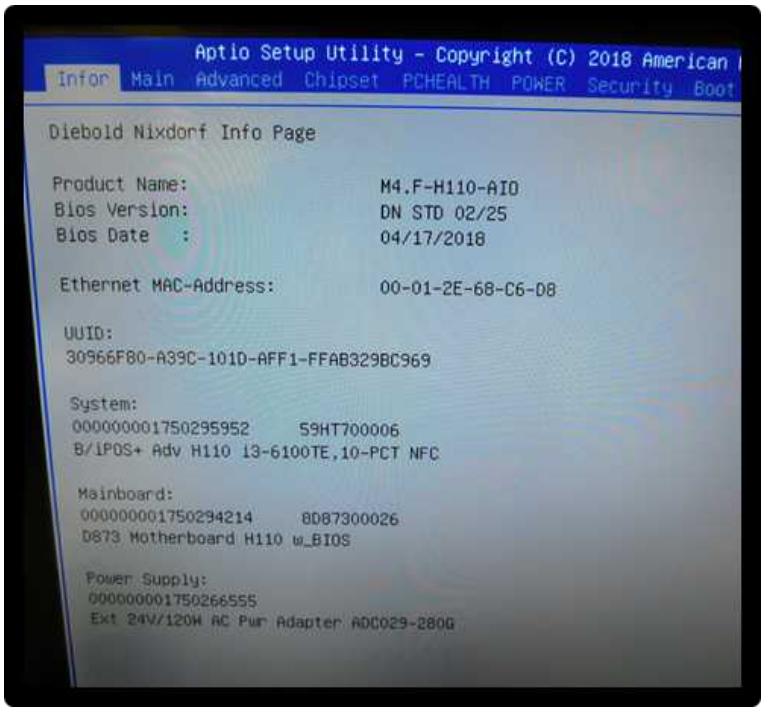
18.1 Information



This page displays some system-related information to facilitate the support of your system.

Product Name:	This identification string identifies the motherboard in the system.
BIOS Version:	Display in the format DN STD xx/yy where xx is the BIOS version number and yy is the build number.
MAC Address:	Ethernet MAC Address of the on-board LAN controller.
UUID:	A UUID is an identifier standard used in software construction, standardized by the Open Software Foundation. The intent of UUIDs is to enable distributed systems to uniquely identify information without significant central coordination.

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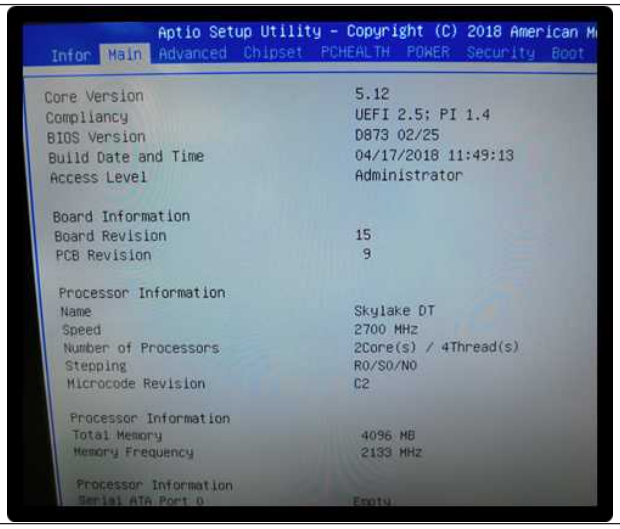
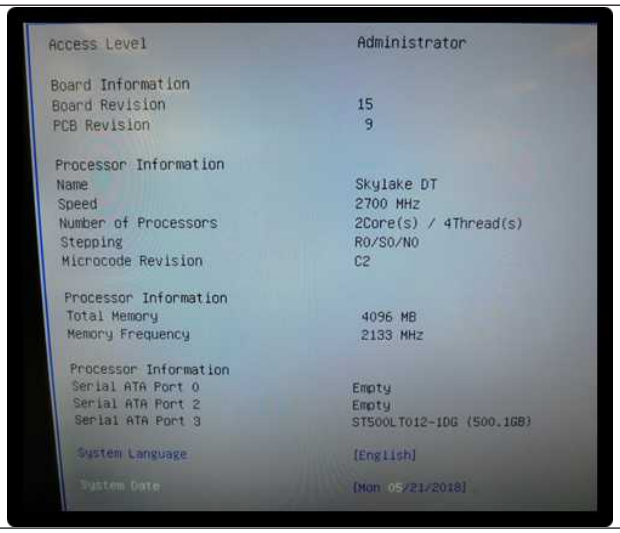
18.2 Main

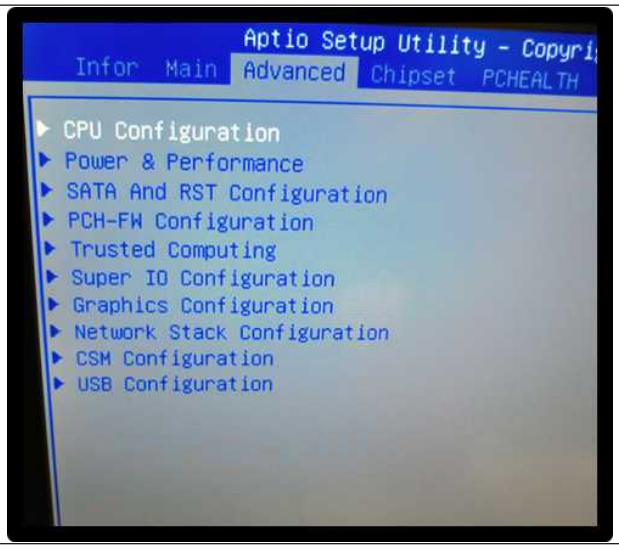


The Main page provides the key information about the system hardware configuration.



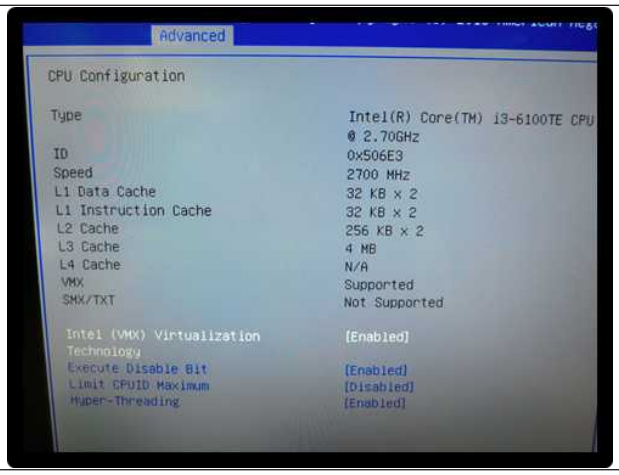
System Date:	To set the date, use tab switch between date elements. Press numeric keys to enter.
System Time:	To set the time, use tab switch between time elements. Press numeric keys to enter.

18.3 Advanced



The Advanced functions in the system can be configured in this menu for advanced system configuration. Only change the default settings if required for a special purpose. Incorrect settings can cause malfunction.

CPU Configuration:



Some of the parameters in the CPU Configuration submenu are only available under certain conditions.

Intel Virtualisation Technology:	When enabled a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
Execute Disable Bit:	Execute Disable Bit is a hardware-based security feature that can reduce exposure to viruses and malicious code attacks and prevent harmful software from executing and propagating on the server or network.
Limit CPUID Maximum:	Disabled for Windows XP.

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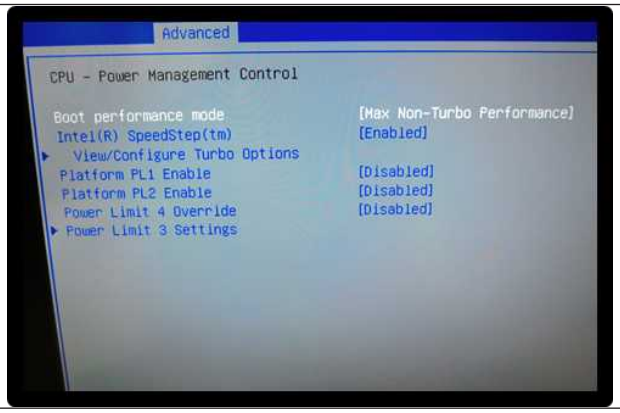
Power & Performance -> CPU—Power Management Control:



Boot Performance Mode:	Selects the performance state that the BIOS will set starting from reset vector.
Intel® SpeedStep™:	Allows more than two frequency ranges to be supported.
Turbo Mode:	Enable/Disable processor Turbo Mode (requires EMTTM enabled too). AUTO means enabled, unless max turbo ratio is bigger than 16 – SKL AO W/A.
Platform PL1 Enable:	Enable/Disable Platform Power Limit 1 programming. If this option is enabled, it activates the PL1 value to be used by the processor to limit the average power of given time window.
Platform PL2 Enable:	Enable/Disable Platform Power Limit 2 programming. If this option is disabled, BIOS will program the default values for Platform Power Limit 2.
Power Limit 4 Override:	Enable/Disable Power Limit 4 Override. If this option is disabled, BIOS will leave the default values for Power Limit 4.

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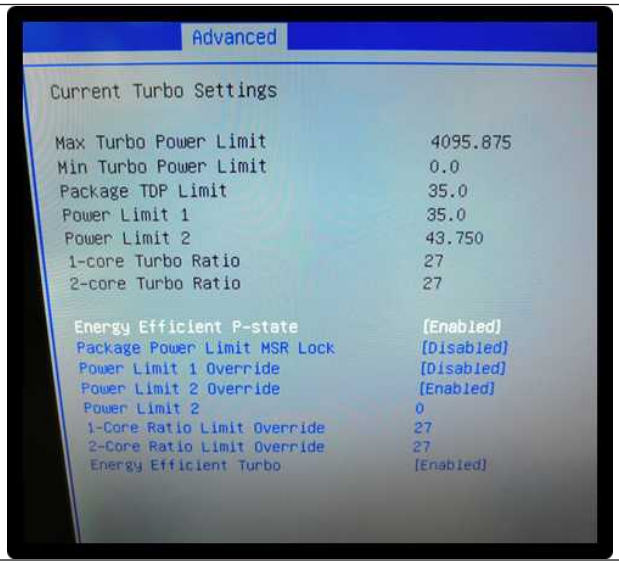
Power & Performance -> CPU—Power Management Control -> View/Configure Turbo Options:



Energy Efficient P-state:	Enable/Disable Energy Efficient P-state feature. When set to 0, will disable access to ENERDY_PERFORMANCE_BIAS MSR and CPUID Function 6 ECX[3] will read 0 indicating no support for Energy Efficient.
Package Power Limit MSR Lock:	Enable/Disable locking of Package Power Limit settings. When enabled, PACKAGE_POWER_LIMIT MSR will be locked and a reset will be required to unlock the register.
Power Limit 1 Override:	Enable/Disable Power Limit 1 Override. If this option is disabled, BIOS will program the default values for Power Limit 1 and Power Limit 1 Time Window.
Power Limit 2 Override:	Enable/Disable Power Limit 2 Override. If this option is disabled, BIOS will program the default values for Power Limit 2.
Power Limit 2:	Power Limit 2 value in Milli Watts. BIOS will round to the nearest 1/8W when programming. If the value is 0, BIOS will program this value as 1.25*TDP. For 12.50W, enter 12500.
1-Core Ratio Limit Override:	1-Core Ratio Limit with range 0 to 83. The minimum range may vary between processors. This 1-Core Ratio Limit must be greater than or equal to 2-Core Ratio Limit, 3-Core Ratio Limit, 4-Core Ratio Limit.
2-Core Ratio Limit Override:	2-Core Ratio Limit with range 0 to 83. The minimum range may vary between processors. This 2-Core Ratio Limit must be greater than or equal to 1-Core Ratio Limit.
3-Core Ratio Limit Override:	3-Core Ratio Limit with range 0 to 83. The minimum range may vary between processors. This 3-Core Ratio Limit must be greater than or equal to 1-Core Ratio Limit.
4-Core Ratio Limit Override:	4-Core Ratio Limit with range 0 to 83. The minimum range may vary between processors. This 4-Core Ratio Limit must be greater than or equal to 1-Core Ratio Limit.
Energy Efficient Turbo:	Enable/Disable Energy Efficient Turbo feature. This feature will opportunistically lower the turbo frequency to increase efficiency. Recommended only to disable in overclocking.

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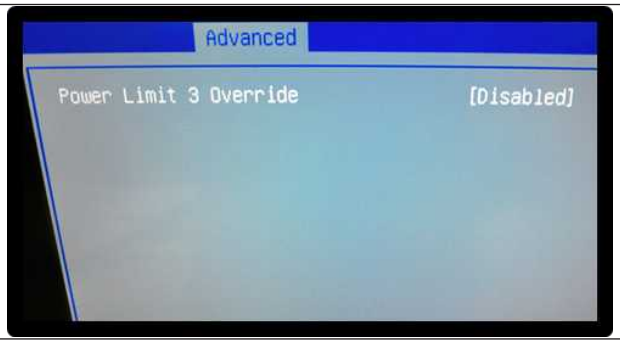
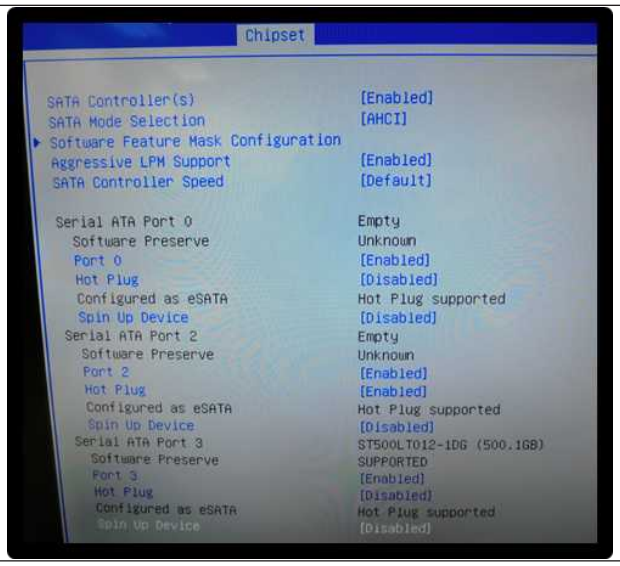
Power & Performance -> CPU—Power Management Control -> Power Limit 3 Settings:



Power Limit 3 Override:	Enable/Disable Power Limit 3 Override. If this option is disabled, BIOS will leave the default values for Power Limit 3 and Power Limit 3 Time Window.

SATA and RST Configuration:



SATA Controller:	Enable/Disable SATA device.
SATA Mode Selection:	Determines how SATA controller operates.
Software Feature Mask Configuration:	RST Legacy OROM/RST UEFI driver will refer to the SWFM configuration to enable/disable the storage features.
Aggressive LPM Support:	Enable PCH to aggressively enter link power state.
SATA Controller Speed:	Indicates the maximum speed the SATA controller can support.
Port 0, 2, 3:	Enable or Disable SATA Port.
Hot Plug:	Designates this port as Hot Pluggable.
Spin Up Device:	If enabled for any of ports, Staggered Spin Up will be performed and only the drives which have this option enabled will spin up at boot. Otherwise all drives spin up at boot.

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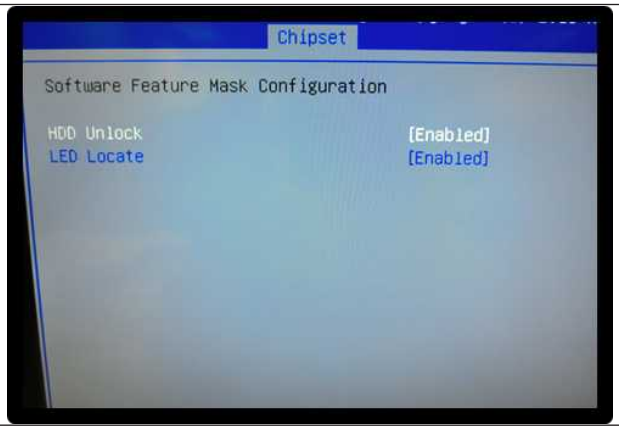
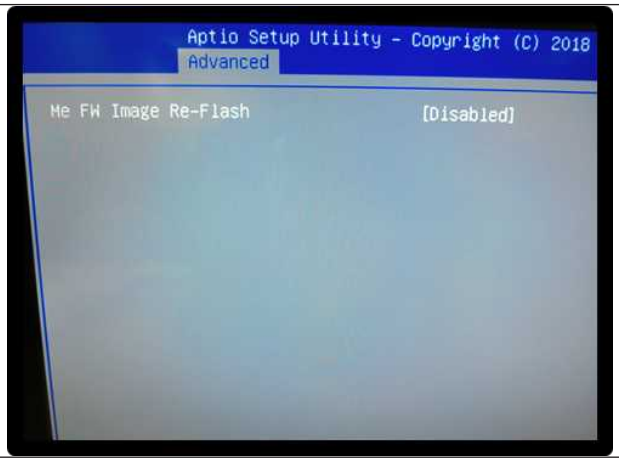
SATA and RST Configuration -> Software Feature Mask Configuration:



HDD Unlock:	If enabled, indicates that the HDD password unlock in the OS is enabled.
LED Locate:	If enabled, indicates that the LED/SGPIO hardware is attached and ping to locate feature is enabled on the OS.

PCH-FW Configuration -> Firmware Update Configuration:



Me FW Image Re-Flash:	Enable/Disable Me FW Image Re-Flash function.

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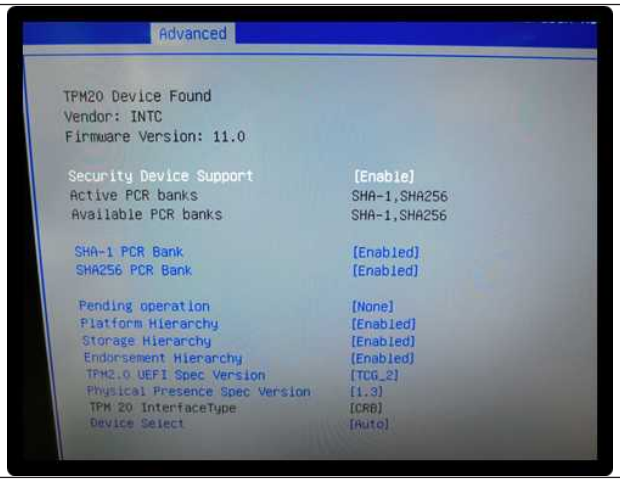
Trusted Computing:



Security Device Support:	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.
SHA-1 PCR Bank:	Enable or Disable SHA-1 PCR Bank.
SHA256 PCR Bank:	Enable or Disable SHA256 PCR Bank.
Pending operation:	Schedule an operation for the Security Device. NOTE: your computer will reboot during restart in order to change state of Security Device.
Platform Hierarchy:	Enable or Disable Platform Hierachy.
Storage Hierarchy:	Enable or Disable Storage Hierachy.
Endorsement Hierarchy:	Enable or Disable Endorsement Hierachy.
TPM2.0 UEFI Spec Version:	Select the TCG2 Spec Version Support. TCG_1_2: the compatible mode for Win8/Win10. TCG_2: Support new TCG2 protocol and event format for Win10 or later.
Physical Presence Spec Version:	Select to Tell O.S. to support PPI Spec Version 1.2 or 1.3. Note some HCK tests might not support 1.3.
Device Select:	TPM 1.2 will restrict support to TPM 1.2 devices, TPM 2.0 will restrict support to TPM 2.0 devices, Auto will support both with the default set to TPM 2.0 devices if not found, TPM 1.2 devices will be enumerated.

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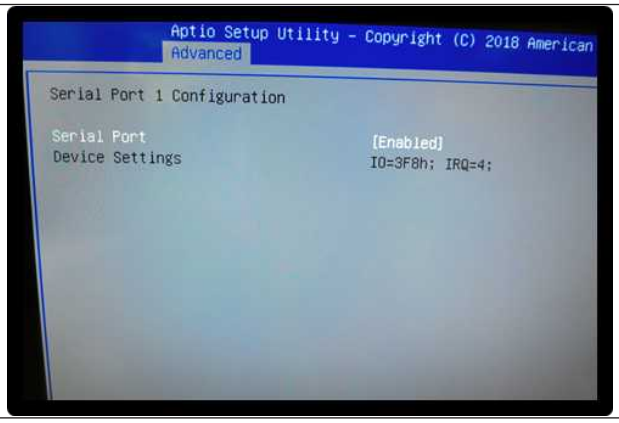
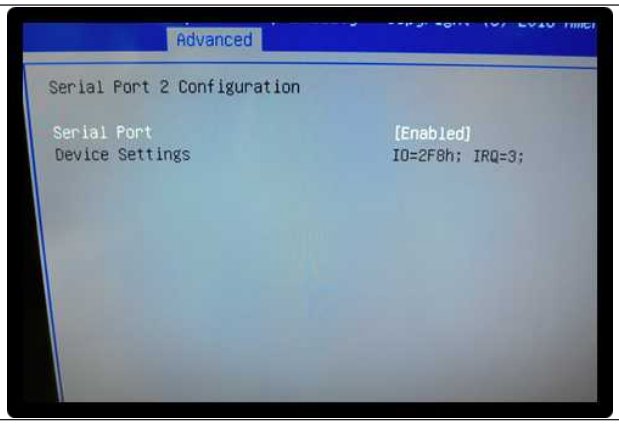
Super IO Configuration -> Serial Port 1 Configuration:



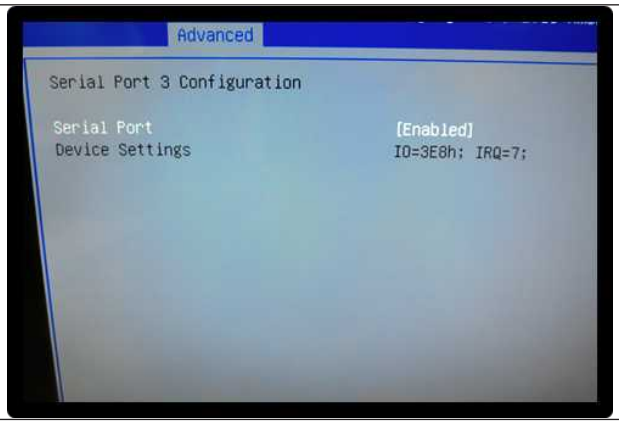
Serial Port:	Enable or Disable Serial Port (COM).

Super IO Configuration -> Serial Port 2 Configuration:



Serial Port:	Enable or Disable Serial Port (COM).

Super IO Configuration -> Serial Port 3 Configuration:



Serial Port:	Enable or Disable Serial Port (COM).

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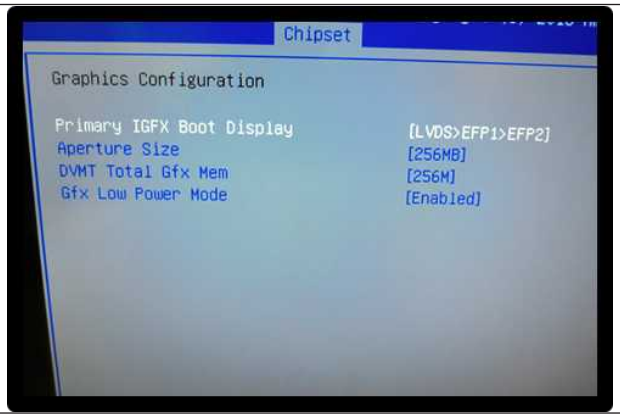
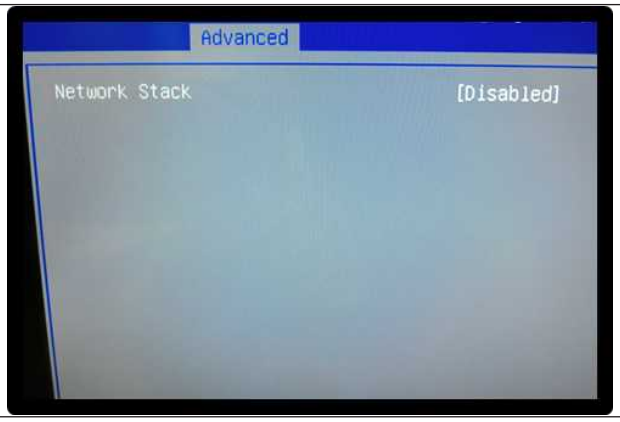
Graphics Configuration:



Primary IGFX Boot Display:	Select which device may be used as primary display first.
Aperture Size:	Select the Aperture Size. Note: Above 4GB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture. To use this feature, please disable CSM Support.
DVMT Total Gfx Mem:	Select DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.
Gfx Low Power Mode:	This option is applicable for SFF only.

Network Stack Configuration:



Network Stack:	Enable/Disable UEFI Network Stack.

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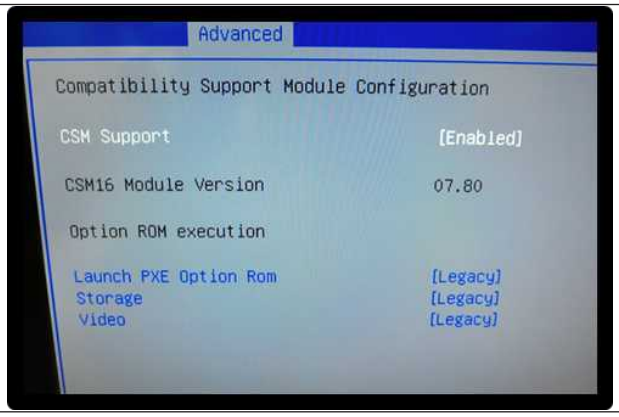
CSM Configuration:



CSM Support:	Enable/Disable CSM Support.
Launch PXE Option Rom:	Controls the execution PXE OpROM.
Storage:	Controls the execution of UEFI and Legacy Storage OpROM.
Video:	Controls the execution of UEFI and Legacy Video OpROM.

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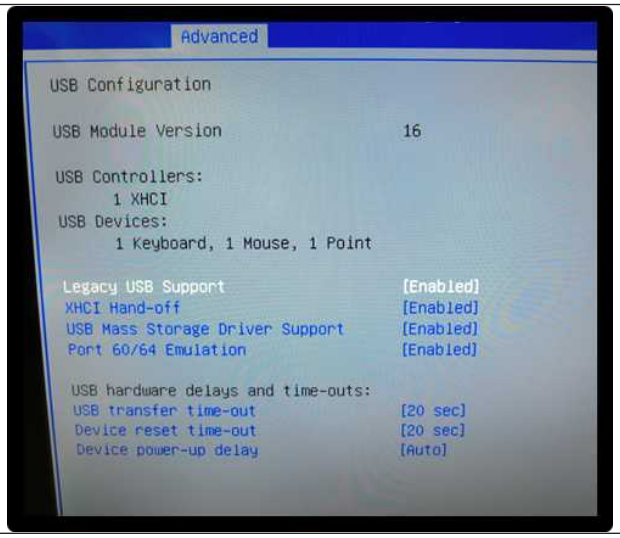
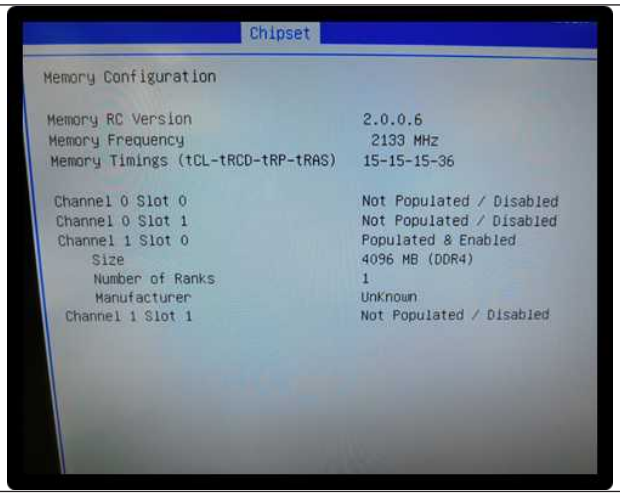
USB Configuration:



Legacy USB Support:	Enables Legacy USB Support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.
XHCI Hand-off:	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
USB Mass Storage Driver Support:	Enable/Disable USB Mass Storage Driver Support.
Port 60/64 Emulation:	Enables I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSes.
USB transfer time-out:	The time-out value for Control, Bulk, and Interrupt transfers.
Device reset time-out:	USB mass storage device Start Unit command time-out.
Device power-up delay:	Maximum time the device will take before it properly reports itself to the Host Controller. ‘Auto’ uses default value: for a Root port it is 100 ms, for a Hub port the delay is taken from Hub descriptor.

18.4 Chipset

Memory Configuration:



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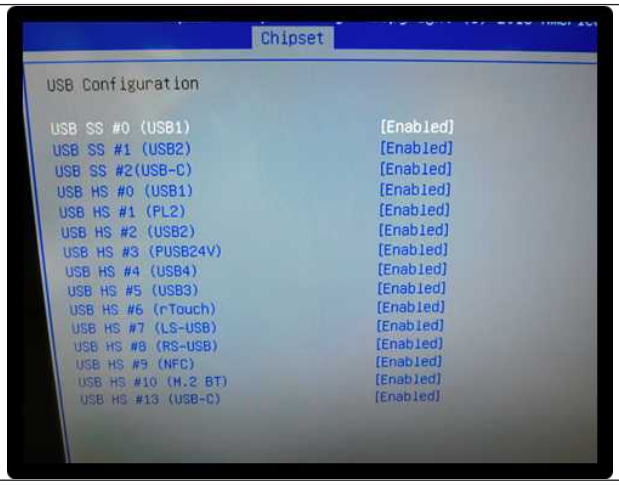
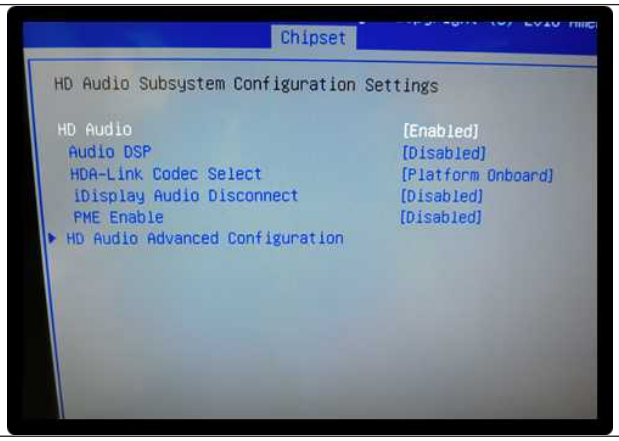
PCH-IO Configuration -> USB Configuration:



USB SS, USB HS:	Enable/Disable this USB Physical Connector (physical port). Once disabled, any USB devices plugged into the connector will not be detected by BIOS or OS.

PCH-IO Configuration -> HD Audio Configuration:



HD Audio:	Control Detection of HD-Audio device. Disabled = HDA will be unconditionally disabled. Enabled = HDA will be unconditionally enabled. Auto = HDA will be enabled if present, disabled otherwise.
Audio DSP:	Enable/Disable Audio DSP.
HDA-Link Codec Select:	Selects whether Platform Onboard Codec (single Verb Table installed) or External Codec Kit (multiple Verb Tables installed) will be used.
iDisplay Audio Disconnect:	Disconnects SDI2 signal to hide/disable iDisplay Audio Codec.
PME Enable:	Enables PME wake of HD Audio controller during POST.

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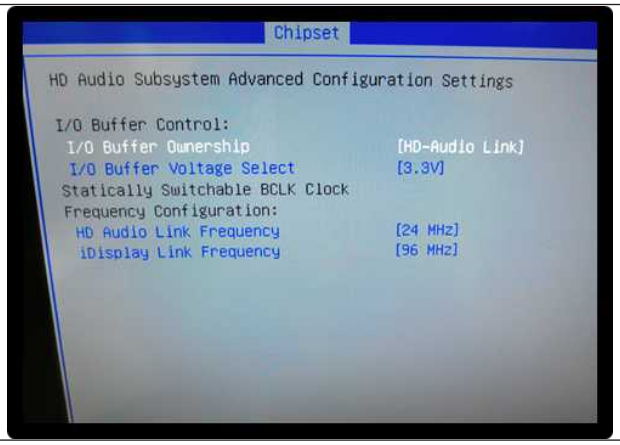
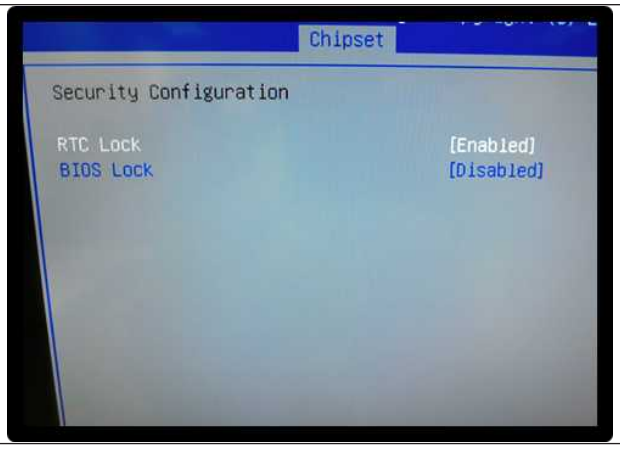
PCH-IO Configuration –> HD Audio Configuration –> HD Audio Advanced Configuration:



I/O Buffer Ownership:	Selects the ownership of the I/O buffer between Intel HD Audio link vs I2S port (for bilingual codecs).
I/O Buffer Voltage Select:	Selects the voltage operation mode of the I/O buffer.
HD Audio Link Frequency:	Selects HD Audio Link Frequency. Applicable only if HDA codec supports selected frequency.
iDisplay Link Frequency:	Selects iDisplay Link Frequency. Applicable only if iDisp codec supports selected frequency.

PCH-IO Configuration -> Security Configuration:



RTC Lock:	Enable will lock bytes 38h-3Fh in the lower/upper 128-byte bank of RTC RAM.
BIOS Lock:	Enable/Disable the PCH BIOS Lock Enable feature. Required to be enabled to ensure SMM protection of flash.

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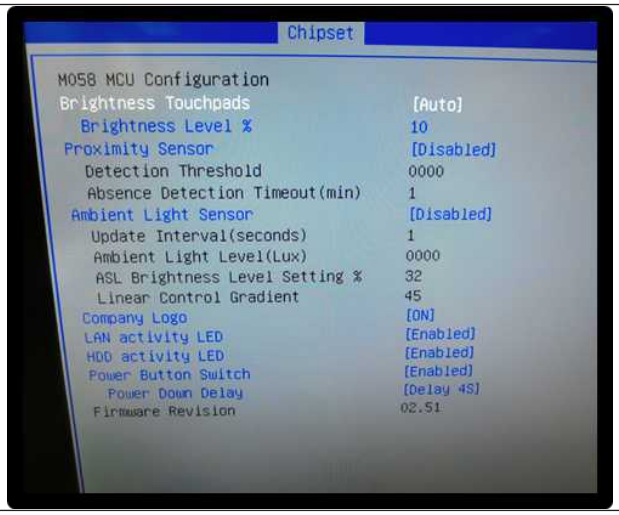
M058 MCU Configuration:



Brightness Touchpads:	Enable or disable MCU Brightness Touchpads.
Brightness Level %:	Brightness Level Control, Value 10~100.
Proximity Sensor:	Enable or disable MCU Proximity Sensor.
Ambient Light Sensor:	Enable or disable MCU Ambient Light Sensor.
Company Logo:	On/Off Company Logo backlight.
LAN Activity LED:	Enable or disable MCU LAN activity LED.
HDD Activity LED:	Enable or disable HDD activity LED.
Power Button Switch:	Enable/Disable the Power Button Switch.
Power Down Delay:	Power Button Power Down Mode.

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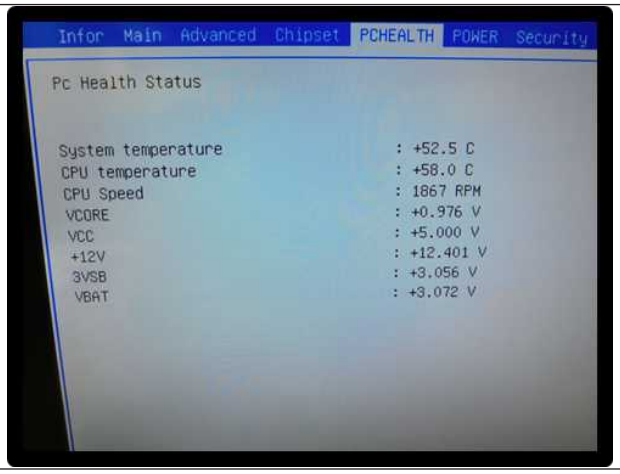
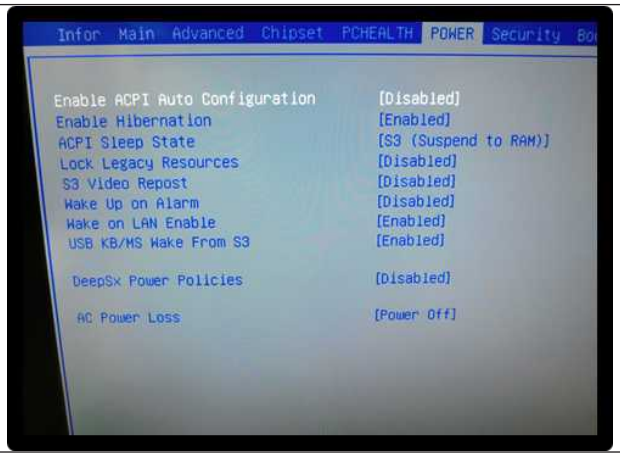
18.5 PC Health



18.6 Power



Enable ACPI Auto Configuration:	Enables or disables BIOS ACPI Auto Configuration.
Enable Hibernation:	Enables or disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.
ACPI Sleep State:	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
Lock Legacy Resources:	Enables or disables Lock or Legacy Resources.
S3 Video Repost:	Enable or disable S3 Video Repost.
Wake Up on Alarm:	Enable or disable System wake on alarm event. When enabled, System will wake on the hr::min::sec specified.
Wake on LAN Enable:	Enable/Disable integrated LAN to wake the system.
USB KB/MS Wake From S3:	When enabled, system can be woken up from S3/S4 by USB keyboard or mouse, if it is allowed by the OS. When disabled, USB device can't wake the system up from S4/S5 state, even if it is enabled by the OS.
DeepSx Power Policies:	Configure the DeepSx Mode configuration.
AC Power Loss:	AC Power Loss

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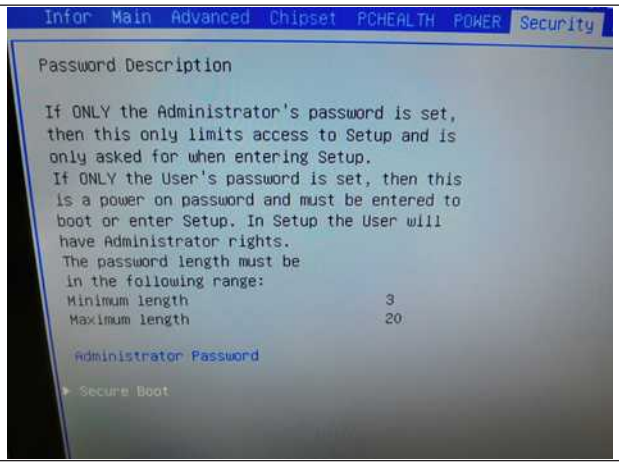
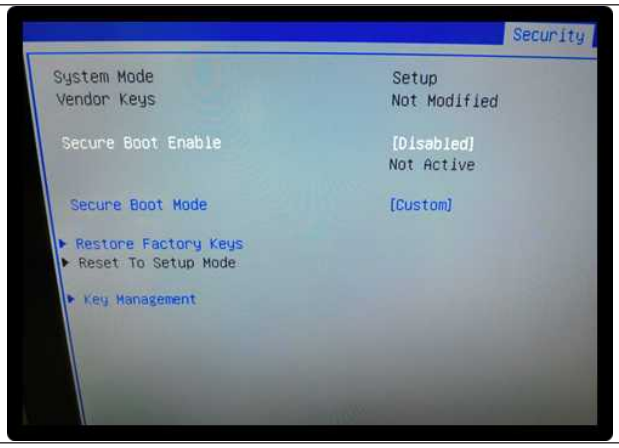
18.7 Security



Administrator Password:	Set Administrator Password.

Secure Boot:



Secure Boot Enable:	Secure Boot activated when Platform Key(PK) is enrolled, System mode is User/Deployed, and CSM function is disabled.
Secure Boot Mode:	Customizable Secure Boot mode: In Custom mode Secure Boot Policy variables can be configured by a physically present user without full authentication.
Restore Factory Keys:	Force System to User Mode. Configure NVRAM to contain OEM-defined factory default Secure Boot Keys.
Key Management:	Enables expert users to modify Secure Boot Policy variables without full authentication.

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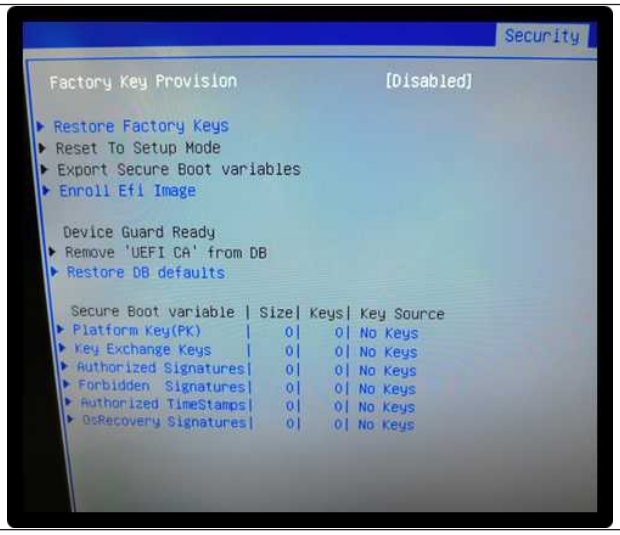
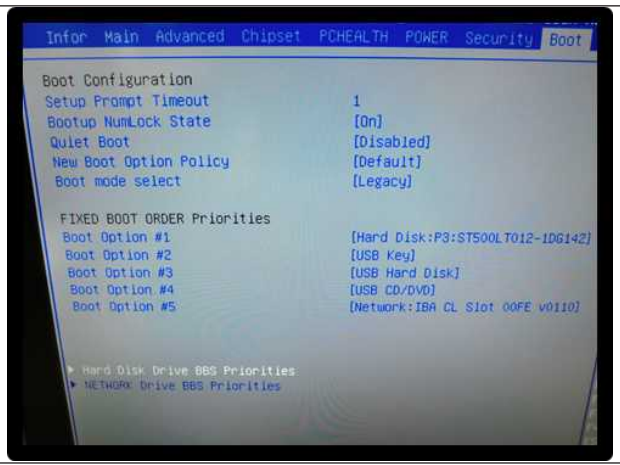
Secure Boot → Key Management:



Factory Key Provision:	Provision factory default keys on next re-boot only when System in Setup Mode.
Restore Factory Keys:	Force System to User Mode. Configure NVRAM to contain OEM-defined factory default Secure Boot Keys.
Enroll Efi Image:	Allow the image to run in Secure Boot mode. Enroll SHA256 Hash certificate of a PE image into Authorized Signature Database (db).
Restore DB Defaults:	Restore DB variable to factory defaults.
Secure Boot Variables:	Enroll Factory Defaults or load certificates from a file: 1. Public Key Certificate in: a) EFI_SIGNATURE_LIST, b) EFI_CERT_X509 (DER encoded), c) EFI_CERT_RSA2048 (bin).

18.8 Boot



Setup Prompt Timeout:	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Bootup NumLock State:	Select the keyboard NumLock State.
Quiet Boot:	Enables or disables Quiet Boot option.
New Boot Option Policy:	Controls the placement of newly detected UEFI boot options.
Boot Mode Select:	Select boot mode LEGACY/UEFI.
FIXED BOOT ORDER Priorities:	Sets the system boot order.

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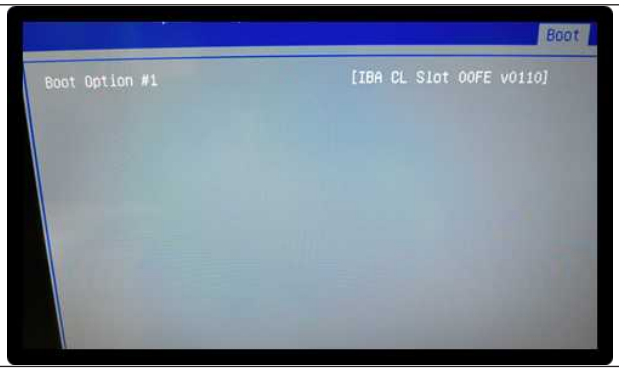
Hard Disk Drive BBS Priorities:

Network Drive BBS Priorities:



Boot Option #1:	Sets the system boot order.

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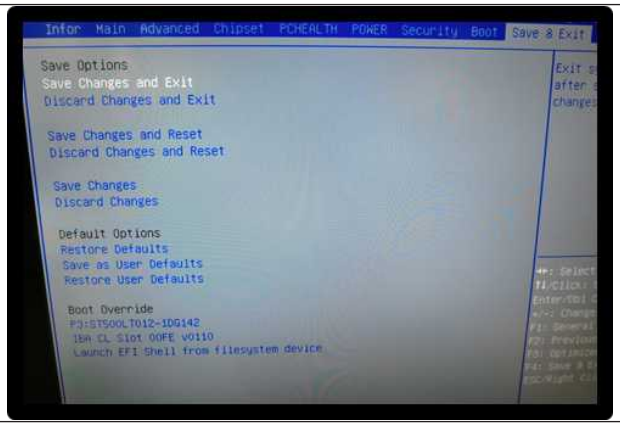
18.9 Save & Exit



Save Changes and Exit:	Exit system setup after saving the changes.
Discard Changes and Exit:	Exit system setup without saving any changes.
Save Changes and Reset:	Reset the system after saving the changes.
Changes and Reset:	Reset system setup without saving any changes.
Save Changes:	Save Changes done so far to any of the setup options.
Discard Changes:	Discard Changes done so far to any of the setup options.
Restore Defaults:	Restore/Load Default values for all the setup options.
Save as User Defaults:	Save the changes done so far as User Defaults.
Restore User Defaults:	Restore the User Defaults to all the setup options.
Launch EFI Shell from filesystem device:	Attempts to Launch EFI Shell application (Shell.efi) from one of the available filesystem devices.

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19 Technical Data

		Wall Mount	Desktop
Dimensions	Diagonal Screen Size	15" (38.1 cm)	
	Active Screen Size	304.1 x 228.1 (H x V)	
	Display Housing Dimensions	Refer to section ‘Planning the Installation’	
Weight		3.35 kg	6.35 kg
Climatic Class		DIN IEC 721-3-3 Class 3K3 up to 40ºC	
Operating Temperature		+5ºC to +40ºC	
Humidity		5% to 85% Absolute humidity 1g/m3 to 25g/m3 Condensation is not permitted	
Display Characteristics	Pixels H x V	1024 x 768	
	Pixel Format	0.30 x 0.30 mm	
	Colour Depth	Up to 16.7M	
	Brightness (typical)	220 cd/m2 (Resistive)	
		250 cd/m2 (Projected capacitive)	
	Viewing Angle	80/80°	
User Accessible I/O		PLINK2/DVI-D, 2x USB 2.0, 2x USB 3.0, 1x 24V Powered USB, 1x Standard COM, 1x Powered COM, cash drawer, LAN, eSATA, USB-C (Q170 version only) - PD: 5V/2A, 12V/2A - USB 3.0 (5Gb) - DP 1.2 (4096x2304 @60Hz)	
Expansion Options	Internal	1x M.2 2230 (WLAN) 1x M.2 2280 (SSD)	
	External (Left/right side)	MSR, WaiterLock, Barcode reader, Fingerprint reader and NFC reader	

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19.1 AC Power Adapter

Only use power supply units (PSU) released or approved by Diebold Nixdorf. The PSU has to comply with the following minimal requirements and common standards:

Rated input voltage	100-240VAC
Rated input current	2.0A
Input frequency range	47-63 Hz
Rated output voltage	24V ± 5%
Rated output current	5.0A
Maximum output power	120W at ambient of 45 degree C, 100W at ambient of 55 degree C
Approvals and certifications	UL Listed, TÜV-GS, CE

19.2 NFC Module

Supported Standards	ISO/IEC 14443 Type A FeliCa
Validated IC Cards/Tags	MIFARE Classic, UltraLight, Plus, DESFire NTAG 212, 203 QR2213 FM11RF08 FeliCa S962 20h, S965 F0h
RF Operating Frequency	13.56 MHz
Host Interface	USB 2.0 Full speed
	CCID protocol
Rated Voltage	5.0 V
Rated Current	250 mA
RF Output Power	230mW
Operating Temperature	0 ° C to 40 ° C
Operating Systems	Windows 7, Linux
Certification	CE, FCC

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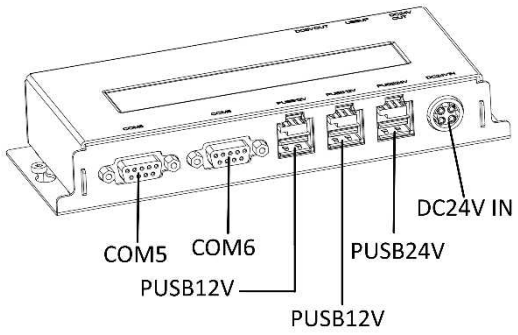
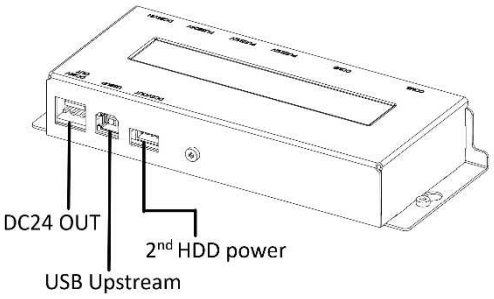
19.3 I/O Hub

The I/O Hub (illustration on next page) is an accessory for the iPOS plus Advanced, to extend the number of I/O ports.

Power Input	DC24V IN	24V DC (connect to 24V power supply)
User Interface	COM5	Rated voltage: 12V, 5V
	COM6	Rated current: 1A combined (each supply)
	PUSB12V	2x powered USB, rated 0.5A
	PUSB24V	1x powered USB, rated 3A
Power Output	DC24 V Out	24V DC (connect to iPOS plus Advanced)
USB Upstream		USB Type B (connect to eSATA port of iPOS plus Advanced)
2nd HDD Power		For optional second hard disk

Please note that MAX 70W load is allowed for any combination of the interface connectors.





19.4 Total Available Power

The total power available for the external IO ports depends on the rating of AC power adapter used. Below is the Diebold Nixdorf's approved AC power adapter for BEETLE/iPOS plus Advanced.

Part Number	Model Name	Output Rating	Total power available External I/O Ports
1750266555	ADC029-280G	120W	70W

Type	Port Name	Voltage	Current Rating	Max. Total Power Consumption (W)
Display	PL2	12V	2.5A	Depends on the power adapter used. See above table for the applicable total power available.
		5V	1.1A	
USB 3.0	USB1	5V	0.5A	
	USB2	5V	0.5A	
USB 2.0	USB3	5V	0.5A	
	USB4	5V	0.5A	
	PUSB24V	5V	0.5A	
		24V	3A	
USB Type C	USB-C	5V	2A	
		12V	2A	
Powered COM	COM2	5V	0.5A	
		12V	0.5A	

Before connecting additional peripherals to these ports, the service engineer or trained technician must check and ensure that the power consumptions of the peripherals do not exceed the maximum output powers of the ports, and that the total power consumption does not exceed the total available power of the selected AC power adapter.

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20 Appendix

20.1 Approved Printers List

The following are the approved printers that are allowed to be connected to the BEETLE/iPOS plus Advanced +24Vdc Powered USB port:

	Model	**Manufacturer**
1	TH180 series	Diebold Nixdorf
2	TH230 series	Diebold Nixdorf
3	TH320 series	Diebold Nixdorf
4	TH420 series	Diebold Nixdorf
5	ND77 series	Diebold Nixdorf
6	ND210 series	Diebold Nixdorf
7	ND220 series	Diebold Nixdorf
8	TH200 series	Diebold Nixdorf
9	TH250 series	Diebold Nixdorf

Connecting printer that are not in the above approved list to the **+24Vdc Powered USB port** may cause safety hazard and endanger the user and people nearby. Please consult Diebold Nixdorf if in doubt.

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21 Abbreviations

CE	European Symbol of Conformity
CFC	Chlorofluorocarbon
CHC	Chlorinated hydrocarbon
COMn*	Powered RS 232 Interface (Asterisk denotes Power)
cUL	Canadian Registration (Recognized by UL)
DIN	Deutsches Institut für Normen (German Institute for Standards)
D-Sub	D- Shaped Sub miniature
ESD	Electronically Sensitive Devices
HDD	Hard Disk Drive
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LAN	Local Area Network
LED	Light Emitting Diode
PEN	Protective Earth Neutral Conductor
RAM	Random Access Memory
SSD	Solid State Disk (flash medium)
TN-S	Terre Neutre- Separé
UL	Underwriters Laboratory (standards)
USB	Universal Serial Bus
VGA	Video Graphics Adapter
VESA	Video Electronics Standards Association

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