



TECHNICAL REFERENCE GUIDE

ACE MUSTANG SERIES

MODEL: T630



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Printed in the United States of America.

INTRODUCTION

Audience

This manual is mainly written for professional system integrators, PC technicians, and end of life recycling facilities, with the exception of the Energy Management Section, which is written to provide additional guidance on standard energy settings and configurable energy settings for the end user.

Resources

If you have any questions regarding this manual or computer system, please contact our support team through Ace Computers Support page at support.acecomputers.com

This manual may be periodically updated without notice. Please check the Ace Computers website for possible updates to the manual revision level.



ENERGY STAR AND POWER MANAGEMENT

What is Energy Star?

Created by the Environmental Protection Agency (EPA) and the United States Department of Energy (DOE), the Energy Star program is a strict set of specifications that residential appliances and construction elements (washers, dryers, refrigerators, freezers, dishwashers, televisions, tablets, computers, monitors, water heaters, HVAC units, dehumidifiers, air cleaners and purifiers, lighting, insulation and more) must meet through evaluation and testing to achieve certification.

The Energy Star rating assures consumers that the product has been EPA and DOE certified to function as well or better than its peers, while saving money, energy and the environment due to its greater energy efficiency.

Benefits of Energy Star

- Increased Efficiency
- Reduced Energy Use
- Reduced Utility Bills
- Reduced Power Plant Emissions and Carbon Footprint
- Wide Selection, Rebates, and Convenience

T630 Power Management Settings “As Shipped”

The default Power Management settings have been selected for compliance with Energy Star and are recommended by the Energy Star program for optimal energy savings.

Power Management Option	Setting
System Sleep Mode	After 30 min. of user inactivity
Display Sleep Mode	After 10 min. of user inactivity
Primary Hard Drive – “Hard Disk Turn Off”	20 min.

How to wake your computers or monitor from Sleep or Hibernate Mode?

To wake up your computer or monitor from sleep or hibernate, move the mouse or press any key on the keyboard. If this does not work, press the power button to wake up the computer.

Wake Management

- Capable of both remote (via network) and scheduled (via real time clock) wake events from Sleep Mode.
- Provide clients with the ability to centrally manage (via vendor tools) any wake management settings that are configured through hardware settings if the manufacturer has control over such features.

WoL (Wake on LAN)

WoL Capabilities/Default Settings	Yes	No
Has the ability to Enable and Disable WoL for Sleep Mode	<input checked="" type="checkbox"/>	
WoL Enables from Sleep by default:		<input checked="" type="checkbox"/>
WoL Enabled from Off by default:		<input checked="" type="checkbox"/>

WoL from Sleep:

WoL from Sleep - Default Settings	Yes	No
Shipped Enabled Under All Conditions		<input checked="" type="checkbox"/>
Shipped Enabled When Operating on AC power only		<input checked="" type="checkbox"/>
Shipped Disabled	<input checked="" type="checkbox"/>	
Shipped Disabled with both client OS and Network Controls to Enable Feature		<input checked="" type="checkbox"/>

ILLUSTRATED SYSTEM DISASSEMBLY/REASSEMBLY INSTRUCTIONS

Introduction

This section of the technical reference guide is intended to provide the following information:

- Information on parts requiring selective treatment per WEEE Directive
- Disassembly process for removal of external enclosure without tools
- Disassembly instructions, including required tools, as applicable
- Diagram and/or pictorial representation of all parts in the system

This section of the user manual is intended to provide guidance to end of life recyclers on the presence of materials and components that require selective treatment, per Article 15 of the EU WEEE Directive 2012/19/EU.

The provided information should also help direct recyclers to proper methods for removing parts and general product disassembly instructions. This Chapter also outlines specific substances, mixtures, and components that must be removed from any separately collected electronic waste component and shall be disposed or recovered in compliance with Directive 2008/98/EC.

Please note: All the illustrations in the below disassembly instructions are for demonstration only. The system and components shown in this section are a representative sample.

Replacement Parts

Refer to section “UPGRADES, SERVICE, AND REPAIR” for information on how to obtain replacement components for your T630.



NOTE: While the components of this computer can be replaced by the end user, Ace Computers does not recommend that an end user without previous computer repair experience perform the upgrades and/or replacement of said components. Computer components are delicate and can easily be damaged. If you are uncertain about replacement or upgrade of your computers, the Ace Computers technical support team does offer “depot” services for on-site system repair and upgrade. Please contact the Ace Computers Technical Support team for additional information and pricing.



CAUTION: Always power off the system and unplug the power cord(s) before opening the side panel to access the internal components.

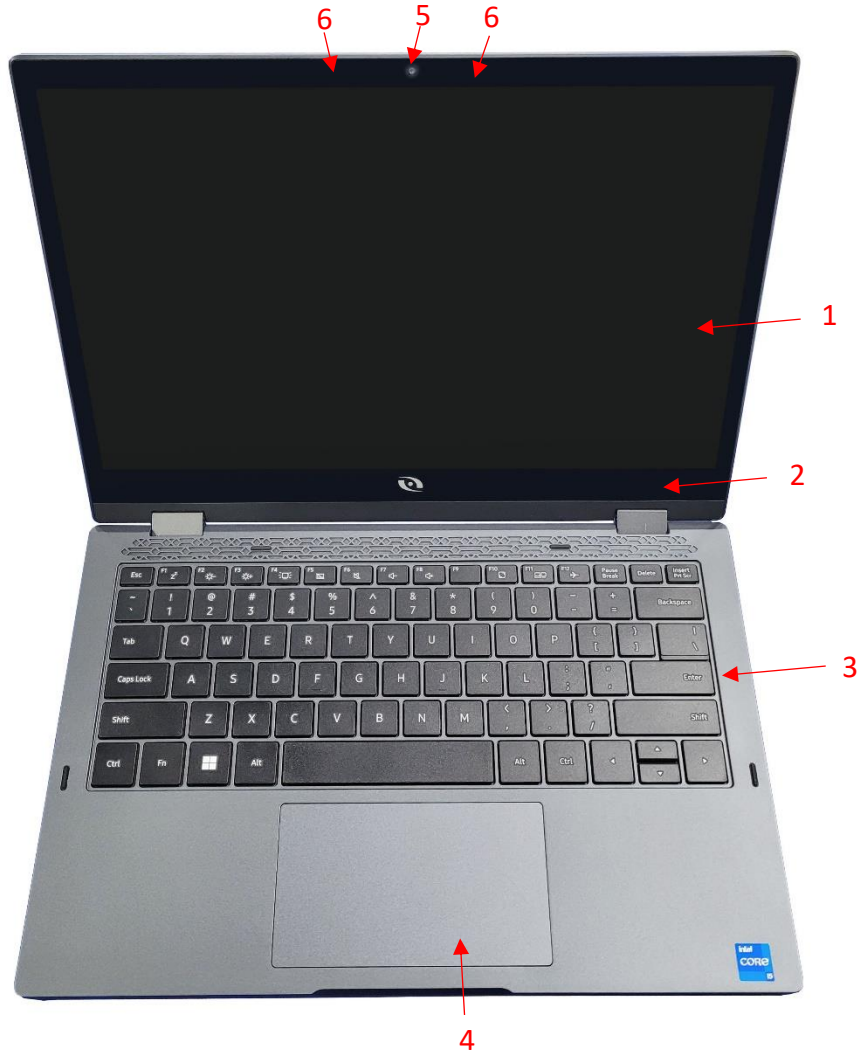


ATTENTION: Electrostatic discharge potential.
Your computer’s internal components are highly susceptible to risk of damage from electrostatic discharge (static electricity, which occurs naturally on your body due to friction). To avoid damaging your equipment, always earth yourself to your computer system before opening the computer’s chassis or handling any internal component(s).

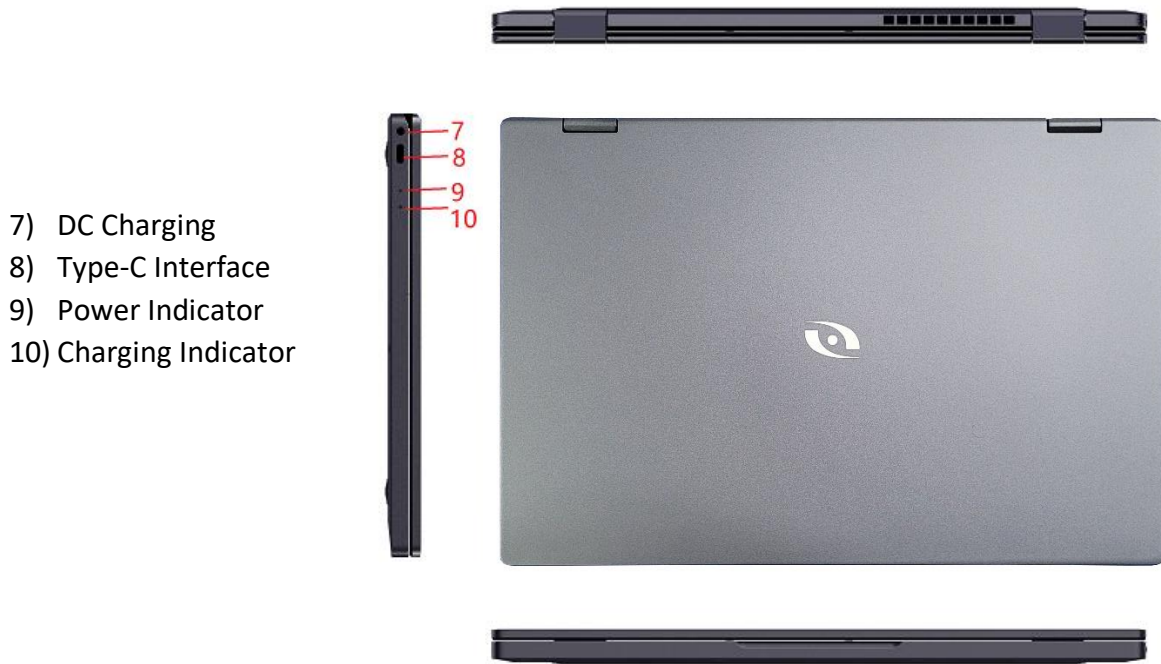
Representative Desktop Component Layout

Please note the illustration below is a representative sample of the T630, your PC may include additional components or variations of this family configuration.

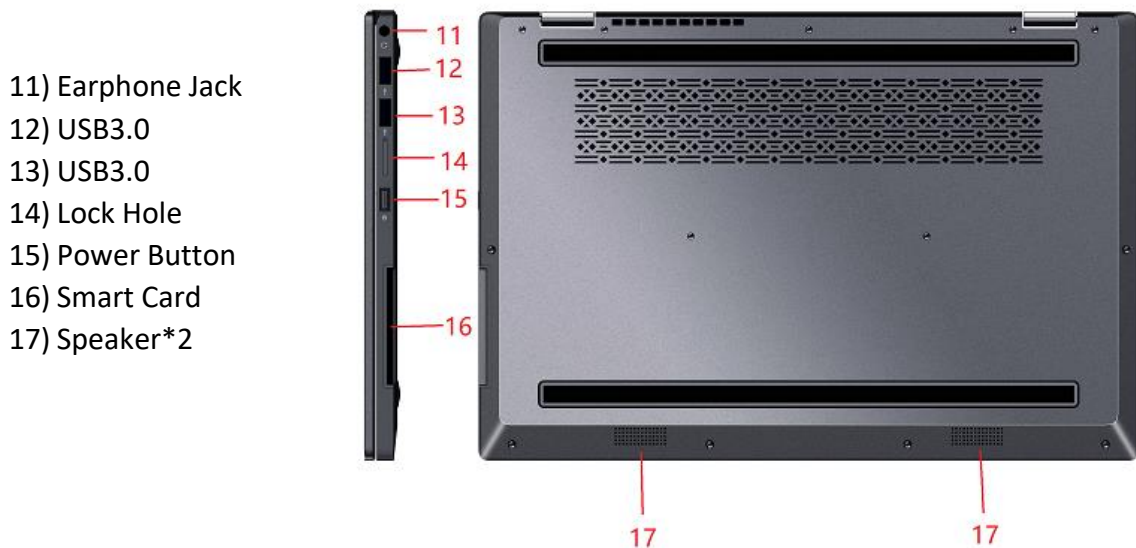
- 1) Display
- 2) Touch Panel
- 3) Keyboard
- 4) Touchpad
- 5) Camera
- 6) Camera Microphone



System Map: Top, Left, Front and Rear View of T630 Model

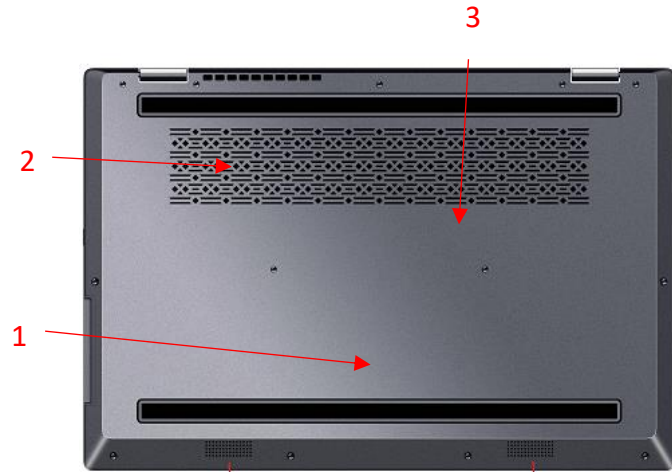


System Map: Right & Bottom Views of T630 Model



System Map: Bottom View of T630 Model

- 1) Battery
- 2) Fan Intake/Vent
- 3) Component Bay



T630 Disposal/Selective Treatment

The following section outlines the components of the T630 that required Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU:



STOP The HDD/SSD, Memory, Motherboard, I/O Connections and External Power Supply each contain one printed circuit board of greater than 10 sq. cm and must be removed from the device and must be disposed of, or recovered, in compliance with the requirements of Directive 2008/98/EC.

Any plastic components within the heatsink fan must be removed separately due to the presence of brominated flame retardants and shall be disposed or recovered in compliance with Directive 2008/98/EC.

The processor must be disposed of, or recovered, in compliance with the requirements of Directive 2008/98/EC.

A lithium-ion battery resides on the bottom rear of the laptop and a lithium-ion coin cell battery resides on the motherboard within the laptop. Both batteries must be removed separately from the laptop and shall be disposed or recovered in compliance with Directive 2008/98/EC.

The LCD (liquid crystal display) screen is greater than 100 sq. cm and must be removed separately from the laptop and shall be disposed or recovered in compliance with Directive 2008/98/EC.

Any external electrical cables must be removed separately and shall be disposed or recovered in compliance with Directive 2008/98/EC.

The processor must be disposed of, or recovered, in compliance with the requirements of Directive 2008/98/EC.

Battery



Handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Location: The battery is located on the bottom rear of the laptop, see illustration below.

Type and number of fastenings: four Phillips head screws

Tools required: Philips screw driver

Procedure:

Step 1: Ensure the computer is off, unplugged, and any potential energy is dissipated. Turn the laptop over.

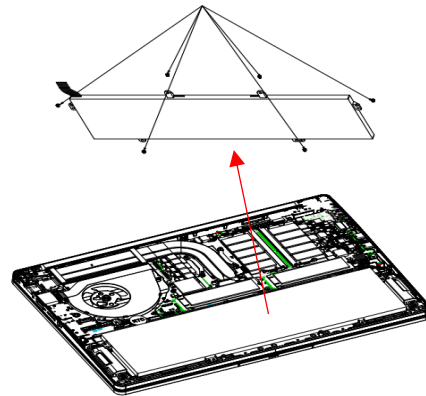
Step 2: Remove bottom chassis cover.

Step 3: Remove Battery Maly.

Step 4: Disconnect Battery Cable from JBATTERY on system board.

Step 5: Remove four M2. 0x3 5x4.0*T0.5 black Phillips head screws securing Battery.

Step 6: Remove Battery



Reinstallation

Step 6: Turn the computer off, and turn it over

Step 7: Place Battery into the compartment. Align four M2. 0x3 5x4.0*T0.5 black Phillips head screws, tighten to secure Battery.

Step 8: Connect Battery Cable to the JBATTERY on system board.

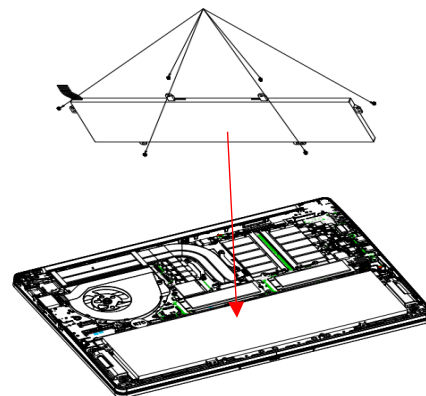
Step 9: Replace Battery Maly.

Step 10: Replace bottom chassis cover.

Disposal:



Selective Treatment/ Special Handling Per Annex VII, Directive 2012/19/EU: A lithium-ion battery resides on the bottom rear of the laptop and a lithium-ion coin cell battery resides



on the motherboard within the laptop. Both batteries must be removed separately from the laptop and shall be disposed or recovered in compliance with Directive 2008/98/EC.

External Power Cable

Location: The inlet to the USB-C power cable is located on the I/O panel on the left view of the laptop.

Type and number of fastenings: None, direct pressure connection method.

Tools required: None.

Procedure:

Step 1: Ensure your computer is powered down.

Step 2: Disconnect the external power cable from the main laptop assembly.

Reinstallation

Step 3: Connect the external power cable from the left view of the laptop into the motherboard connection point.



Disposal:



Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any external electrical cables must be removed separately and shall be disposed or recovered in compliance with Directive 2008/98/EC. The external power supply contains one printed circuit board greater than 10 sq. cm and must be removed from the device and must be disposed of, or recovered, in compliance with the requirements of Directive 2008/98/EC.

Chassis Bottom Cover Removal

Location: In order to access the internal components of your system, you will need to remove the bottom cover of the chassis.

Type and number of fastenings: 13 Phillips head screws

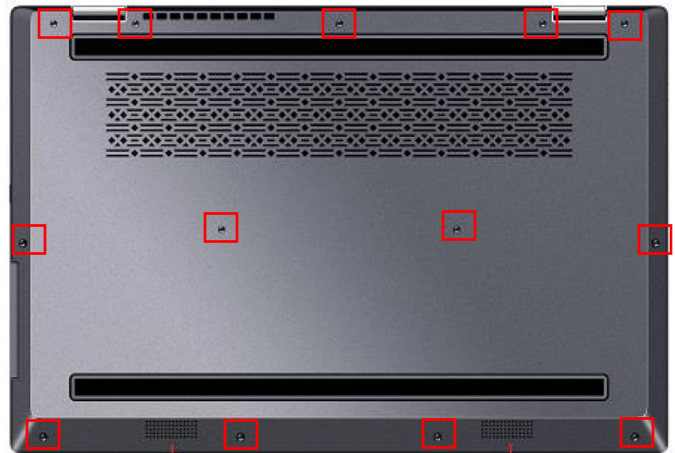
Tools required: Phillips head screwdriver

Procedure:

Step 1: Ensure the desktop is off, unplugged, and any potential energy is dissipated.

Step 2: Unfasten the (13) Phillips screws on the bottom side of the chassis.

Step 3: Once removed, carefully slide the chassis bottom panel directly upward.



Reinstallation

Step 4: Carefully replace the chassis bottom panel directly downward.

Step 5: Align all 13 Philips screws on the bottom side of the chassis panel. Tighten all 13 Philips screws to secure chassis panel.

I/O Connections

Location: There are two locations on the T630 that have I/O connections.

- (1) The left-side panel of the laptop
- (2) The right-side panel of the laptop



Procedure:

Note: I/O connections are integral parts of higher-level assemblies and thus to replace them the entire assembly would need to be replaced.

To uninstall/reinstall any of the I/O connections please see the Ordering Parts, Requesting Repair, or Talking to Technical Support section below (page 18).

TROUBLESHOOTING YOUR PC

If your computer will not power on, try the following steps:

1. Make sure the power cord is fully connected to the computer and to the wall outlet.
2. If using a surge protector, try connecting the power cord directly to a wall outlet.
3. It is possible for the internal power connectors to come loose during shipping. Carefully remove the side panel and check both the 24-Pin and CPU power connectors to make sure they are fully seated.
4. If your system still will not power on, please contact our support team.

If your computer screen is black, but your computer is turned on, try the following steps:



If your computer has a video card installed the on-board video may be disabled. Ensure you have your monitor connected to the proper rear port.

1. Check all the connection(s) on the video card and your monitor – make sure they are fully seated.
2. Select the correct source on your monitor.
3. If available, use a different display cable and see that if that resolves your issue.
4. If none of the above steps worked, please contact our support team.

If your computer will not boot into windows, try the following steps:

1. This can happen when installing new drivers, applications, or malicious software. Did you install new hardware? Did you accidentally unplug something when working inside the computer? This can be from various reasons, try these steps:
2. If you recently opened your computer to clean, install new hardware, etc. You may have accidentally unplugged power or data cables. Check all the power and data connections on your components and motherboard.
3. Enter your computer's BIOS and check its boot order setting, ensuring that it is set to boot from the correct drive that has the operating system installed.
4. After trying the steps above and you are still unable to boot into windows, please contact our support team.

If your computer freezes or crashes during boot, try the following steps:

1. If Windows seems to boot fine but hangs halfway or blue screens and restarts, it may be a software or hardware problem. Try the following steps:
2. Attempt to boot into safe mode. If the computer is stable in safe mode, try uninstalling any recently installed hardware drivers, perform a system restore, and scan for malware. Newly installed drivers or malicious software may be causing this issue.
3. If your computer is still freezing or crashing, you may want to try the “Reset This PC” option. This will restore your computer to its factory state. You can choose to “Keep My Files” or “Remove Everything”.
4. If you are still experiencing Windows freezing or crashing during boot, it may be a hardware issue. Please contact our support team.

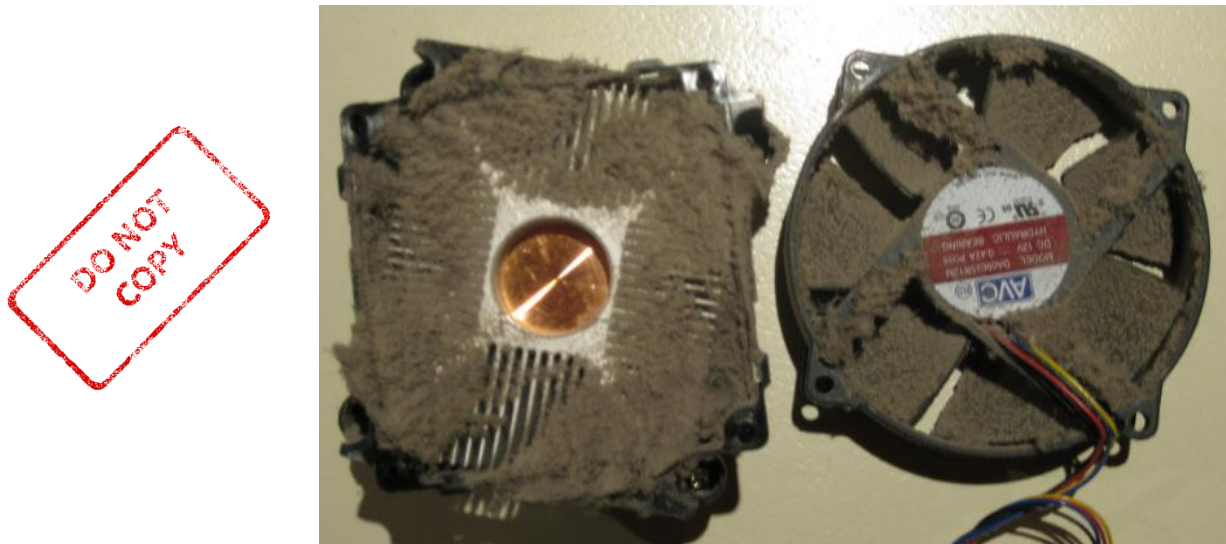
MAINTENANCE

Removing Dust Build Up

Dust buildup may lead to overheating and could potentially cause serious damage to your PC components. If fans get clogged with dust, they may begin to turn at a slower RPM reducing the effectiveness of the fan and leading to overheating of the PC. The issue of dust build up is applicable to all fans within the system (e.g. case fan, CPU fan, AIO radiator, GPU fans, etc.). If fans build up enough dust the motors may seize and completely fail, requiring the fan to be replaced.

Regular Maintenance Steps

1. *Remove PC from all power sources, unplug the system from the wall and/or surge protector. It is best to let the unit set for a few minutes, pressing the on/off button a few times to dissipate any energy the capacitors may be storing.*
2. *Compressed air is a great tool to remove dust quickly and safely. Remember to read the instructions on the use of compressed air before use.*
3. *Remove all the large dust particle by hand and use the compressed air to blow away and smaller residual particles.*
4. *Repeat about every 3 months or so, or as needed for areas that are more dust prone.*



Virus and Malware Protection

You should check your PC often for malware. You can do this by running a scan using Windows Defender, but for deep system scans, it is always good to use a secondary software as well – just to be safe. There are multiple reputable Anti-Malware companies; one that is commonly used is Malwarebytes. Running weekly deep system scans would be the best choice.

SOFTWARE UPDATES



Utilization of the most up to date OS software version and patches will provide the best possible defenses against viruses and malware.

Periodic Check for Software Updates

Windows will periodically look for and apply critical patches and security updates. Allows your system, during the initial setup of the system, to automatically update, this will provide the most secure user environment.

Please make sure to allow the system to apply updates within a reasonable time frame from when installed.

To access Windows Update, start by clicking on the “Start Button” and selecting the Gear Icon (Settings) on the left side of the menu.

1. Once you are in the “Windows Settings” window, click on the “Update & Security” tab.
2. You should now be at the “Windows Update” screen. You can visit this page and click on the “Check for updates” button to see if your system needs updates.
3. We highly recommend checking Windows Updates often as security is extremely important.

Periodic Update of Device Drivers

It is good practice to keep an eye out for updating device drivers. Although some components use utilities to give you a heads up when an update is ready, that is not always the case for drivers. Device drivers play a crucial role in the smooth functionality of your PC. We recommend visiting the manufacturer’s website to get the latest stable drivers.

Contact Ace Computers Support Desk for help

Ace Computers staffs a technical support desk and is always ready to help.



You can contact the team at support@acecomputers.com

- or -

call 877-223-2667

-or-

visit the [acecomputers.com](https://www.acecomputers.com) and click “Support” to start a new support ticket online.

REMOVAL OF PERSONAL DATA



Be sure to back up all information that you desire to keep on alternative drives before deleting data as this process cannot be reversed.


Digitally Erasing Information

Resetting your PC may be done for various reasons, but one reason may be to remove all your personal information and return the PC to the original settings.

Step 1: Select the **Start** button, then select **Setting > Update & Security > Recovery > Open Recovery Settings**.

Step 2: Under **Reset this PC**, select **Get Started** and then choose from the options and/or setting in the table below.

Option	What it Does
Keep my files > Change settings > Preinstalled apps On	<ul style="list-style-type: none"> ▪ Reinstalls Windows 10/11 and keeps your personal files. ▪ Removes apps you installed. ▪ Removes changes you made to settings. ▪ Restores any apps your PC manufacturer installed.
Keep my files > Change settings > Preinstalled apps Off	<ul style="list-style-type: none"> ▪ Reinstalls Windows 10/11 and keeps your personal files. ▪ Removes apps you installed. ▪ Removes changes you made to settings. ▪ Removes any apps your PC manufacturer installed.
Remove everything	<ul style="list-style-type: none"> ▪ Reinstalls Windows 10/11 and removes your personal files.

Option	What it Does
	<ul style="list-style-type: none"> ▪ Removes apps you installed. ▪ Removes changes you made to settings. ▪ Removes any apps your PC manufacturer installed.
 Remove everything > Change settings gives you two options. Data erasure On removes files and cleans the drive. If you're planning to donate, recycle, or sell your PC, use this option. This might take an hour or two, but it makes it harder for other people to recover files you've removed. Data erasure Off just removes files. It takes less time but is less secure.	

Mechanically Destroying Storage Devices – Hard Drive



It is important to use proper personal protection equipment (eg. Safety glasses, gloves, etc.) when working with tools, power tools, or using blunt force to destroy an HDD. Use good judgment and caution!

HDD:

There are several ways to disable/destroy a hard drive mechanically/physically, but these directions will discuss how to do it with commonly available tools.

For instruction on how to remove the HDD and/or SSD refer to the “Data Storage Devices” section of this manual above.

Once the HDD is uninstalled the following can be done to physically destroy the unit so it can no longer be used.

Step 1: Unscrew the metal casing on the hard drive (the screws vary on model, but are usually Torx or flathead)

Step 2: Remove the read/write arm (the triangular magnet that extends over the metal disk)

Step 3: Scratch the disk with something sharp, breaking it into pieces if possible

Step 4: Remove/destroy the circuit board inside the drive

If a screwdriver cannot be used to access the internal components of the HDD, inflicting severe damage with a blunt object, rock, hammer, etc. will destroy the HDD beyond repair.

Additionally, using a drill press, or drill of sorts to drill through the HDD will also destroy the HDD beyond repair.

SSD:

The process for destroying an SSD is much simpler, it can simply be destroyed beyond use, there is no protective outer cover. Use of a hammer, stomping on the component, breaking in half, etc. are all simple examples of how to destroy the SSD beyond use.

Disposal:



Refer to the “Digital Storage Devices” Section of the manual above for details on how to properly dispose of HDD’s and SSD’s.

Replacement Hard drives

Refer to the section below titled “Upgrade, Service, and Repair” for information on how to replace your hard drive in the event it was required to be destroyed after removing personal information.

UPGRADES, SERVICE, AND REPAIR

The following table is a list of all included hardware features, and a few hardware features that could be added as an upgrade option.

Note: all add on hardware features do not fall within the original scope of this product and void all certifications/regulatory compliance attestations.

Replacement and Repair Services are available for a minimum of three years after date of purchase, and often times if a direct replacement is not available and upgrade replacement can be found for several years beyond the initial 3-year mark, ensuring the longest possible utilization of your PC.

Hardware Features	Upgradeable	Repairable	Replaceable
Chassis	☑	☑	☑
Motherboard (including ethernet)			☑
CPU			☑
CPU Heatsink			☑
Memory (both type and total capacity; max memory 64GB over 4 DIM channels)	☑		☑
Storage (M.2 SSD and HDD)	☑		☑
Graphics	☑		☑
Cabling (cabling requirements may differ from base if upgraded components are utilized)			☑
Speaker			☑
External Power Connection Cable			☑
WIFI (not included standard onboard, upgrade would require add-on network card)	☑		

Ordering Parts, Requesting Repair, or Talking to Technical Support

The Ace Computers technical support team is ready and available to help in providing replacement parts, helping to identify compatible upgrades, or to answer software questions.

Please have your serial number available for reference when contacting Ace Computers.

You can contact the team at support@acecomputers.com

- or -

call 877-223-2667

-or-

visit the support.acecomputers.com site online.



Spare Parts List

Component Description	Part Number
Laptop	T630
External Power Connection Cable	XXXXXXXXYY* Power Connection Spare Part
*Where XXXXXXXYYY is the initial 9 characters of the computer serial number.	
<i>Spare parts can be purchased by contacting the Ace Computers Technical Support Team.</i>	

PRODUCT TAKE BACK, END OF LIFE PROCESSING, and E-WASTE PROGRAM

Nation Wide Take Back Services

If your PC has reached its end of life or is no longer useable, Ace Computers is excited to offer a Nation-Wide take back service. We will work with you to get the product back and will ensure it is proper disposed of with a certified R2 electronics recycling facility.

Ace Computers has partnered with a local R2-certified electronics waste recycling facility near our HQ in Des Plaines, IL.

For additional information and steps to take regarding our Product Take-Back, End-of-Life Processing, and E-Waste Program, please visit our website at <https://acecomputers.com/company/sustainability/> > EPEAT Take-Back/EOL/E-Waste Program Tab.

REVISION HISTORY

Release Date	Changes
9.26.2022	Initial Release
9.28.2022	Updated disposal information for batteries, LCD module, and external power supply.
2/29/2024	Updates to disassembly/reassembly instructions
5/14/2024	Minor updates throughout