dynabook

User's Manual

SATELLITE PRO C30-K/C40-K/C50-K

SATELLITE C30-K/C40-K/C50-K

TECRA L30-K

dynabook EX3xL-K/E40-K

dynabook CS4xL-Kx/CS5xL-Kx Series

Table of Contents

Chapter 1 **Legal, Regulatory, and Safety**

Copyright, Disclaimer and Trademarks 1-1
Regulatory Information 1-2
Video Standard Notice 1-10
OpenSSL Toolkit License Issues 1-10
FreeType License Issues 1-13
ENERGY STAR® Program 1-16
Disposing of the computer and the computer's battery 1-16
General Precautions 1-17
Safety Icons 1-19

Chapter 2 **Getting Started**

Equipment checklist 2-1
Conventions 2-1
Using your computer for the first time 2-2
Getting to know Windows 2-7
Turning off the power 2-9
System Recovery 2-13

Chapter 3 **The Grand Tour**

Front with the display closed 3-1
Left side 3-1
Right side 3-3
Back 3-5
Underside 3-5
Front with the display open 3-6
Internal Hardware Components 3-9
Power Condition Descriptions 3-11

Chapter 4 **Operating Basics**

Using the Touch Pad 4-1
The Keyboard 4-2
Using the Fingerprint Sensor 4-5
Battery 4-6
Memory media 4-9
HDMI™ out port 4-13
LAN 4-14
Wireless display 4-15

Security lock 4-16
Optional Accessories 4-16
Sound System and Video mode 4-17

Chapter 5 **Utilities and Advanced Usage**

Utilities and Applications 5-1
Special features 5-4

Chapter 6 **Troubleshooting**

Problem-solving process 6-1
Hardware and system checklist 6-4
Technical support 6-13

Chapter 7 **Appendix**

Specifications 7-1
AC Power Cord and Connectors 7-2
Information for Wireless Devices 7-3
Accessibility 7-15
Accessibility for Dynabook notebook 7-15
Legal Footnotes 7-18
Glossary 7-21

Index

Chapter 1

Legal, Regulatory, and Safety

This chapter states the legal, regulatory, and safety information applicable to your computer.

Copyright, Disclaimer and Trademarks

Copyright

© 2022 Dynabook Inc. All Rights Reserved. Under the copyright laws, this manual cannot be reproduced in any form without the prior written permission of Dynabook Inc. No patent liability is assumed, with respect to the use of the information contained herein.

First edition May 2022

Copyright authority for music, movies, computer programs, databases and other intellectual property covered by copyright laws belongs to the author or to the copyright owner. Copyrighted material can be reproduced only for personal use or use within the home. Any other use beyond that stipulated above (including conversion to digital format, alteration, transfer of copied material and distribution on a network) without the permission of the copyright owner is a violation of copyright or author's rights and is subject to civil damages or criminal action. Comply with copyright laws in making any reproduction from this manual.

Disclaimer

This manual has been validated and reviewed for accuracy. The instructions and descriptions it contains are accurate for your computer at the time of this manual’s production. However, succeeding computers and manuals are subject to change without notice. Dynabook Inc. assumes no liability for damages incurred directly or indirectly from errors, omissions or discrepancies between the computer and the manual.

Any references in this Guide to “Dynabook” shall mean Dynabook Inc. and/or its affiliates.

Trademarks

Intel, Intel logo are trademarks of Intel Corporation or its subsidiaries in the United States and/or other countries.

Microsoft, Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

The Bluetooth® word mark is a registered trademark owned by Bluetooth SIG, Inc.

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries.

Wi-Fi is a registered trademark of Wi-Fi Alliance.

USB Type-C™ and USB-C™ are trademarks of USB Implementers Forum.

All other company names, product names, and service names mentioned herein may be trademarks of their respective companies.

Regulatory Information

The regulatory information herein might vary. Check the ID information on the bottom of the device or box for specific information applicable to the model you purchased.

FCC information

This device complies with FCC RF exposure requirements

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

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

Only peripherals complying with the FCC class B limits can be attached to this equipment. Operation with non-compliant peripherals or peripherals not recommended by Dynabook is likely to result in interference to radio and TV reception. Shielded cables must be used between the external devices and the computer's Universal Serial Bus (USB 3.2 Gen1) port, USB Type-C™ port and HDMI™ out port. Changes or modifications made to this equipment, not expressly approved by Dynabook or parties authorized by Dynabook could void the user's authority to operate the equipment.

FCC conditions

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

Approved wireless devices

This section presents the FCC ID and model number of each wireless device.

WIFI Model: AX201NGW, FCC ID: CJ6AX201NGWWB,Intel Wireless -AX201
WIFI Model: RTL8852AE, FCC ID: TX2-RTL8852AE,11ax RTL8852AE Combo module
WIFI Model: AW-XB547NF (RTL8852BE),FCC ID: TX2-RTL8852BE,11ax RTL8852BE Combo module
WIFI Model: AW-CM304NF (RTL8821CE), FCC ID: TX2-RTL8821CE,RTL8821CE

Contact Address: Dynabook Americas, Inc.
5241 California Avenue, Suite 100
Irvine, California, USA, 92617

Telephone: (949) 583-3000

This information is only applicable for the countries/regions where it is required.

California Prop 65 Warning

This product contains chemicals, including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. ***Wash hands after handling.***

BC For the state of California only.

Export Administration Regulation

This document contains technical data that may be controlled under the U.S. Export Administration Regulations, and may be subject to the approval of the U.S. Department of Commerce prior to export. Any export, directly or indirectly, in contravention of the U.S. Export Administration Regulations is prohibited.

EU Declaration of Conformity

CE

This product is carrying the CE mark in accordance with the related European Directives. Responsible for CE marking is Dynabook Europe GmbH, Stresemannallee 4b, 41460 Neuss, Germany. The complete and official EU Declaration of Conformity can be found on the website https://emea.dynabook.com/product-conformity.

CE compliance

Hereby, Dynabook Europe GmbH declares that the model(s) described in this manual is/are in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: https://emea.dynabook.com/product-conformity.

This product is labeled with the CE mark in accordance with the essential requirements and other relevant provisions of the applicable European Directives, notably Radio Equipment Directive (2014/53/EU), RoHS Directive 2011/65/EU, Ecodesign Directive 2009/125/EC (ErP) and the related implementing measures.

This product and the original accessories are designed to observe the applicable EMC (Electromagnetic Compatibility) standards. However, Dynabook cannot guarantee that this product still observes these EMC standards if accessories or cables not produced by Dynabook are connected or implemented. In this case the persons who have connected/implemented those accessories/cables have to provide assurance that the system (PC plus accessories/cables) still fulfils the required standards. To avoid in general EMC problems, the following guidance should be noted:

- Only CE marked accessories should be connected/implemented.
- Only best shielded cables should be connected.

Working environment

This product was designed to fulfil the EMC (Electromagnetic Compatibility) requirements to be observed for so-called “residential, commercial and light industry environments”. Dynabook does not recommend the use of this product in working environments other than the above listed working environment.

For example, the following environments are not verified:

- Industrial environments (e.g. environments where a mains voltage of 380 V three-phase is used)
- Medical environments (according to Medical Device Directive)
- Automotive environments
- Aircraft environments

Any consequences resulting from the use of this product in working environments that are not verified/recommended are not the responsibility of Dynabook.

The consequences of the use of this product in non-verified working environments may be:

- Interference with other devices or machines in the near surrounding area
- Malfunction of, or data loss from, this product caused by disturbances generated by other devices or machines in the near surrounding area

Therefore Dynabook strongly recommends that the electromagnetic compatibility of this product should be suitably tested in all non-verified working environments before use. In the case of vehicles or aircraft, the manufacturer or airline operator respectively should be asked for permission before use of this product.

Furthermore, for general safety reasons, the use of this product in environments with explosive atmospheres is not permitted.

VCCI Class B Information (Japan Only)

この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをしてください。

VCCI－B

Canadian regulatory information (Canada only)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulation of the Canadian Department of Communications.

Note that Canadian Department of Communications (DOC) regulations provide, that changes or modifications not expressly approved by Dynabook could void your authority to operate this equipment.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Canadian Notice

This device complies with ISED (formerly Industry Canada) license-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

- *To comply with the Canadian RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter. When operating this computer, minimum distance of 13 mm from the antenna must be maintained.*

  Pour être conforme aux exigences canadiennes en matière d'exposition aux fréquences radio, l'appareil et son antenne ne doivent pas être situés au même endroit qu'une autre antenne ou un autre émetteur ni fonctionner en même temps. Une distance minimale de 13 mm de l'antenne doit être maintenue durant l'utilisation de cet ordinateur.
- *This device is restricted to indoor use due to its operation in the 5.15 GHz to 5.25 GHz frequency range. FCC requires this product to be used indoors for frequency range 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems.*

  High power radars are allocated as primary users of the 5.25 GHz to 5.35 GHz and 5.65 GHz to 5.85 GHz bands. These radar stations can cause interference with and/or damage this device.

  Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

  Veuillez noter que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

The above caution applies to products that operate with an 802.11a/n/ac/ax radio device.

La mise en garde ci-dessus ne s'applique qu'aux appareils ayant un transmetteur opérant en mode 802.11a/n/ac/ax.

Following information is only valid for EU member states:

Information requirements Regulation EC 1275/2008

Additional information as required by Regulation (EC) 1275/2008 amended by Regulation (EU) 801/2013 implementing European Ecodesign Directive with regard to requirements for standby, off mode and networked standby electric power consumption of electrical and electronic household and office equipment can be found here: http://emea.dynabook.com/environment.

Disposal of products

The crossed-out wheeled bin symbol indicates that products must be collected and disposed of separately from household waste. Integrated batteries and accumulators can be disposed of with the product. They will be separated at the recycling centres.

The black bar indicates that the product was placed on the market after August 13, 2005.

By participating in the separate collection of products and batteries, you will help to assure the proper disposal of products and batteries and thus help to prevent potential negative consequences for the environment and human health.

For more detailed information about the collection and recycling programmes available in your country, please visit our website http://emea.dynabook.com/environment or contact your local council office or the retail outlet where you purchased the product.

Disposal of batteries and/or accumulators

The crossed out wheeled dust bin symbol indicates that batteries and/or accumulators must be collected and disposed of separately from household waste.

If the battery or accumulator contains more than the specified values of lead (Pb), mercury (Hg), and/or cadmium (Cd) defined in the European Battery Directive, then the chemical symbols for lead (Pb), mercury (Hg) and/or cadmium (Cd) will appear below the crossed out wheeled dust bin symbol.

By participating in the separate collection of batteries, you will help to assure the proper disposal of products and batteries and thus help to prevent potential negative consequences for the environment and human health. To achieve this you should take any battery and/or accumulator to your local recycling site, or to a retail outlet or facility that offers to collect these devices for environmentally friendly disposal, ensuring that the terminal contacts are covered by non-conductive tape.

For more detailed information about the collection and recycling programmes available in your country, please visit our website http://emea.dynabook.com/environment or contact your local council office or the retail outlet where you purchased the product.

These symbols might not stick depending on the country and region where you purchased.

REACH - Compliance Statement

The European Union (EU) chemical regulation, REACH (Registration, Evaluation, Authorization and Restriction of Chemicals), entered into force on 1 June 2007, with phased deadlines to 2018.

Dynabook will meet all REACH requirements and is committed to provide our customers with information about the presence in our articles of substances included on the candidate list according to REACH regulation.

Please consult the following website http://emea.dynabook.com/environment for information about the presence in our articles of substances included on the candidate list according to REACH in a concentration above 0.1 % weight by weight.

Following information is only for Turkey:

- Disposal of products:

The crossed-out wheelie bin symbol means that this product should not be collected and disposed of with other household waste. When the product becomes waste at its end of life, to protect environment and human health, it should be given to the nearest collection, recycling or disposal center. For more information about collection and recycling programs in your country please contact your local authority or the retailer where the product was purchased.

- Dynabook meets all requirements of Turkish regulation 28300 “Restriction of the use of certain hazardous substances in electrical and electronic equipment”.

  AEEE Yönetmeliğine Uygundur

  Dynabook 28300 sayılı Türkiye "Elektrikle çalışan ve elektronik ekipmanda belirli tehlikeli maddelerin kullanımıyla ilgili kısıtlama” yönetmeliği gereklerini tamamen yerine getirmektedir.
- The number of possible pixel failures of your display is defined according to ISO 9241-307 standards. If the number of pixel failures is less than this standard, they will not be counted as defect or failure.
- Battery is a consumption product, since the battery time depends on the usage of your computer. If the battery can not be charged at all, then it is a defect or failure. The changes in battery time is not a defect or failure.

These symbols might not stick depending on the country and region where you purchased.

Following information is only for India:

The use of this symbol indicates that this product may not be treated as household waste.

By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

For more detailed information about recycling of this product, please visit our website https://asia.dynabook.com or contact call center (1800 200 6768).

These symbols might not stick depending on the country and region where you purchased.

Video Standard Notice

THIS PRODUCT IS LICENSED UNDER THE AVC, THE VC-1 AND MPEG-4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (I) ENCODING VIDEO IN COMPLIANCE WITH THE ABOVE STANDARDS ("VIDEO") AND/OR (II) DECODING AVC, VC-1 AND MPEG-4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NONCOMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED BY MPEG LA TO PROVIDE SUCH VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL, INTERNAL AND COMMERCIAL USES AND LICENSING MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE http://www.mpegla.com.

OpenSSL Toolkit License Issues

LICENSE ISSUES

==========

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org

OpenSSL License

/*==========

Copyright (c) 1998-2019 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgment:

   "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit."

   [http://www.openssl.org]

4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact openssl-core@openssl.org.
5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
6. Redistributions of any form whatsoever must retain the following acknowledgment:

   "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit"

   [http://www.openssl.org]

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

==========

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

*/

Original SSLeay License

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)

All rights reserved.

This package is an SSL implementation written by Eric Young (eay@cryptsoft.com).

The implementation was written so as to conform with Netscapes SSL.

This library is free for commercial and non-commercial use as long as the following conditions are adheared to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed.

If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used.

This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement:

   "This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)"

   The word 'cryptographic' can be left out if the routines from the library being used are not cryptographic related :-).
4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement:

   "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The licence and distribution terms for any publically available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.]

*/

FreeType License Issues

The FreeType Project LICENSE

2006-Jan-27

Copyright 1996-2002, 2006 by

David Turner, Robert Wilhelm, and Werner Lemberg

Introduction

==========

The FreeType Project is distributed in several archive packages; some of them may contain, in addition to the FreeType font engine, various tools and contributions which rely on, or relate to, the FreeType Project.

This license applies to all files found in such packages, and which do not fall under their own explicit license. The license affects thus the FreeType font engine, the test programs, documentation and makefiles, at the very least.

This license was inspired by the BSD, Artistic, and IJG (Independent JPEG Group) licenses, which all encourage inclusion and use of free software in commercial and freeware products alike. As a consequence, its main points are that:

- We don't promise that this software works. However, we will be interested in any kind of bug reports. (`as is' distribution)
- You can use this software for whatever you want, in parts or full form, without having to pay us. (`royalty-free' usage)
- You may not pretend that you wrote this software. If you use it, or only parts of it, in a program, you must acknowledge somewhere in your documentation that you have used the FreeType code. (`credits')

We specifically permit and encourage the inclusion of this software, with or without modifications, in commercial products.

We disclaim all warranties covering The FreeType Project and assume no liability related to The FreeType Project.

Finally, many people asked us for a preferred form for a credit/disclaimer to use in compliance with this license. We thus encourage you to use the following text:

"""

Portions of this software are copyright (C) <year> The FreeType Project

www.freetype.org.

All rights reserved.

"""

Please replace <year> with the value from the FreeType version you actually use.

Legal Terms

==========

0. Definitions

Throughout this license, the terms `package', `FreeType Project', and `FreeType archive' refer to the set of files originally distributed by the authors (David Turner, Robert Wilhelm, and Werner Lemberg) as the `FreeType Project', be they named as alpha, beta or final release.

`You' refers to the licensee, or person using the project, where `using' is a generic term including compiling the project's source code as well as linking it to form a `program' or `executable'. This program is referred to as `a program using the FreeType engine'.

This license applies to all files distributed in the original FreeType Project, including all source code, binaries and documentation, unless otherwise stated in the file in its original, unmodified form as distributed in the original archive. If you are unsure whether or not a particular file is covered by this license, you must contact us to verify this.

The FreeType Project is copyright (C) 1996-2000 by David Turner, Robert Wilhelm, and Werner Lemberg. All rights reserved except as specified below.

1. No Warranty

THE FREETYPE PROJECT IS PROVIDED `AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL ANY OF THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY DAMAGES CAUSED BY THE USE OR THE INABILITY TO USE, OF THE FREETYPE PROJECT.

2. Redistribution

This license grants a worldwide, royalty-free, perpetual and irrevocable right and license to use, execute, perform, compile, display, copy, create derivative works of, distribute and sublicense the FreeType Project (in both source and object code forms) and derivative works thereof for any purpose; and to authorize others to exercise some or all of the rights granted herein, subject to the following conditions:

- Redistribution of source code must retain this license file (`FTL.TXT') unaltered; any additions, deletions or changes to the original files must be clearly indicated in accompanying documentation. The copyright notices of the unaltered, original files must be preserved in all copies of source files.

- Redistribution in binary form must provide a disclaimer that states that the software is based in part of the work of the FreeType Team, in the distribution documentation. We also encourage you to put an URL to the FreeType web page in your documentation, though this isn't mandatory.

These conditions apply to any software derived from or based on the FreeType Project, not just the unmodified files. If you use our work, you must acknowledge us. However, no fee need be paid to us.

3. Advertising

Neither the FreeType authors and contributors nor you shall use the name of the other for commercial, advertising, or promotional purposes without specific prior written permission.

We suggest, but do not require, that you use one or more of the following phrases to refer to this software in your documentation or advertising materials: `FreeType Project', `FreeType Engine', `FreeType library', or `FreeType Distribution'.

As you have not signed this license, you are not required to accept it. However, as the FreeType Project is copyrighted material, only this license, or another one contracted with the authors, grants you the right to use, distribute, and modify it. Therefore, by using, distributing, or modifying the FreeType Project, you indicate that you understand and accept all the terms of this license.

4. Contacts

There are two mailing lists related to FreeType:

- freetype@nongnu.org

  Discusses general use and applications of FreeType, as well as future and wanted additions to the library and distribution. If you are looking for support, start in this list if you haven't found anything to help you in the documentation.
- freetype-devel@nongnu.org

  Discusses bugs, as well as engine internals, design issues, specific licenses, porting, etc.

Our home page can be found at http://www.freetype.org

ENERGY STAR® Program

Your computer model may be ENERGY STAR® compliant. If the model you purchased is compliant, it uses the ENERGY STAR logo and the following information applies.

Dynabook is a partner in the ENERGY STAR program and has designed this computer to meet the latest ENERGY STAR guidelines for energy efficiency. Your computer ships with the power management options preset to a configuration that will provide the most stable operating environment and optimum system performance for both AC power and battery modes.

To conserve energy, your computer is set to enter the low-power Sleep Mode which shuts down the system and display within 15 minutes of inactivity in AC power mode.

Dynabook recommends that you leave this and other energy saving features active, so that your computer will operate at its maximum energy efficiency. You can wake the computer from Sleep Mode by pressing the power button.

Your ENERGY STAR certified computer should be set by default to enter a low-power "sleep mode" after a period of inactivity. Simply touching the mouse or keyboard "wakes" the computer in seconds. These sleep features can save you up to $23 per year (200 kWh per year in electricity) and prevent up to 300 pounds of greenhouse gas emissions annually. To learn how to adjust or activate these sleep settings on your computer, please go to: www.energystar.gov/sleepinstructions

To activate sleep settings organization-wide quickly and easily through network tools, please go to: www.energystar.gov/powermanagement

Disposing of the computer and the computer's battery

The computer's battery pack is not user-accessible. Contact an authorized service provider for details regarding how to dispose of the computer and the battery pack.

Dynabook is strongly committed to reducing electronic waste. For the efficient use of resources and appropriate treatment of hazardous substances, local, state and federal regulations must be adhered to when recycling your electronic device. To learn about Dynabook’s sustainability commitment, visit:

http://us.dynabook.com/company/corporate-social-responsibility/sustainability

General Precautions

Your computer is designed to optimize safety, minimize strain and withstand the rigors of portability. However, certain precautions should be observed to further reduce the risk of personal injury or damage to the computer.

Be certain to read the following general precautions and to note the cautions included in the text of the manual.

Provide adequate ventilation

Always make sure that your computer and AC adaptor have adequate ventilation and are protected from overheating when the power is turned on or when an AC adaptor is connected to a power outlet (even if your computer is in Sleep Mode). In this condition, observe the following:

- Never cover your computer or AC adaptor with any object.
- Never place your computer or AC adaptor near a heat source, such as an electric blanket or heater.
- Never cover or block the air vents including those at the base of the computer.
- Always operate your computer on a hard flat surface. Using your computer on a carpet or other soft material can block the vents.
- Always provide sufficient space around the computer.

Overheating your computer or AC adaptor could cause system failure, computer or AC adaptor damage or a fire, possibly resulting in serious injury.

Creating a computer-friendly environment

Place the computer on a flat surface that is large enough for the computer and any other items you are using, such as a printer.

Leave enough space around the computer and other equipment to provide adequate ventilation. Otherwise, they might overheat.

To keep your computer in prime operating condition, protect your work area from:

- Dust, moisture, and direct sunlight
- Equipment that generates a strong electromagnetic field, such as stereo speakers (other than speakers that are connected to the computer) or speakerphones
- Rapid changes in temperature or humidity and sources of temperature change such as air conditioner vents or heaters
- Extreme heat, cold, or humidity
- Liquids and corrosive chemicals

Stress injury

Carefully read the **Instruction Manual for Safety and Comfort**. It contains information on the prevention of stress injuries to your hands and wrists that can be caused by extensive keyboard use. It also includes information on work space design, posture, and lighting that can help reduce physical stress.

Heat injury

- Avoid prolonged physical contact with the computer. If the computer is used for long periods, its surface can become very warm. While the temperature will not feel hot to the touch, if you maintain physical contact with the computer for a long time, for example if you rest the computer on your lap or if you keep your hands on the palm rest, your skin might suffer a low-heat injury.
- If the computer has been used for a long time, avoid direct contact with the metal plate supporting the various interface ports as this can become hot.
- The surface of the AC adaptor can become hot when in use, but this condition does not indicate a malfunction. If you need to transport the AC adaptor, disconnect it and let it cool before moving it.
- Do not lay the AC adaptor on a material that is sensitive to heat as the material could become damaged.

Pressure or impact damage

Do not apply heavy pressure to the computer or subject it to any form of strong impact as this can damage the computer's components or otherwise cause it to malfunction.

Cleaning the computer

To help ensure long, trouble-free operation, keep the computer free of dust and dirt, and use care with all liquids around it.

- Be careful not to spill liquids into the computer. If the computer does get wet, turn the power off immediately and let the computer dry completely. In these circumstances, you should get the computer inspected by an authorized service provider in order to assess the scope of any damage.
- Clean the plastics of the computer using a cloth slightly dampened with water.
- You can clean the display screen by spraying a small amount of glass cleaner onto a soft, clean cloth and then wiping the screen gently with the cloth.

Never spray cleaner directly onto the computer or let liquid run into any part of it. Never use harsh or caustic chemical products to clean the computer.

Moving the computer

While the computer is designed for flexible day-to-day usage, you should exercise a few simple precautions when moving it in order to help ensure trouble-free operation.

- Make sure all disk/disc activity has ended before moving the computer.
- Turn off (shut down) the computer.
- Disconnect the AC adaptor and all peripherals before moving the computer.
- Close the display panel.
- Do not pick up the computer by its display panel.
- Before carrying your computer, shut it down, disconnect the AC adaptor and allow it to cool down. A failure to follow this instruction might result in minor heat injury.
- Do not expose the computer to rapid temperature changes (for example, in a situation where you carry the computer from a cold environment to a warm room). Do not turn on the power until condensation disappears.
- Be careful not to subject the computer to impact or shock. A failure to follow this instruction could result in damage to computer, computer failure, or loss of data.
- Never transport your computer with any cards inserted. This might damage either the computer and/or the card resulting in computer failure.
- Always use a suitable carry case when transporting the computer.
- When carrying your computer, be sure to hold it securely so that it does not fall or hit anything.
- Do not carry your computer by holding any of its protruding elements.

Mobile phones

Be aware that the use of mobile phones can interfere with the audio system. The operation of the computer will not be impaired in any way, but it is recommended that a minimum distance of 30 cm is maintained between the computer and a mobile phone that is in use.

Instruction Manual for Safety and Comfort

All important information on the safe and proper use of this computer is described in the enclosed Instruction Manual for Safety and Comfort. Be sure to read it before using the computer.

Safety Icons

Safety icons are used in this manual to bring important information to your attention. Each type of message is identified as follows.

Indicates a potentially hazardous situation, which could result in death or serious injury, if you do not follow instructions.

A caution informs you that improper use of equipment or failure to follow instructions might cause data loss, equipment damage, or might result in minor or moderate injury.

Please read. A note is a hint or advice that helps you make best use of your equipment.

Chapter 2

Getting Started

This chapter provides an equipment checklist, and basic information to start using your computer.

If you use an operating system that was not pre-installed by Dynabook, some of the features described in this manual might not function properly.

You might not have all the software/feature mentioned in this manual depending on the model you purchased.

Equipment checklist

Carefully unpack your computer, taking care to save the box and packaging materials for future use.

Hardware

Check to make sure that you have all the following items:

- Portable personal computer
- AC adaptor and power cord (2-pin plug or 3-pin plug)

Documentation

- User Information Guide or Quickstart
- Warranty Information

If any of the items are missing or damaged, contact your dealer immediately.

Conventions

This manual uses the following formats to describe, identify, and highlight terms and operating procedures.

Click	■ Tap the Touch Pad or click the left Touch Pad control button once. ■ Left-click the mouse once.
Right-click	■ Click the right Touch Pad control button once. ■ Right-click the mouse once.

Double-click	■ Tap the Touch Pad or click the left Touch Pad control button twice. ■ Left-click the mouse twice.
Start	The word "Start" refers to the " ⊞ " button on the center of the Windows taskbar.

Using your computer for the first time

Be sure to read the enclosed Instruction Manual for Safety and Comfort for information on the safe and proper use of this computer. It is intended to help you be more comfortable and productive while using a notebook computer. By following the recommendations in it, you can reduce your chance of developing a painful or disabling injury to your hand, arms, shoulders, or neck.

This section provides basic information to start using your computer. It covers the following topics:

- Connecting the AC adaptor
- Opening the display
- Turning on the power
- Initial setup
- Getting to know Windows

- *Use a virus-check program and make sure that it is updated regularly.*
- *Never format storage media without checking its content - formatting destroys all stored data.*
- *It is a good idea to back up the internal Solid-State Drive or other main storage device to external media periodically. Generally, storage media is not durable or stable over long periods of time and under certain conditions might cause data loss.*
- *Before you install a device or application, save any data in memory to the internal Solid-State Drive or other storage media. Failure to do so might result in data loss.*

Connecting the AC adaptor

Attach the AC adaptor when you want to charge the battery or operate from AC power. The battery pack must be charged before you can operate from battery power.

The AC adaptor can automatically adjust to any voltage ranging from 100 volts to 240 volts and to a frequency of either 50 hertz or 60 hertz, enabling you to use this computer in almost any country/region. The adaptor converts AC power to DC power and reduces the voltage supplied to this computer.

- *Always use the AC adaptor that was included with your computer, or use AC adaptors specified by Dynabook to avoid any risk of fire or other damage to the computer. Use of an incompatible AC adaptor might cause fire or damage to the computer, possibly resulting in serious injury. Dynabook assumes no liability for any damage caused by use of an incompatible adaptor.*
- *Never plug the AC adaptor into a power source that does not correspond to both the voltage range and the frequency specified on the regulatory label of the unit. Failure to do so might result in a fire or electric shock, possibly resulting in serious injury.*
- *Always use or purchase power cables that comply with the legal voltage and frequency specifications and requirements in the country of use. Failure to do so might result in a fire or electric shock, possibly resulting in serious injury.*
- *The supplied power cord conforms to safety rules and regulations in the region the computer is bought and should not be used outside this region. For use in other regions, buy power cords that conform to safety rules and regulations in the particular region.*
- *Do not use a 3-pin to 2-pin conversion plug.*
- *When you connect the AC adaptor to the computer, always follow the steps in the exact order as described in this User's Manual. As a general safety precaution, avoid touching any metal parts.*
- *Never place your computer or AC adaptor on a wooden surface, furniture, or any other surface that might be marred by exposure to heat since the computer base and the surface of the AC adaptor increase in temperature during normal use.*
- *Always place your computer or AC adaptor on a flat and hard surface that is resistant to heat damage.*

Refer to the enclosed Instruction Manual for Safety and Comfort for detailed precautions and handling instructions.

Depending on the model you purchased, the following AC adaptor might be provided.

- DC IN 19V jack connection type
- USB Type-C™ port connection type

DC IN 19V jack connection type

1. Connect the power cord to the AC adaptor.

Figure 2-1 Connecting the power cord to the AC adaptor (2-pin plug)

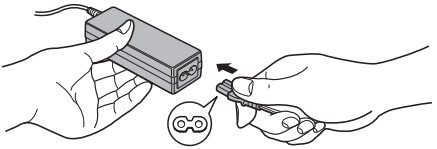
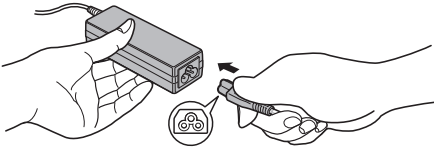


Figure 2-2 Connecting the power cord to the AC adaptor (3-pin plug)

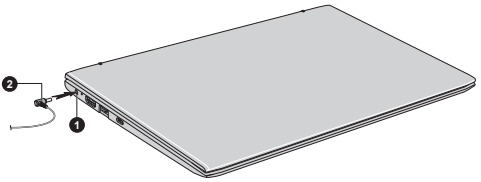


Product appearance depends on the model you purchased.

Either a 2-pin or 3-pin adaptor/cord is included with the computer depending on the model.

2. Connect the DC output plug of the AC adaptor to the DC IN 19V jack on your computer.

Figure 2-3 Connecting the DC output plug to the computer



1. DC IN 19V jack
2. DC output plug

Product appearance depends on the model you purchased.

3. Plug the power cord into a live wall outlet. The **DC IN/Battery** indicator glows.

USB Type-C™ port connection type

1. Connect the power cord to the AC adaptor.

Figure 2-4 Connecting the power cord to the AC adaptor (2-pin plug)

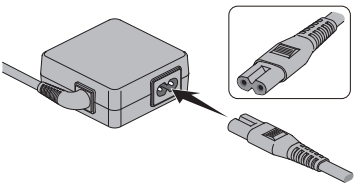
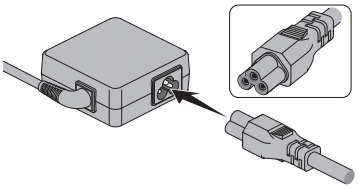


Figure 2-5 Connecting the power cord to the AC adaptor (3-pin plug)

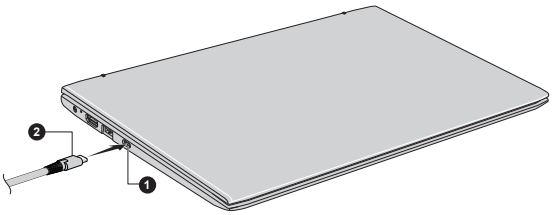


Product appearance depends on the model you purchased.

Either a 2-pin or 3-pin adaptor/cord is included with the computer depending on the model.

2. Plug the power cord into a live wall outlet.
3. Connect the DC output plug of the AC adaptor to the USB Type-C™ port on your computer. The **DC IN/Battery** indicator glows.

Figure 2-6 Connecting the DC output plug to the computer



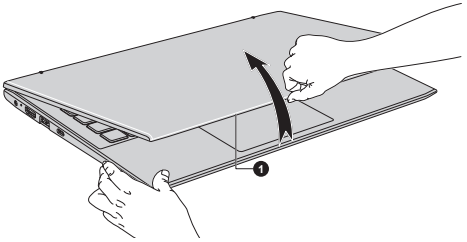
1. USB Type-C™ port
2. DC output plug

Opening the display

The display panel can be opened to a wide range of angles (up to 180 degrees) for optimal viewing.

To open the display panel, slowly lift it with one hand holding the center of the display panel (as shown in the following figure) and the other hand holding the palm rest down so that the main body of the computer is not raised. This will allow the angle of the display panel to be adjusted to provide optimum clarity.

Figure 2-7 Opening the display panel

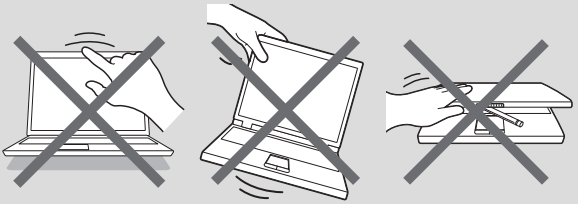


1. Display panel

Product appearance depends on the model you purchased.

Open and close the display panel with reasonable care. Opening it vigorously or slamming it shut might damage the computer.

- *Be careful not to open the display panel too far as this might put stress on the display panel's hinges and cause damage.*
- *Do not lift the computer by the display panel.*
- *Do not close the computer with pens or any other objects left in between the display panel and the keyboard.*
- *When opening or closing the display panel, place one hand on the palm rest to hold the computer in place and use the other hand to slowly open or close the display panel. Do not use excessive force when opening or closing the display panel.*
- *Do not press or push with excessive force on the display screen, otherwise the computer might become unsteady and possibly fall over.*



Turning on the power

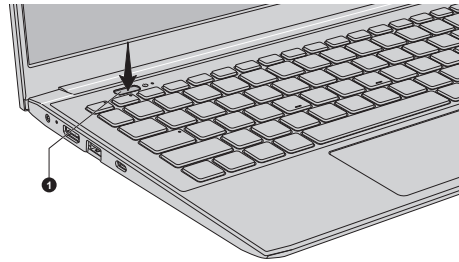
This section describes how to turn on the power. The power indicator indicates the status. Refer to the *Power Condition Descriptions* section for more information.

- *After you turn on the power for the first time, do not turn it off until you have set up the operating system.*

- *Volume cannot be adjusted during Windows Setup.*
- *Do not touch the display screen while turning on the computer.*

1. Open the display panel.
2. Press the power button.

Figure 2-8 Turning on the power



1. Power button

Product appearance depends on the model you purchased.

Initial setup

The Windows Startup Screen is the first screen displayed when you turn on the power. To install the operating system properly, follow the on-screen instructions on each screen.

When it is displayed, be sure to read the license terms and license agreement carefully.

Getting to know Windows

For detailed information on what is new and how to operate Windows, refer to **Tips** in the Start menu.

Start menu

The Start menu is the launching pad for everything you can do in the Windows operating system, providing easy ways to get to your favorite apps, recent files, and a powerful search box for finding anything.

You can access the Start menu from an app or the desktop in the following ways:

- Click the **Start** button ( ) on the center of the Windows taskbar.
- Press the Windows® logo key ( ) on your keyboard.

Windows taskbar

By default, the bottom of the desktop is Windows taskbar. You can see all of your currently running apps on the Windows taskbar.

Task view

Task view ( ) is launched from the Windows taskbar at the bottom of the screen. Task view allows you to view the apps that are currently running. Also, you can create custom desktops so that running apps can be grouped for entertainment, productivity, or what you just want.

To do this, click the **Task view** icon , and then click **New desktop**. Open the apps you want to use on that desktop. To switch between desktops, click **Task view** again.

Search

Search on the Windows taskbar allows you to find apps, files, settings, and more on the computer. When internet connection is available, it also shows you the best search result from the internet.

The personal assistant called **Cortana** may be available, depending on your country/region. You can ask questions or talk to Cortana in your natural voice, and Cortana answers your questions using information from the internet. To talk with Cortana, an internal or external microphone is required.

Settings

Settings provides system settings including advanced settings in the Control Panel. They are divided in categories so that you can configure, optimize, or personalize Windows.

You can also type in the keyword, and use **Search** to find any setting.

To open Settings, click **Start -> Settings ( )**.

Microsoft Store

Although many apps are pre-installed in your computer, you can also download many others from the Microsoft Store.

You can search for and browse thousands of apps, all grouped into easy-to-find categories there.

Windows Hello

Windows Hello is a more personal and secure way to sign in to your Windows system, apps, and services using fingerprint or a PIN.

To set up Windows Hello, click **Start -> Settings -> Accounts -> Sign-in options**.

Under **Sign-in options**, you will see options for Face Recognition and Fingerprint if your computer has fingerprint sensor and if your computer has face recognition sensor that supports it. Once you have set up, you will be able to sign in with a quick touch or glance.

You might need to add a PIN under **PIN (Windows Hello)** before you can set up **Facial recognition (Windows Hello)** and **Fingerprint recognition (Windows Hello)**.

Sign-in options

Windows offers a number of sign-in options including **Password ( )**, **PIN ( )**, **Fingerprint ( )**, **Face ( )** and **Picture password ( )** authentication to prevent from unauthorized access. If you have multiple sign-in methods set for a user account, you can select an option on the Windows login screen by clicking sign-in options.

It is highly recommended to use Windows Hello Face indoors. Operating outdoors might cause enrollment/sign-in failure due to the possible sunlight affection.

Turning off the power

The power can be turned off in one of the following modes, either Shut Down Mode, Sleep Mode or Hibernation Mode.

Shut Down Mode

When you turn off the power in Shut Down Mode, no data will be saved and the computer will boot to the main screen of the operating system the next time it is turned on.

1. If you have entered data, either save it to the internal storage drive or to other storage media.
2. Make sure all disk/disc activity has stopped before removing the disk/disc.

- *If you turn off the power while a disk (disc) is being accessed, you might lose data or damage the disk.*
- *Never turn off the power while an application is running. Failure to do so can cause data loss.*
- *Never turn off the power, disconnect an external storage device, or remove storage media during data read/write. Failure to do so can cause data loss.*

3. Click **Start ->** **(Power)** and then select **Shut down**.
4. Turn off any peripheral devices connected to your computer.

Do not turn the computer or peripheral devices back on immediately. Wait a short period to avoid any potential damage.

Restarting the computer

Certain conditions require that you restart the computer, for example if you change certain computer settings.

To restart the computer, there are several ways this can be achieved:

- Click **Start ->** ⏻ **(Power)** and then select **Restart**.
- Press **CTRL**, **ALT**, and **DEL** simultaneously (once) to display the menu window, and then select **Restart** by clicking the power icon (⏻) in the lower-right corner.

Before restarting the computer, be sure to save your data.

Sleep Mode

If you have to interrupt your work, you are able to turn off the power without exiting from your software by placing the computer into Sleep Mode. In this mode, data is maintained in the main memory of the computer. When you turn on the power again, you can continue working right where you left off.

When you have to turn off your computer aboard an aircraft or in places where electronic devices are regulated or controlled, always shut down the computer. This includes turning off any wireless communication functionalities, and canceling settings that reactivate the computer automatically, such as a timer recording function. Failure to shut down the computer in this way might allow the operating system to reactivate and run pre-programmed tasks or preserve unsaved data, which might interfere with aviation or other systems, possibly causing serious injury.

- *Before entering Sleep Mode, be sure to save your data.*
- *To avoid possible battery life decrease, it is recommended to remove any peripheral device connected to the computer before entering Sleep Mode.*
- *To prevent data loss, do not switch to Sleep Mode while transferring data to external media, such as USB devices, memory media, or other external memory devices.*

- *When the AC adaptor is connected, the computer will go into Sleep Mode according to the settings in the Power Options (to access it, click **Start -> All apps -> Windows Tools** and double-click **Control Panel**. In the Control Panel window, click **System and Security -> Power Options**.)*
- *If the computer enters Sleep Mode while a network application is active, the application might not be restored when the computer is next turned on and the system returns from Sleep Mode.*
- *To prevent the computer from automatically entering Sleep Mode, disable Sleep Mode within the Power Options.*

Benefits of Sleep Mode

The Sleep Mode feature provides the following benefits:

- Restores the previous working environment more rapidly than the Hibernation Mode feature.
- Saves power by shutting down the system when the computer receives no input or hardware access for the time period set by the System Sleep Mode feature.
- Allows the use of the panel power off feature.

Executing Sleep Mode

You can enter Sleep Mode in one of following ways:

- Click **Start ->** ⏻ **(Power)** and then select **Sleep**.
- Close the display panel. Note that this feature must be enabled within the Power Options.
- Press the power button. Note that this feature must be enabled within the Power Options.

When you turn the power back on, you can continue where you left off when you shut down the computer.

If you are operating the computer on battery power, you can lengthen the overall operating time by turning it off into Hibernation Mode. Sleep Mode consumes more power while the computer is off.

Sleep Mode limitations

Sleep Mode will not function under the following conditions:

- Memory circuits are exposed to static electricity or electrical noise.

Hibernation Mode

The Hibernation Mode feature saves the contents of memory to the internal storage drive when the computer is turned off so that, the next time it is

turned on, the previous state is restored. Note that the Hibernation Mode feature does not save the status of any peripheral devices connected to the computer.

- *Save your data. While entering Hibernation Mode, the computer saves the contents of memory to the internal storage drive. However, for safety sake, it is best to save your data manually.*
- *Data will be lost if you disconnect the AC adaptor before saving is completed.*
- *To prevent data loss, do not switch to Hibernation Mode while transferring data to external media, such as USB devices, memory media, or other external memory devices.*

Benefits of Hibernation Mode

The Hibernation Mode feature provides the following benefits:

- Saves data to the internal storage drive when the computer automatically shuts down because of a low battery condition.
- You can return to your previous working environment immediately when you turn on the computer.
- Saves power by shutting down the system when the computer receives no input or hardware access for the time period set by the System Hibernate feature.
- Allows the use of the panel power off feature.

Starting Hibernation Mode

To enter Hibernation Mode, click **Start ->** ⏻ **(Power)** and then select **Hibernate**.

*To show **Hibernate** in Power menu, set up according to the following steps:*

1. *Click **Start -> All apps -> Windows Tools** and double-click **Control Panel**.*
2. *In the Control Panel window, click **System and Security -> Power Options**.*
3. *Click **Choose what the power button does** or **Choose what closing the lid does**.*
4. *Click **Change settings that are currently unavailable**.*
5. *Select the **Hibernate** check box from Shutdown settings.*
6. *Click the **Save changes** button.*

Automatic Hibernation Mode

The computer can be configured to enter Hibernation Mode automatically when you press the power button or close the display panel. To define these settings, do the following:

1. Click **Power Options** and then click **Choose what the power button does** or **Choose what closing the lid does**.
2. Enable the desired Hibernation Mode settings for **When I press the power button** and **When I close the lid**.
3. Click the **Save changes** button.

Data saving in Hibernation Mode

When you turn off the power in Hibernation Mode, the computer takes a moment to save the current data in memory to the internal storage drive.

After you turn off the computer, and the content of memory has been saved to the internal storage drive, turn off the power to any peripheral devices.

Do not turn the computer or devices back on immediately. Wait a moment to let all capacitors fully discharge.

System Recovery

There is a hidden partition allocated on the internal storage drive for the System Recovery Options in the event of a problem.

You can also create recovery media and restore the system.

The following items are described in this section:

- Creating Recovery Media
- Restoring the pre-installed software from your created Recovery Media
- Restoring the pre-installed software from the Recovery Partition

If you choose dynabook Maintenance Utility to erase the internal storage drive, all data including the operating system and recovery partition will be deleted. In that case, you cannot create recovery media or restore the pre-installed software from the recovery partition. Make sure that you have already created recovery media before you start dynabook Maintenance Utility. This recovery media can be used to restore your system after you have erased your internal storage drive.

Creating Recovery Media

This section describes how to create Recovery Media.

- *Be sure to connect the AC adaptor when you create Recovery Media.*
- *Be sure to close all other software programs.*
- *Do not run software such as screen savers which can put a heavy load on the CPU.*
- *Operate the computer at full power.*

- *Do not use power-saving features.*
- *Do not write to the media when the virus check software is running. Wait for it to finish, then disable virus detection programs including any software that checks files automatically in the background.*
- *Do not use utilities, including those intended to enhance internal storage drive access speed. They might cause unstable operation and damage data.*
- *Do not shut down/log off or Sleep/Hibernate while writing or rewriting the media.*
- *Set the computer on a level surface and avoid places subjected to vibrations such as airplanes, trains, or cars.*
- *Do not use on an unstable surface such as a stand.*

A recovery image of the software on your computer is stored on the internal storage drive, and can be copied to either disc media or USB Flash Memory by using the following steps:

1. Select either blank disc or USB Flash Memory.
   The application allows you to choose from a variety of different media onto which the recovery image can be copied including disc media and USB Flash Memory.

- *Some of the disc media might not be compatible with the optical disc drive connected to your computer. You should therefore verify that the optical disc drive supports the blank media you have chosen before proceeding.*
- *USB Flash Memory will be formatted and all the data in the USB Flash Memory will be lost when proceeding.*

2. Turn on your computer and allow it to load the Windows operating system from the internal storage drive as normal.
3. Insert the first blank disc into the external optical disc drive tray, or insert the USB Flash Memory into one available USB port.
4. Click **Start -> All apps -> Windows Tools** and double-click **Control Panel**. In the Control Panel window, click **System and Security -> Security and Maintenance -> Recovery -> Create a recovery drive**.
5. Follow the on-screen instructions to finish creating the Recovery Media.

Restoring the pre-installed software from your created Recovery Media

If the pre-installed files are damaged, you are able to use the Recovery Media you have created to restore the computer to the state it was in when you originally received it. To perform this restoration, do the following:

- *Make sure that the AC adaptor is connected during the restoring process.*
- *Do not close the display panel during the restoring process.*

- *When you reinstall the Windows operating system, the internal storage drive will be reformatted and all data will be lost.*
- *If your model has fingerprint function, before you reinstall the Windows operating system, delete the registered fingerprints. Otherwise, the same fingerprints cannot be registered after the reinstallation.*

1. Load the Recovery Media into the external optical disc drive or insert the recovery USB Flash Memory into one available USB port.
2. Click **Start ->** ⏻ **(Power)** and then select **Restart**.
3. Hold down the **F12** key and then release this key just after the computer is powered on.
4. Use the up and down cursor key to select the appropriate option from the menu according to your actual recovery media.
5. A menu is displayed from which you should follow the on-screen instructions.

If you have previously chosen to remove the recovery partition without creating Recovery Media, the Recovery Media cannot be created.

However, if you have already created a Recovery Media, you can use it to restore the recovery partition.

If you have not created Recovery Media, contact Technical Support for assistance.

Restoring the pre-installed software from the Recovery Partition

A portion of the total internal storage drive space is configured as a hidden recovery partition. This partition stores files which can be used to restore pre-installed software in the event of a problem.

If you set up your internal storage drive again later, do not change, delete, or add partitions in a manner other than specified in the manual, otherwise you might find that space for the required software is not available.

In addition, if you use a third-party partitioning program to reconfigure the partitions on your internal storage drive, you might find that it becomes impossible to set up your computer.

- *Make sure that the AC adaptor is connected during the restoring process.*
- *Do not close the display panel during the restoring process.*

- *When you reinstall the Windows operating system, the internal storage drive will be reformatted and all data will be lost.*
- *If your model has fingerprint function, before you reinstall the Windows operating system, delete the registered fingerprints. Otherwise, the same fingerprints cannot be registered after the reinstallation.*

1. Click **Start ->** ⏻ **(Power)** and then select **Restart**.
2. Hold down **0** (zero) key and then release this key just after the computer is powered on.
3. Select **Troubleshoot -> dynabook Maintenance Utility -> dynabook Recovery Wizard**.
4. Follow the on-screen instructions to finish the recovery.

Chapter 3

The Grand Tour

This chapter identifies the various components of the computer. It is recommended that you become familiar with each before you operate the computer.

Legal Footnote (Non-applicable Icons)

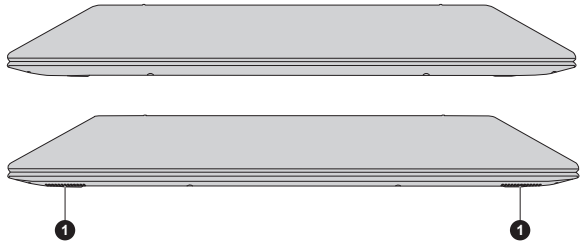
For more information regarding Non-applicable Icons, refer to the *Legal Footnotes* section.

Handle your computer carefully to avoid scratching or damaging the surface.

Front with the display closed

The following figures show the front of the computer with the display panel in the closed position.

Figure 3-1 Front of the computer with display panel closed



1. Stereo speakers

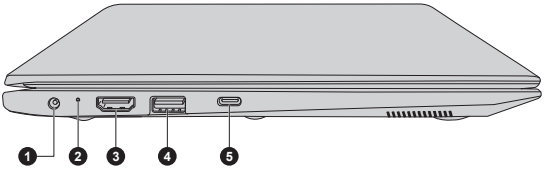
Product appearance depends on the model you purchased.

Stereo speakers	The speakers emit sound generated by your software as well as audio alarms, such as low battery condition, generated by the system.

Left side

The following figure shows the left side of the computer.

Figure 3-2 The left side of the computer



1. DC IN 19V jack
2. DC IN/Battery indicator
3. HDMI™ out port
4. Universal Serial Bus (USB 3.2 Gen1) port
5. USB Type-C™ (USB 3.2 Gen2) port

Product appearance depends on the model you purchased.

DC IN 19V	**DC IN 19V jack**	The AC adaptor connects to this jack in order to power the computer and charge its internal batteries. Note that you must use the AC adaptor that was included with your computer, or use AC adaptors specified by Dynabook. Use of an incompatible AC adaptor might cause fire or damage to the computer, possibly resulting in serious injury.
	DC IN/Battery indicator	The **DC IN/Battery indicator** shows the condition of the DC IN and the battery charge status. White indicates that the battery is fully charged while the power is being correctly supplied from the AC power adaptor. Refer to the *Power Condition Descriptions* section for more information on this feature.
HDMI	**HDMI™ out port**	HDMI™ out port can connect with Type A connector HDMI™ cable.
	Universal Serial Bus (USB 3.2 Gen1) port	One Type-A Universal Serial Bus port, which complies to the USB 3.2 standard, is provided on the left side of the computer. USB 3.2 port is compliant with USB 3.2 standard and backward compatible with USB 2.0 devices.

USB Type-C™ (USB 3.2 Gen2) port	One USB Type-C™ port, which complies to the USB 3.2 Gen2 standard, is provided on the left side of the computer. This USB Type-C™ port supports USB 3.2 Gen2 (DC 5V, 3A) with theoretical maximum transmission rate at 10 Gbps. This port supports USB data transmission, video output (audio stream can be included) and USB Power Delivery.

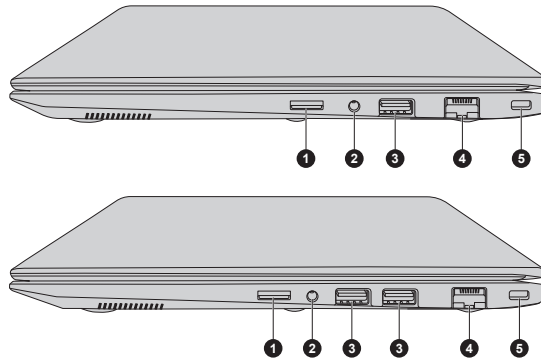
- *Note that it is not possible to confirm the operation of all functions of all USB devices that are available. Some functions associated with a specific device might not operate properly.*
- *Before removing a USB device from the USB port or USB Type-C™ port of your computer, click the **Safely Remove Hardware and Eject Media** icon on the Windows Taskbar, and then select the USB device that you want to remove.*

Keep foreign metal objects, such as screws, staples, and paper clips, out of the USB port or the USB Type-C™ port. Foreign metal objects can create a short circuit, which can cause damage and fire, possibly resulting in serious injury.

Right side

The following figures show the right side of the computer.

Figure 3-3 The right side of the computer



1. Memory media slot
2. Headphone/Microphone jack
3. Universal Serial Bus (USB 3.2 Gen1) port
4. LAN jack
5. Security lock slot

Product appearance depends on the model you purchased.

Memory media slot	This slot lets you insert a micro SD™/SDHC™/SDXC™ memory card. Refer to the *Memory media* section for more information.

Keep foreign metal objects, such as screws, staples, and paper clips, out of the memory media slot. Foreign metal objects can create a short circuit, which can cause damage and fire, possibly resulting in serious injury.

Headphone/ Microphone jack	A 3.5 mm mini headphone/microphone jack enables connection of a monaural microphone, stereo headphones, or a headset.
Universal Serial Bus (USB 3.2 Gen1) port	One or two Type-A Universal Serial Bus ports, which comply to the USB 3.2 standard, are provided on the right side of the computer. USB 3.2 port is compliant with USB 3.2 standard and backward compatible with USB 2.0 devices.

- *Note that it is not possible to confirm the operation of all functions of all USB devices that are available. Some functions associated with a specific device might not operate properly.*
- *Before removing a USB device from the USB port of your computer, click the **Safely Remove Hardware and Eject Media** icon on the Windows Taskbar, and then select the USB device that you want to remove.*

Keep foreign metal objects, such as screws, staples, and paper clips, out of the USB port. Foreign metal objects can create a short circuit, which can cause damage and fire, possibly resulting in serious injury.

LAN jack	This jack lets you connect to a LAN. The adaptor has built-in support for Ethernet LAN (10 megabits per second, 10BASE-T), Fast Ethernet LAN (100 megabits per second, 100BASE-TX) or Gigabit Ethernet LAN (1000 megabits per second, 1000BASE-T). Refer to *Operating Basics*, for details.

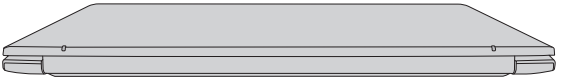
Do not connect any cable other than a LAN cable to the LAN jack. It might cause damage or malfunction.

	Security lock slot	A security cable can be attached to this slot and then connected to a desk or other large object in order to deter theft of the computer.

Back

The following figure shows the back of the computer.

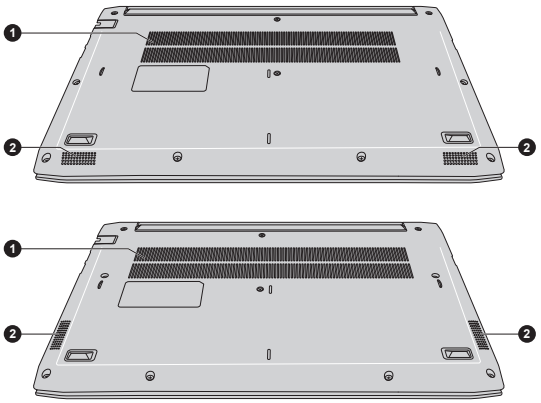
Figure 3-4 The back of the computer



Underside

The following figures show the underside of the computer. Ensure that the display is closed before the computer is turned over to avoid causing any damage.

Figure 3-5 The underside of the computer



1. Cooling vents
2. Stereo speakers

Product appearance depends on the model you purchased.

Cooling vents	The cooling vents help the processor to avoid overheating.

Do not block the cooling vents. Keep foreign metal objects, such as screws, staples, and paper clips, out of the cooling vents. Foreign metal objects can create a short circuit, which can cause damage and fire, possibly resulting in serious injury.

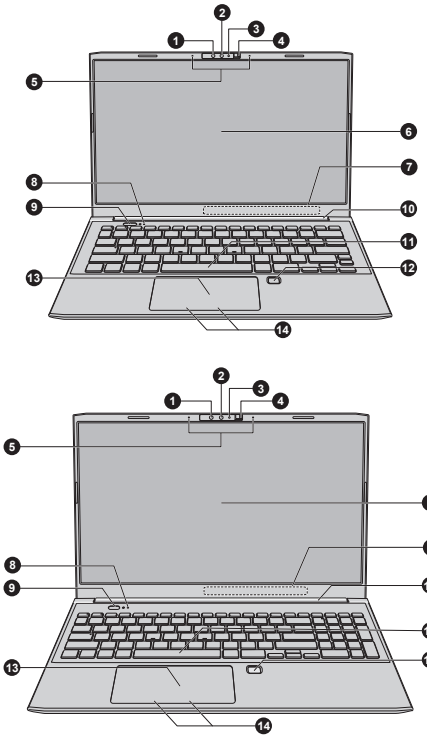
Carefully clean the dust on the surface of the cooling vents using a soft cloth.

Stereo speakers	The speakers emit sound generated by your software as well as audio alarms, such as low battery condition, generated by the system.

Front with the display open

This section shows the computer with the display panel open. In order to open the display, lift up the display panel and position it at a comfortable viewing angle for you.

Figure 3-6 The front of the computer with the display panel open



1. Infrared LED*
2. Web Camera
3. Web Camera LED
4. Web Camera Shutter
5. Microphones
6. Display screen
7. Wireless communication antennas (not shown)
8. Power indicator
9. Power button
10. Display hinge
11. Keyboard
12. Fingerprint sensor*
13. Touch Pad
14. Touch Pad control buttons

* Provided with some models.
Product appearance depends on the model you purchased.

Infrared LED	The infrared LED blinks when Windows Hello Face is operating. Only models which support face recognition feature are equipped with the infrared LED.
Web Camera	**Web Camera** is a device that allows you to record video or take photographs with your computer. You can use it for video chatting or video conferences using a communication tool.

Web Camera LED	The Web Camera LED glows when the Web Camera is operating.
Web Camera Shutter	The Web Camera Shutter can be used to protect your privacy, by sliding towards left to cover the Web Camera lens.

- *Do not point the web camera directly at the sun.*
- *Do not touch or press strongly on the web camera lens and LED. Failure to do so might reduce image quality, possibly resulting in recognizing faces incorrectly. Use an eyeglass cleaner (cleaner cloth) or other soft cloth to clean the lens and the LED if it becomes dirty.*
- *While web camera is capturing your face, make sure that your face is in front of the web camera and you look directly at it.*

Microphones	The built-in microphones allow you to record sounds for your application. Refer to the *Sound System and Video mode* section for more information.
Display screen	39.6 cm (15.6"), 35.6 cm (14") or 33.8 cm (13.3") LCD screen, is configured with one of the following resolutions depending on the model you purchased: ■ HD, 1366 horizontal x 768 vertical pixels ■ FHD, 1920 horizontal x 1080 vertical pixels Be aware that, when the computer is operating on the AC adaptor, the image displayed on the internal screen is somewhat brighter than when it operates on battery power. This difference in brightness levels is intended to save power when operating on battery.

Legal Footnote (LCD)

For more information regarding LCD, refer to the *Legal Footnotes* section.

Wireless communication antennas	The following antennas are built-in: ■ Wireless LAN/Bluetooth®

Do not cover the wireless communication antennas area with any metal objects, otherwise the wireless function might not work.

Legal Footnote (Wireless LAN)

For more information regarding Wireless LAN, refer to the *Legal Footnotes* section.

Power indicator	The Power indicator normally glows white when the computer is turned on.
Power button	Press this button to turn the computer's power on or off.
Display hinge	The display hinge allows the display panel to be positioned at a variety of easy-to-view angles.
Keyboard	The keyboard contains character keys, control keys, function keys, and special Windows key, providing all the functionality of a full-size keyboard. Refer to the *The Keyboard* section for details.
Fingerprint sensor	This sensor enables you to enroll and sign in with a fingerprint in Windows Hello. For more information, refer to the on-screen instructions in Windows Hello. Some models are equipped with a fingerprint sensor.
Touch Pad	The Touch Pad located in the palm rest is used to control the movement of the mouse pointer. To use the Touch Pad, simply touch and move your fingertip across it in the direction you want the mouse pointer to go.
Touch Pad control buttons	The two buttons located on the bottom of the Touch Pad are used like the buttons on a standard mouse. Press the left button to select a menu item or to manipulate text or graphics designated by the mouse pointer, and press the right button to display a menu or other function depending on the software you are using.

Internal Hardware Components

This section describes the internal hardware components of your computer.

The actual specifications might vary depending on the model you purchased.

CPU	The processor type varies depending on model. To check which type of processor is included in your model, click **Start -> All apps -> dynabook Support Utility -> System Information**.

Legal Footnote (CPU)

For more information regarding CPU, refer to the *Legal Footnotes* section.

Internal Storage Drive	The capacity of the internal storage drive varies depending on the model. Note that part of the internal storage drive overall capacity is reserved as administration space.

- *Your computer is equipped with a "Solid-State Drive (SSD)". In this manual, the word "internal storage drive" refers to SSD unless otherwise stated.*
- *SSD is a large-capacity storage device which uses Solid-State Memory in place of a magnetic disk of the hard disk.*

Under certain unusual conditions of prolonged non-use and/or exposure to high temperatures, the SSD might be vulnerable to data retention errors.

Legal Footnote (Internal Storage Drive Capacity)

For more information regarding Internal Storage Drive Capacity, refer to the *Legal Footnotes* section.

Video RAM	The memory in the graphics adaptor of the computer, used to store the image displayed on a bitmap display. The amount of Video RAM available depends on the system memory of the computer.
Graphics Processing Unit	Graphics Processing Unit (GPU) performance might vary depending on product model, design configuration, applications, power management settings and features utilized. GPU performance is only optimized when operating in AC power mode and might decrease considerably when operating in battery power mode.

Legal Footnote (Graphics Processing Unit (GPU))

For more information regarding Graphics Processing Unit (GPU), refer to the *Legal Footnotes* section.

Intel® Display Power Saving Technology

Intel® GPU models might include the Display Power Saving Technology feature that can save the power consumption of the computer by optimizing picture contrast on the internal LCD.

This feature can be used if the computer is:

- running in battery mode
- using the internal LCD display

The Display Power Saving Technology feature is enabled at factory default. To turn this feature off, change it in the settings accordingly in the Intel® Graphics Command Center.

1. Click **Start -> All apps -> Intel® Graphics Command Center**.
2. Click **System** and then click **Power**.
3. Click **On/Off** under **Display Power Savings**.

Power Condition Descriptions

The computer operating capability and battery charge status are affected by different power conditions, including whether an AC adaptor is connected and what the battery charge level is.

DC IN/Battery indicator

Check the **DC IN/Battery** indicator to determine the status of the battery pack and the power status with the AC adaptor connected. The following indicator conditions should be noted:

Flashing Amber	The battery charge might be low. Connect the AC adaptor to recharge the battery. If it still flashes amber, it indicates a problem with the computer. Disconnect the AC adaptor for several seconds, and then reconnect it. After that, press the power button. If it still does not operate properly, you should contact your reseller or dealer.
Amber	Indicates that the AC adaptor is connected and the battery is charging.
White	Indicates that the AC adaptor is connected and the battery is fully charged.
No light	Under any other conditions, the indicator does not light.

*If the battery pack becomes too hot while it is being charged, the charge stops and the **DC IN/Battery** indicator goes out. When the temperature of*

the battery pack falls to a normal range, charging will resume. This process occurs regardless of whether the computer's power is on or off.

Power indicator

Check the **Power** indicator to determine the power status of the computer. The following indicator conditions should be noted:

White	Indicates that the computer is turned on.
No light	Under any other conditions, the indicator does not light.

Chapter 4

Operating Basics

This chapter describes the basic operations of your computer, and highlights the precautions that must be taken when using it.

Using the Touch Pad

The Touch Pad on the palm rest might support the following gestures:

	Tap	Tap once on the Touch Pad to activate an item, such as an app.
	Two-Finger Tap	Tap once on the Touch Pad with two fingers together to display a menu or other function depending on the software you are using. (Similar to right-click)
	Pinch or stretch	Place two fingers down on the Touch Pad and move them toward each other (pinch) or away from each other (stretch). This shows different levels of information or visually zooms in or out.
	Two-Finger Scroll	Place two fingers down and slide them vertically or horizontally from anywhere on the Touch Pad. This allows you to operate the scroll bars of a window.
	Three-Finger Tap	Tap once on the Touch Pad with three fingers together to launch Windows Search.

	Three-Finger Scroll	Place three fingers down and slide them vertically or horizontally from anywhere on the Touch Pad. Slide towards left/right: switches between your open apps. Slide your fingers slowly across the Touch Pad to flip through them all. Slide up: views all your open apps in task view. Slide down: shows the desktop.
	Four-Finger Tap	Tap once on the Touch Pad with four fingers together to open the Notification Center.
	Four-Finger Scroll	Place four fingers down and slide them vertically or horizontally from anywhere on the Touch Pad. Slide towards left/right: switches between virtual desktops. Slide up: views all your open apps in task view. Slide down: shows the desktop.

Do not put items on the Touch Pad surface to prevent abnormal action.

Some of the Touch Pad operations described in this section are only supported in certain applications.

The Keyboard

The number of keys available on your keyboard depends on which country/region your computer is configured for, with keyboards being available for numerous languages.

There are different types of keys, specifically typewriter keys, function keys, Windows special key, and the keypad overlay.

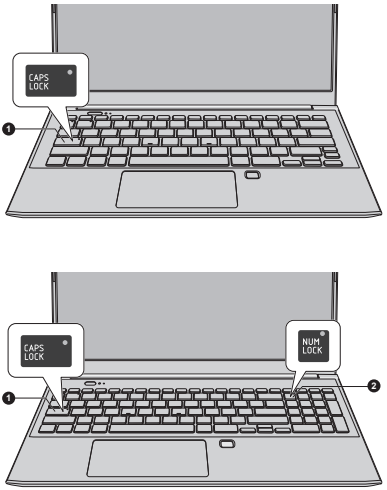
Never remove the key caps on your keyboard. Failure to do so might damage the parts under the key caps.

Keyboard indicators

The following figures show the position of the **CAPS LOCK** indicator and the **NUM LOCK** indicator.

- When the **CAPS LOCK** indicator glows, the keyboard produces capitals when any letter is typed.
- When the **NUM LOCK** indicator glows, the ten key allows you to enter numbers.

Figure 4-1 Keyboard indicators



1. CAPS LOCK indicator
2. NUM LOCK indicator

Product appearance depends on the model you purchased.

CAPS LOCK	This indicator glows green when letter keys are locked into their uppercase format.
NUM LOCK	When the NUM LOCK indicator glows, you can use the number keys on the keyboard for number entry.

Function Keys

The function keys (F1 ~ F12) are the 12 keys at the top of your keyboard.

Function keys let you enable or disable certain features of the computer. The functions can be performed by pressing the associated function keys.

Key Combination	Function
FN + F1	Turns the Microphone mute on or off.
FN + F2	Decreases the playback volume of the computer.
FN + F3	Increases the playback volume of the computer.

Key Combination	Function
FN + F4	Turns the sound on or off.
FN + F5	Changes the active display device. To use a simultaneous mode, you must set the resolution of the internal display panel to match the resolution of the external display device.
FN + F6	Decreases the brightness of the display panel in individual steps.
FN + F7	Increases the brightness of the display panel in individual steps.
FN + F8	Turns the Airplane mode on or off.
FN + F9	Enables or disables the Touch Pad.
FN + F10	Allows you to pick up the phone.
FN + F11	Allows you to hang up the phone.
FN + F12	Enables the calculator.
FN + ESC	Enables or disables the "Fn Lock" mode.
FN + 1	Reduces the icon size on the desktop or the font sizes within one of the supported application windows.
FN + 2	Enlarges the icon size on the desktop or the font sizes within one of the supported application windows.
FN + Space	Changes the display resolution.
FN + S ( )	Allows you to search your computer, the web, or within an app.
FN + A ( )	Enables the same function as the secondary (right) mouse button.

Some functions show the toast notification at the edges of the screen.

Those toast notifications are enabled by default. You can disable them in dynabook Settings.

*To access it, click **Start -> All apps -> dynabook Settings -> Keyboard**.*

Windows special key

The keyboard provides the key that have special functions in Windows.

This Windows® logo key activates the Windows **Start menu**.

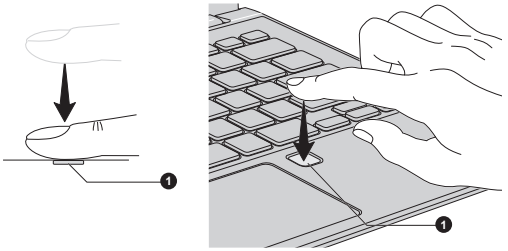
Using the Fingerprint Sensor

Some models are equipped with the fingerprint sensor for the purpose of enrolling and recognizing fingerprints. Lightly touch and rest your finger on the fingerprint sensor to recognize fingerprints. During enrollment, you might need to touch and lift your finger on the sensor repeatedly until setup is complete. Follow the on-screen instructions to finish the setup.

By enrolling the ID and password onto the fingerprint authentication feature, it is no longer necessary to input the password from the keyboard. Fingerprint feature enables you to:

- Sign-in to Windows

Figure 4-2 Using the fingerprint sensor



1. Fingerprint sensor

- *Fingerprint cannot be used in models that do not have a fingerprint function.*
- *Total fingerprints which can be registered are 10 pcs.*

Points to note about the Fingerprint Sensor

Be aware of the following considerations when using the fingerprint sensor. A failure to follow these guidelines might result in damage to the sensor, sensor failure, fingerprint recognition problems or a lower fingerprint recognition success rate.

- Do not scratch or poke the sensor with your nails or any hard or sharp objects.
- Do not press the sensor strongly.
- Do not touch the sensor with a wet finger or any wet objects. Keep the sensor surface dry and free from water vapor.
- Do not touch the sensor with a soiled or dirty finger as minute foreign particles of dust and dirt might scratch it.
- Do not paste stickers or write on the sensor.

- Do not touch the sensor with a finger or any other object which might have a build-up of static electricity on it.

Observe the following before you place your finger on the sensor whether for fingerprint enrollment/registration or recognition:

- Wash and dry your hands thoroughly.
- Remove static electricity from your fingers by touching any metal surface. Static electricity is a common cause of sensor failures, especially when the weather is dry.
- Clean the sensor with a lint-free cloth. Do not use detergent or any other chemicals to clean the sensor.

  Avoid the following finger conditions for enrollment or recognition as they might result in fingerprint enrollment errors or a drop in the fingerprint recognition success rate:
  - Soaked or swollen finger, for example as might occur after taking a bath
  - Injured finger
  - Wet finger
  - Soiled or oily finger
  - Extremely dry skin condition on finger

Observe the following to improve the fingerprint recognition success rate:

- Enroll two or more fingers.
- Enroll additional fingers if a recognition failure often occurs when using already enrolled fingers.
- Check the condition of your finger. Any conditions which have changed since enrollment, such as injury, rough skin, and extremely dry, wet, soiled, dirty, oily, soaked or swollen fingers, might lower the recognition success rate. Also if the fingerprint is worn down or the finger becomes thinner or fatter, the recognition success rate might be lowered.
- As the fingerprint for each finger is different and unique, you should ensure that only the registered or enrolled fingerprint or fingerprints are used for identification.
- The fingerprint sensor compares and analyzes the unique characteristics in a fingerprint. However, there might be instances where certain users are unable to register their fingerprints due to insufficient unique characteristics in their fingerprints.
- The recognition success rate might differ from user to user.

Battery

This section explains battery types, use, recharging methods and handling.

Battery pack

When the AC adaptor is not connected, the main power source of the computer is a lithium ion battery pack, also referred to in this manual as the main battery.

Real-Time Clock (RTC) function

The Real-Time Clock (RTC) function is supported. The main battery provides power for the internal real-time clock and calendar function and also maintains the system configuration while the computer is turned off. If the RTC lasting time completely runs out, the system will lose this information and the real-time clock and calendar will stop working.

You can change the Real-Time Clock settings in the dynabook Setup Utility. Refer to *Real-Time Clock* for further information.

Care and use of the battery pack

This section provides the important safety precautions in order to handle your battery pack properly.

Refer to the enclosed **Instruction Manual for Safety and Comfort** for detailed precautions and handling instructions.

- *Charge the battery pack only in an ambient temperature from 5 through 35 degrees Celsius. Otherwise, the electrolyte solution might leak, battery pack performance might deteriorate, and the battery life might be shortened.*
- *Never replace the battery by an incorrect type, which could possibly result in an explosion.*
- *Never expose a battery to excess heat, extremely low temperatures or extremely low air pressure at high altitude during use, storage or transportation as that may result in an explosion or the leakage of flammable liquid or gas.*
- *Do not mechanically crush or cut the battery as that may result in an explosion. Always dispose of used batteries according to the instructions.*

Charging the battery

When the power in the battery pack becomes low, the **DC IN/Battery** indicator flashes amber to indicate that only a few minutes of battery power remain. If you continue to use the computer while the **DC IN/Battery** indicator flashes, the computer enters Hibernation Mode so that you do not lose any data, and automatically turns itself off.

You must recharge the battery pack when it becomes discharged.

Procedures

To recharge a battery pack, connect the AC adaptor to the DC IN 19V jack/ USB Type-C™ port and plug the other end into a working outlet. The **DC IN/Battery** indicator glows amber while the battery is being charged.

Charging notice

The battery might not begin charging immediately under the following conditions:

- The battery is extremely hot or cold (if the battery is extremely hot, it might not charge at all). To ensure the battery charges to its full capacity, charge it at room temperature of between 5°C to 35°C (41°F to 95°F).
- The battery is nearly completely discharged. In this instance, leave the AC adaptor connected for a few minutes and the battery should begin charging.

The **DC IN/Battery** indicator might show a rapid decrease in battery operating time when you try to charge a battery under the following conditions:

- The battery has not been used for a long time.
- The battery has completely discharged and been left in the computer for a long time.

In such cases, do the following:

1. Fully discharge the battery by leaving it in the computer with the power on until the system automatically turns itself off.
2. Connect the AC adaptor to the DC IN 19V jack/USB Type-C™ port on the computer and to a wall outlet that is supplying power.
3. Charge the battery until the **DC IN/Battery** indicator glows white.

Repeat these steps two or three times until the battery recovers normal capacity.

Monitoring battery capacity

Remaining battery power can be monitored using the following methods:

- Clicking the battery icon on the Windows Taskbar
- Via the Battery Status in the Windows Mobility Center window

- *Wait several seconds to monitor the remaining operating time because the computer needs time to check the remaining capacity of the battery pack and then calculate the remaining operating time, based on this together with the current power consumption.*
- *Be aware that the actual remaining operating time might differ slightly from the calculated time.*
- *With repeated discharges and recharges, the battery capacity will gradually decrease. In view of this, it is noted that an often used, older battery will not operate for as long as a new battery even when both are fully charged.*

Maximizing battery operating time

The usefulness of a battery depends on how long it can supply power on a single charge, while how long the charge lasts in a battery depends on:

- Processor speed
- Screen brightness
- Internal storage drive power off period
- How often and for how long you use the internal storage drive and external disk drives, for example, optical disc
- How much charge the battery contained to begin with
- How you use optional devices, such as a USB device, to which the battery supplies power
- Where you store your programs and data
- Whether you close the display panel when you are not using the keyboard - closing the display saves power.
- The environmental temperature - operating time decreases at low temperatures.
- System Sleep Mode
- System Hibernation Mode
- Display power off period
- Whether you enable Sleep Mode, which can conserve battery power if you are frequently turning the computer off and on.

Extending battery life

To maximize the life of your battery pack, do the following at least once a month:

1. Turn off the computer's power.
2. Disconnect the AC adaptor and turn on the computer's power. If it does not turn on, then go to Step 4.
3. Operate the computer on battery power for five minutes. If you find that the battery pack has at least five minutes of operating time, continue operating until the battery pack is fully discharged. However, if the **DC IN/Battery** indicator flashes or there is some other warning to indicate a low battery condition, go to Step 4.
4. Connect the AC adaptor to the DC IN 19V jack/USB Type-C™ port on the computer and to a wall outlet that is supplying power. The **DC IN/ Battery** indicator glows amber to indicate that the battery pack is being charged. However, if **DC IN/Battery** indicator does not glow, this indicates that power is not being supplied. Check the connections for the AC adaptor and the power cord.
5. Charge the battery pack until the **DC IN/Battery** indicator glows white.

Memory media

The computer is equipped with a memory media slot that can accommodate some kinds of memory media with various memory

capacities so that you can easily transfer data from devices, such as digital cameras and Personal Digital Assistants.

Keep foreign objects out of the memory media slot. Never allow metal objects, such as screws, staples and paper clips, to enter the computer or keyboard. Foreign metal objects can create a short circuit, which can cause computer damage and fire, possibly resulting in serious injury.

- *This memory media slot supports the following memory media: microSD/SDHC/SDXC card.*
- *Not all memory media have been tested and verified to work correctly. Therefore, it is not possible to guarantee that all memory media can operate properly.*

Figure 4-3 Example of memory media (microSD card)

Points to note about the memory media card

microSD/SDHC/SDXC memory cards comply with SDMI (Secure Digital Music Initiative), which is a technology adopted to prevent unlawful copy or playback of digital music. For this reason, you cannot copy or play back protected material on another computer or other device, and you cannot reproduce any copyrighted material except for your personal enjoyment.

- The supported maximum capacity of memory card is 512 GB.

Memory media format

New media cards are formatted according to specific standards. If you wish to reformat a media card, be sure to do so with a device that uses media cards.

Formatting a memory media card

Memory media cards are sold already formatted in conformity to specific standards. If you reformat a memory card, be sure to reformat it with a device such as digital camera or digital audio player that uses the memory cards, not with the format command provided within Windows.

To format all areas of the memory card, including the protected area, you must obtain an appropriate application that applies the copy protection system.

Media care

Observe the following precautions when handling the card:

- Do not twist or bend cards.
- Do not expose cards to liquids or store in humid areas or lay media close to containers of liquid.
- Do not touch the metal part of a card or expose it to liquids or let it get dirty.
- After using the card, return it to its case.
- The card is designed so that it can be inserted only one way. Do not try to force the card into the slot.
- Do not leave a card partially inserted in the slot. Press the card until you hear it click into place.
- Set the write-protect switch to the lock position, if you do not want to record data.
- Memory cards have a limited lifespan, so it is important to back up important data.
- Do not write to a card if the battery power is low. Low power might affect writing accuracy.
- Do not remove a card while read/write is in progress.

For more details on using memory cards, see manuals accompanying the cards.

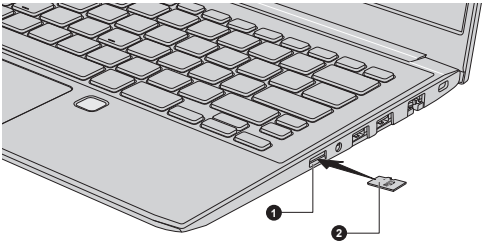
Inserting memory media

The following instructions apply to all types of supported media devices. To insert memory media, do the following:

1. Turn the memory media so that the contacts (metal areas) face down.
2. Insert the memory media into the memory media slot on your computer.

3. Press the memory media gently until it clicks into place.

Figure 4-4 Inserting memory media



1. Memory media slot 2. Memory media

Product appearance depends on the model you purchased.

- *Make sure that the memory media is oriented properly before you insert it. If you insert the media in wrong direction, you might not be able to remove it.*
- *When inserting the memory media, do not touch the metal contacts. You might expose the storage area to static electricity, which can destroy data.*
- *Do not turn off the computer or switch to Sleep Mode or Hibernation Mode while files are being copied. Failure to do so might cause data loss.*

Removing memory media

The following instructions apply to all types of supported media devices. To remove memory media, do the following:

1. Click the **Safely Remove Hardware and Eject Media** icon on the Windows taskbar.
2. Select the memory media that you want to remove.
3. Push the memory media until you hear a click to partially release it.
4. Grasp the media and remove it.

- *If you remove the memory media or turn off the power while the computer is accessing the memory media, you might lose data or damage the media.*
- *Do not remove the memory media while the computer is in Sleep or Hibernation Mode. The computer might become unstable or data in the memory media might be lost.*

HDMI™ out port

HDMI™ (High-Definition Multimedia Interface™) out port digitally transfers both video and audio data without reducing the quality. HDMI™-compatible external display devices including televisions can be connected via the HDMI™ out port.

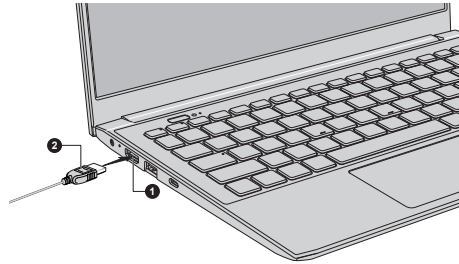
As the port operation of all external monitors have not been confirmed, some display devices might not function properly.

To connect an HDMI™-compatible display device, do the following:

To connect a device to the HDMI™ out port, you must purchase a suitable HDMI™ cable.

1. Plug one end of the HDMI™ cable into the HDMI™ in port of the HDMI™ display device.
2. Turn the HDMI™ display device's power on.
3. Plug the other end of the HDMI™ cable into the HDMI™ out port on your computer.

Figure 4-5 Connecting the HDMI™ out port



1. HDMI™ out port 2. HDMI™ cable

Product appearance depends on the model you purchased.

Do not plug/unplug an HDMI™ device under the following conditions:

- *The system is starting up.*
- *The system is shutting down.*

When you unplug the HDMI™ cable and replug it, wait at least 5 seconds before you replug the HDMI™ cable again.

Settings for display video on HDMI™

To view video on the HDMI™ display device, be sure to configure the settings, otherwise you might find that nothing is displayed.

Be sure to select the display device or audio device before starting to play video. Do not change the display device or audio device while playing video.

Do not change the display device under the following conditions.

- *While data is being read or written*
- *While communication is being carried out*

LAN

The computer has built-in support for Ethernet LAN (10 megabits per second, 10BASE-T), Fast Ethernet LAN (100 megabits per second, 100BASE-TX) or Gigabit Ethernet LAN (1000 megabits per second, 1000BASE-T).

This section describes how to connect/disconnect to a LAN.

- *The Wake-up on LAN function consumes power even when the system is off. Leave the AC adaptor connected while using this feature.*
- *The link speed (10/100/1000 megabits per second) changes automatically depending on the network conditions (connected device, cable or noise and so on).*

LAN cable types

The computer must be configured properly before connecting to a LAN. Logging onto a LAN using the computer's default settings might cause a malfunction in LAN operation. Check with your LAN administrator regarding set-up procedures.

If you are using Gigabit Ethernet LAN (1000 megabits per second, 1000BASE-T), be sure to connect with a CAT5e cable or higher. You cannot use a CAT3 or CAT5 cable.

If you are using Fast Ethernet LAN (100 megabits per second, 100BASE-TX), be sure to connect with a CAT5 cable or higher. You cannot use a CAT3 cable.

If you are using Ethernet LAN (10 megabits per second, 10BASE-T), you can connect with a CAT3 or higher cable.

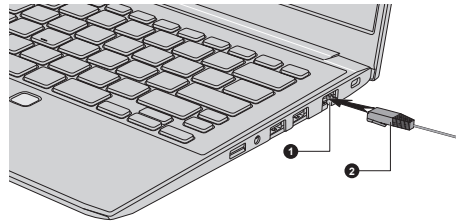
Connecting the LAN cable

To connect the LAN cable, do the following:

- *Connect the AC adaptor before connecting the LAN cable. The AC adaptor must remain connected during LAN use. If you disconnect the AC adaptor while the computer is accessing a LAN, the system might hang up.*
- *Do not connect any other cable to the LAN jack except the LAN cable. Otherwise, malfunctions or damage might occur.*
- *Do not connect any power supplying device to the LAN cable that is connected to the LAN jack. Otherwise, malfunctions or damage might occur.*

1. Turn off the power to all external devices connected to the computer.
2. Plug one end of the cable into the LAN jack. Press gently until you hear the latch click into place.

Figure 4-6 Connecting the LAN cable



1. LAN jack 2. LAN cable

Product appearance depends on the model you purchased.

3. Plug the other end of the cable into a LAN hub connector or router. Check with your LAN administrator and hardware or software vendor before using or configuring a network connection.

To disconnect the LAN cable, gently grasp the LAN cable while pressing the latch, and then slowly lift it up to remove it.

Wireless display

Your computer might support wireless display, a wireless technology which utilizes Wi-Fi® to allow the computer to be wirelessly connected to external displays including TVs as extended screens. With wireless display, documents, streamed/local media contents or other online contents can be shared wirelessly with others.

To use wireless display, either one of the following devices is required:

- A compatible external display with built-in support for wireless display.

- An external display with HDMI™ port and a wireless display adapter.

  The wireless display adapter is a device that connects to the external display via HDMI™ port and can receive Wi-Fi® signals from your computer.

To wirelessly connect to an external display, you can follow the steps as described below:

1. Click **Start -> Settings -> Bluetooth & devices -> Add device**.
2. Click **Wireless display or dock**. Your computer starts searching for the wireless display device.
3. After the wireless display device is searched, follow the on-screen instructions to finish connection.

After the connection is established, the name of the wireless display device appears under **Devices**.

To disconnect the Wireless display device, click the wireless display device name and then click **Remove device**.

Security lock

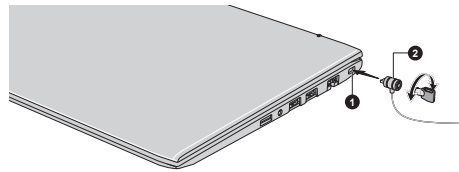
A security lock enables you to anchor your computer to a desk or other heavy object in order to help prevent unauthorized removal or theft. The computer has a security lock slot into which you can attach one end of the security cable, while the other end attaches to a desk or similar object. The methods used for attaching security cables differ from product to product. Refer to the instructions for the product you are using for more information.

Connecting the security lock

To connect a security cable to the computer, do the following:

1. Turn the computer so the security lock slot faces you.
2. Align the security cable with the lock slot and secure it in place.

Figure 4-7 Security lock



1. Security lock slot
2. Security lock

Product appearance depends on the model you purchased.

Optional Accessories

To make your computer even more powerful and convenient to use, you can add a number of accessories. For reference, the following list details some of the items that are available from your reseller or Dynabook dealer:

AC Adaptor	If you frequently use your computer at more than one site, it might be convenient to purchase an additional AC adaptor to be kept at each site in order to remove the need to carry the adaptor with you always.
USB Type-C™ Adapters	You can purchase different types of USB Type-C™ adapters as accessories from Dynabook. Please contact your reseller or Dynabook dealer regarding which type is available in your region.
dynabook USB-C™ Dock	dynabook USB-C™ Dock is the docking station that enables you to connect your computer peripherals through one USB Type-C™ cable to selected Dynabook computers. Refer to dynabook USB-C™ Dock's User's Manual for more details.

Not all the accessories are available in your region. Contact your reseller or Dynabook dealer for more information.

Sound System and Video mode

This section describes some of the audio control functions.

Volume Mixer

The Volume Mixer utility lets you control the audio volume for playback of devices and applications under Windows.

- To launch the Volume Mixer settings, right-click on the speaker icon on the Windows Taskbar, and then select **Open volume mixer** from the sub menu.
- To adjust the volume level of speakers or headphones, move the **Volume** slider.
- To adjust the volume level of an application that you are using, move the slider for the corresponding application.

Microphone Level

To change the microphone recording level, do the following:

If the microphones are not built in, you can connect an external microphone instead.

1. Click **Start -> All apps -> Windows Tools** and double-click **Control Panel**.
2. Click **Hardware and Sound -> Sound -> Recording**.
3. Select **Microphone Array** or **External Microphone**, and click **Properties**.

4. On the **Levels** tab, move the **Microphone Array** or **External Microphone** slider to increase or decrease the microphone volume level.

If you feel the microphone volume level is inadequate while using an external microphone, move the **Microphone Boost** slider to a higher level.

Realtek Audio Console

You can confirm and change the audio configuration using the **Realtek Audio Console**. To launch the **Realtek Audio Console**:

- Click **Start -> All apps -> Realtek Audio Console**.

Main

When you launch the Realtek Audio Console, the **Main** tab shows all available Playback and Recording devices. You can adjust the volume and switch to related setting pages by clicking the icon in this tab.

Speakers/Headphones

This tab allows you to set Main Volume, Sound Effects, AI Noise Reduction, Default Format and Speaker configuration.

Click the **Auto Test** button at the bottom of this tab to confirm the internal speakers or the headphone sound is coming from the right direction.

Microphone Array/External Microphone

This tab allows you to set Main Volume, Microphone Effects and Default Format.

If the microphones are not built in, you can connect an external microphone instead.

Device advanced settings

This tab allows you to choose the type of headphone or microphone and select devices when an external device is plugged in.

To choose the type of headphone or microphone, do the following:

1. Plug a headphone or microphone into the headphone/microphone jack.
2. Click the **Device advanced settings** tab.
3. Select one from the device list under **ANALOG** for the device you plugged into.

When an external headphone or microphone is plugged in, you can turn on/off the multi-stream function for playback or recording under **Playback Device** or **Recording Device** in this tab.

To use multi-stream function for playback/recording, do the following:

1. Select **Make internal and external output devices playback two different audio streams simultaneously**, or **Separate all input jacks as independent input devices**.
2. Click **Start -> Settings -> System -> Sound -> Volume mixer**.
3. Choose different devices from the drop-down list.

Information

This tab shows the driver version and UI version as well.

Video mode

Video mode settings are configured via the **Display** dialog.

To open the **Display** dialog, click **Start -> Settings -> System -> Display**.

If you are running some applications (for example a 3D application or video playback), you might see some disturbance, flickering, or frame dropping on your screen.

If that occurs, adjust the resolution of display, lowering it until the screen is displayed properly.

Chapter 5

Utilities and Advanced Usage

This chapter describes the utilities and special features of this computer, and the advanced usage of some utilities.

Utilities and Applications

This section describes the pre-installed utilities that come with the computer and details how to start them. For further information on their operation, refer to online manual, help files, or README.TXT file (if applicable) of each utility.

You might not have all the software/feature listed in this section depending on the model you purchased.

dynabook Settings

dynabook Settings is the configuration management tool available through the Windows operating system.

To run dynabook Settings, click **Start -> All apps -> dynabook Settings**.

This utility allows you to configure your computer settings by the following tabs:

- Home—Allows you to view the current BIOS/EC version or change certain settings back to their default values
- eco Utility—Allows you to manage the Battery Charge Mode of your computer
- Keyboard—Allows you to set options for the keyboard

The settings or options explained here might vary depending on the model you purchased.

eco Utility

This computer supports "Battery Charge Mode". You can choose the charge mode that suits your computer usage in this utility.

To access this utility, click **Start -> All apps -> dynabook Settings -> eco Utility**.

System Password

You can set a password in the dynabook Setup Utility in order to restrict access to the computer. Follow the on-screen instructions to set the passwords.

Two levels of password security are provided: User and Supervisor.

Refer to *dynabook Setup Utility* to enter it.

- *Passwords set in the dynabook Setup Utility are different from the Windows password.*
- *If you set a Supervisor Password, some functions might be restricted when a user logs on with the User Password.*
- *When entering the character string to register the password, enter from the keyboard character by character and do not enter as ASCII code or copy-and-paste the character string. In addition, ensure that the registered password is correct by outputting the character string to the password file.*

Starting the computer using a password

To enter a password manually, do the following:

1. Turn on the power as described in the *Getting Started* section.

At this point, the function keys do not work. They will function after you enter the password.

2. Enter the password in the dialog that appears on the screen.
3. Press **ENTER**.

If you enter the password incorrectly three times in a row, or if you do not enter the password within 1 minute, the computer shuts down. In this case, some features that can power on the computer automatically (Task Scheduler, etc.) might not work. You must turn the computer back on to retry password entry.

dynabook Support Utility

dynabook Support Utility allows your computer to automatically search for alerts from Dynabook that are specific to your computer system and its programs. This utility also displays the System Information.

On the initial internet connection, your computer will send some limited system information to Dynabook periodically. The transmission is completely anonymous since no personal identifiable information is collected.

To access this utility, click **Start -> All apps -> dynabook Support Utility**.

The following tabs might be provided:

- Home—Displays the introduction of this utility.
- Alerts—Allows you to check available alerts.
- System Information—Allows you to view basic information of your computer.
- Options—Allows you to set options for showing a notification.

The settings or options explained here might vary depending on the model you purchased.

dynabook Screen Rotation Utility

dynabook Screen Rotation Utility rotates the screen orientation between landscape (normal) and landscape (flipped) by using the Ctrl + Alt + Up arrow/Down arrow keys.

To access this utility, click **Start -> All apps -> dynabook Screen Rotation Utility**.

The following options might be provided:

- Screen Rotation—Rotate the screen orientation by using the Ctrl + Alt + Up arrow/Down arrow keys.
- Confirmation message—Show a confirmation message when the screen is rotated.
- External display message—Show a message when the screen did not rotate because an external display is connected.

dynabook Setup Utility

dynabook Setup Utility provides you a menu-based user interface so that you can easily view and change BIOS settings.

To enter the dynabook Setup Utility, do the following:

1. Save your work.
2. Click **Start ->** ⏻ **(Power)** and then select **Restart**.
3. Hold down the **F2** key and then release this key just after the computer is powered on.
4. Follow the on-screen instructions to proceed.

To save the changes and exit the utility, press the **F10** key and proceed by selecting **Yes** or select **Exit -> Exit Saving Changes -> Yes**. The computer restarts immediately.

dynabook Maintenance Utility

dynabook Maintenance Utility is provided to erase the internal storage drive. This utility allows you to delete all data and partitions and also overwrite all sectors on the internal storage drive.

If there is an external hard disk drive connected to your computer, it can also be erased. However, if you do not want to delete the data from the external hard disk drive, disconnect it from your computer.

To access this utility:

1. Click **Start -> Settings -> System -> Recovery**.
2. Click **Restart now** in **Advanced startup**.
3. Click **Troubleshoot -> dynabook Maintenance Utility**.

If you select the deletion method and continue with the operation, you will lose all data (including the operating system and recovery partition) on the internal storage drives. Make sure that you have already created recovery media if you want to use the computer after erasing your hard disk drive(s).

Special features

The following features are either unique to Dynabook computers or are advanced features which make the computer more convenient to use.

Access each function using the following procedures.

*1 To access the Power Options, click **Start -> All apps -> Windows Tools** and double-click **Control Panel**. In the Control Panel window, click **System and Security -> Power Options**.

Display automatic power off *1	This feature automatically cuts off power to the computer's display panel when there is no keyboard input for a specified time, with power being restored the next time a key is pressed. This can be specified in the Power Options.
Internal storage drive automatic power off *1	This feature automatically cuts off power to the internal storage drive when it is not accessed for a specified time, with power being restored when the internal storage drive is next accessed. This can be specified in the Power Options.
System automatic Sleep/Hibernation Mode *1	This feature automatically shuts down the system into either Sleep Mode or Hibernation Mode when there is no input or hardware access for a specified time. This can be specified in the Power Options.
Power on password	Two levels of password security, supervisor and user, are available to prevent unauthorized access to your computer.
Intelligent power supply *1	A microprocessor in the computer's intelligent power supply detects the battery charge, automatically calculates the remaining battery capacity, and protects electronic components from abnormal conditions such as a voltage overload from the AC adaptor. This can be specified in the Power Options.
Battery save mode *1	This feature lets you configure the computer in order to save battery power. This can be specified in the Power Options.

Panel power on/off *1	This feature automatically turns power to the computer off when the display panel is closed, and turns it back on when the display panel is opened. This can be specified in the Power Options.
Low battery automatic Hibernation Mode *1	When battery power is exhausted to the point that computer operation cannot be continued, the system automatically enters Hibernation Mode and shuts itself down. This can be specified in the Power Options.
Hibernation Mode	This feature lets you turn off the power to the computer without exiting from your software. The contents of main memory are automatically saved to the internal storage drive so that when you next turn on the power again, you can continue working right where you left off. You must enable the Hibernation Mode before using this feature. Refer to the *Starting Hibernation Mode* section for more details.
USB Wake-up function	This function restores the computer from Sleep Mode depending on the external devices connected to the USB ports. For example, if a mouse or USB keyboard is connected to a USB port, clicking the mouse button or pressing the keyboard will wake up the computer.
Heat dispersal *1	To protect against overheating, the processor is equipped with an internal temperature sensor which activates a cooling fan or lowers the processing speed if the computer's internal temperature rises to a certain level. You are able to select whether to control this temperature by either turning on the fan first, then if necessary lowering the processor speed, or by lowering the processor speed first, then if necessary turning on the fan. Both of these functions are controlled through the Power Options. When the processor's temperature falls within normal range, the fan and the processor operation return to their standard speed. If the processor's temperature reaches an unacceptably high level with either setting, the computer automatically shuts down to prevent any damage. In this instance, all unsaved data in memory will be lost.

Chapter 6

Troubleshooting

Dynabook has designed this computer for durability, however, should problems occur, you are able to use the procedures detailed in this chapter to help determine the cause.

You should become familiar with this chapter as knowing what might go wrong can help prevent problems from occurring in the first place.

Problem-solving process

If you observe the following guidelines, resolving problems will be much easier.

- Stop immediately when you recognize a problem exists as taking further action might result in data loss or damage, or you might destroy valuable problem-related information that can help solve the problem.
- Observe what is happening. Write down what the system is doing and what actions you performed immediately before the problem occurred. Make a screenshot of the current display.

Also be aware that the questions and procedures described in this chapter are meant only as a guide, they are not definitive problem-solving techniques. In reality many problems can be solved simply, but a few might require help from Technical Support. If you find you need to consult others, be prepared to describe the problem in as much detail as possible.

Preliminary checklist

You should always consider the simplest solution first. The items detailed in this checklist are easy to fix and yet can cause what appears to be a serious problem:

- Make sure that you turn on all peripheral devices before you turn on the computer - this includes your printer and any other external device you are using.
- Before you attach an external device, you should first turn off the computer, then when you turn the computer back on, it recognizes the new device.
- Make sure that all optional accessories are configured properly in the computer's setup program and that all required driver software has been loaded (refer to the documentation included with the optional accessories for further information on its installation and configuration).

- Check all cables to ensure that they are correctly and firmly attached to the computer - loose cables can cause signal errors.
- Inspect all connecting cables for loose wires and all connectors for loose pins.
- Check that your disc media is correctly loaded.

Always try to make detailed notes of your observations and keep them in a permanent error log - this helps you to describe your problems to Technical Support. In addition, if a problem recurs, the log you have made helps to identify the problem faster.

Analyzing the problem

Sometimes the computer gives you clues that can help you identify why it is malfunctioning. In view of this, keep the following questions in mind:

- Which part of the computer is not operating properly - keyboard, SSD, display panel, Touch Pad, Touch Pad control buttons - as each device produces different symptoms.
- Check the options within the operating system to ensure that its configuration is set properly.
- What appears on the display? Does it display any messages or random characters? Make a screenshot of the current display and, if possible, look up the messages in the documentation included with the computer, software, or operating system.
- Check that all connecting cables are correctly and firmly attached as loose cables can cause erroneous or intermittent signals.
- Do any indicators light, if so, which ones, what color are they and do they stay on or blink? Write down what you see.
- Do you hear any beeps, if so, how many, are they long or short and are they high pitched or low pitched? In addition, is the computer making any unusual noises? Write down what you hear.

Record your observations so you can describe them in detail to Technical Support.

Software	The problems might be caused by your software or disk. If you cannot load a software package, the media might be damaged or the program might be corrupted. In these instances, try loading another copy of the software if possible. If an error message appears while you are using a software package, you should refer to the documentation supplied with it as this usually includes a problem-solving section or a summary of error messages. Next, check any error messages against the operating system documentation.

Hardware	If you cannot find a software problem, you should then check the setup and configuration of your hardware. First run through the items in the preliminary checklist as described previously, then, if you still cannot correct the problem, try to identify the source. The next section provides checklists for individual components and peripherals.

Before using a peripheral device or application software that is not an authorized part or product, make sure that the device or software can be used with your computer. Use of incompatible devices might cause injury or might damage your computer.

If something goes wrong

Your computer does not respond to the keyboard commands

If an error occurs and the computer does not respond to your keyboard commands, do the following:

Press the power button and hold it down for ten seconds. Once the computer has turned itself off, wait 10-15 seconds before turning on the power again by pressing the power button.

Your program stops responding

If you are working with a program that suddenly freezes all operations, chances are the program has stopped responding. You can exit the failed program without shutting down the operating system or closing other programs.

To close a program that has stopped responding:

1. Press **CTRL**, **ALT**, and **DEL** simultaneously (once), then click **Task Manager**. The Windows Task Manager window appears.
2. Select the program you want to close, then click **End Task**. Closing the failed program should allow you to continue working. If it does not, continue with the next step.
3. Close the remaining programs one by one by selecting the program name, then **End Task**. Closing all programs should allow you to continue working. If it does not, power off your computer and then restart it.

The computer does not start

Make sure that you attached the AC adaptor and power cord/cable properly.

If you are using the AC adaptor, check that the wall outlet is working by plugging in another device, such as a lamp.

Verify that the computer is on by looking at the **Power** indicator.

If the indicator is glowing, the computer is on. Also, try turning the computer off and then on.

If you are using an AC adaptor, verify that the computer is receiving power from the external power source by looking at the **DC IN/Battery** indicator. If the indicator is glowing, the computer is connected to a live external power source.

The computer does not load advanced options during startup

By holding down one of the following keys during startup, your computer can load the following advanced options:

Key	Advanced option
F2	dynabook Setup Utility
F12	Boot Menu
0 (zero)	Recovery options

If your computer starts to load the Operating System instead of desired advanced options, do the following:

1. Click **Start ->** ⏻ **(Power)** and then select **Restart**.
2. Hold down the corresponding key and then release this key just after the computer is powered on.
3. Follow the on-screen instructions to proceed.

Hardware and system checklist

This section discusses problems caused by your computer's hardware or attached peripherals. Basic problems might occur in the following areas:

- Power
- Keyboard
- Internal display panel
- Internal storage
- Memory media card
- Pointing device
- USB device
- Sound system
- External monitor
- LAN
- Wireless LAN
- Bluetooth®

Power

When the computer is not plugged into an AC power outlet, the battery pack is the primary power source. Your computer also has Real-Time Clock (RTC) function. All of the power resources are interrelated with anyone having the ability to produce apparent power problems.

Overheating power down

If the processor's temperature reaches an unacceptably high level with either setting, the computer automatically shuts down to prevent any damage. In this instance, all unsaved data in memory is lost.

Problem	Procedure
Computer shuts down automatically	Leave the computer off until it reaches room temperature. If the computer has reached room temperature and it still does not start, or if it starts but shuts down quickly, contact Technical Support.

AC power

If you have trouble turning on the computer with the AC adaptor connected, check the status of the DC IN/Battery indicator. Refer to the *Power Condition Descriptions* section for further information.

Problem	Procedure
AC adaptor does not power the computer	Check the connections to make sure that the power cord/adaptor is firmly connected to the computer and a working power outlet. Check the condition of the cord and terminals. If the cord is frayed or damaged, it should be replaced, while if the terminals are soiled, they should be cleaned with a clean cotton cloth. If the AC adaptor still does not power the computer, you should contact Technical Support.

Battery

If you suspect a problem with the battery, check the status of the **DC IN/ Battery** indicator.

Problem	Procedure
Battery does not power the computer	The battery might be discharged. Connect the AC adaptor to recharge the battery.
Battery does not charge when the AC adaptor is attached	If the battery is completely discharged, it will not begin charging immediately. In these instances, wait a few minutes before trying again. If the battery still does not charge, check that the power outlet of the AC adaptor is connected to its supplying power. This can be tested by plugging another appliance into it.

Problem	Procedure
Battery does not power the computer as long as expected	If you frequently recharge a partially charged battery, the battery might not charge to its full potential. In these instances, you should fully discharge the battery and then attempt to charge it again.

Real-Time Clock

Problem	Procedure
BIOS setting and system date/time are lost	The lasting time of the Real-Time Clock (RTC) has run out. You must set the date and time in the dynabook Setup Utility by using the following steps: 1. Launch the dynabook Setup Utility. Refer to the *dynabook Setup Utility* section for further information. 2. Set the date in the **System Date** field. 3. Set the time in the **System Time** field. 4. Follow the on-screen instructions to proceed.

BIOS

Problem	Procedure
Computer cannot be powered on	Disconnect the AC adaptor for several seconds and then reconnect the AC adaptor. After that, press the power button. If it still does not work, press and hold the power button for about 15 seconds. If it still does not operate properly, you should contact your reseller or dealer.

Keyboard

Keyboard problems can be caused by the setup and configuration of the computer. Refer to the *The Keyboard* section for further information.

Problem	Procedure
Output to screen is garbled	Refer to your software documentation to ensure that it is not remapping the keyboard in any way (remapping involves changing or reassigning the function of each key). If you are still unable to use the keyboard, you should contact Technical Support.

Internal display panel

Apparent problems of the computer's display panel might be related to setup and configuration of the computer.

Problem	Procedure
No display	Press the function keys to adjust the display priority, and to make sure that it is not set for output to an external monitor.
Markings appear on the computer's display panel	These marks might have come from contact with the keyboard and Touch Pad while the display panel has been closed. Try to remove the marks by gently wiping the display panel with a clean dry cloth or, if this fails, with a good quality LCD screen cleaner. In this latter instance, you should always follow the instructions with the screen cleaner and always ensure that you let the display panel dry properly before closing it.

Internal Storage Drive

Problem	Procedure
Computer does not boot from internal storage	Check to see whether there is a disc in the external optical disc drive - if so remove it and try to start the computer again. If this has no effect, check the Boot Priority Options setting under **Boot** within the dynabook Setup Utility.

Problem	Procedure
Slow performance	The files on the internal storage drive might be fragmented. In this instance you should run the disk defragmentation utility to check the condition of your files and the internal storage drive. Refer to the operating system's documentation or online help file for further information on operating and using the defragmentation utility. As a last resort, you should reformat the internal storage drive and then reload the operating system and all other files and data. If you are still unable to resolve the problem, contact Technical Support.

Memory Media Card

For further information, refer to *Operating Basics*.

Problem	Procedure
Memory media card error occurs	Remove the memory media card from the computer and then reinsert it to ensure that it is firmly connected. If the problem persists, then you should refer to the documentation supplied with your memory media card for further information.
You cannot read a file	Check to ensure that the required file is actually on the memory media card that is inserted into the computer. If you are still unable to resolve the problem, contact Technical Support.

Pointing device

If you are using a USB mouse, you should also refer to both the *USB mouse* section and the documentation supplied with your mouse.

Touch Pad

Problem	Procedure
Touch Pad does not work	Check the device settings. Click **Start -> Settings -> Bluetooth & devices -> Touchpad**.

Problem	Procedure
Mouse pointer does not respond to pointing device operation	In this instance, the system might be busy. Try moving the mouse again after waiting a short while.
Double-tapping (Touch Pad) does not work	In this instance, you should initially try changing the double-click speed setting within the Mouse Control utility. 1. To access this utility, click **Start -> Settings -> Bluetooth & devices -> Touchpad -> More touchpad settings**. 2. Within the Mouse Properties window, click the **Buttons** tab. 3. Set the double-click speed as required and click **OK**.
Mouse pointer moves too fast or too slow	In this instance, you should initially try changing the cursor speed within the Touch Pad settings. To access it, click **Start -> Settings -> Bluetooth & devices -> Touchpad**.
Reaction of Touch Pad is either too sensitive or not sensitive enough	Adjust the touch sensitivity. To access it, click **Start -> Settings -> Bluetooth & devices -> Touchpad**. If you are still unable to resolve the problem, contact Technical Support.

USB mouse

Problem	Procedure
Mouse pointer does not respond to mouse operation	In this instance, the system might be busy. Try moving the mouse again after waiting a short while.
	Remove the mouse from the computer and then reconnect it to a free USB port in order to ensure that it is firmly attached.

Problem	Procedure
Double-clicking does not work	In this instance, you should initially try changing the double-click speed setting within the Mouse Control utility. 1. To access this utility, click **Start -> Settings -> Bluetooth & devices -> Touchpad -> More touchpad settings**. 2. Within the Mouse Properties window, click the **Buttons** tab. 3. Set the double-click speed as required and click **OK**.
Mouse pointer moves too fast or too slow	In this instance, you should initially try changing the speed setting within the Mouse Control utility. 1. To access this utility, click **Start -> Settings -> Bluetooth & devices -> Touchpad -> More touchpad settings**. 2. Within the Mouse Properties window, click the **Pointer Options** tab. 3. Set the mouse pointer speed as required and click **OK**.
Mouse pointer moves erratically	The elements of the mouse responsible for detecting movement might be dirty. Refer to the documentation supplied with the mouse for instructions on how to clean it. If you are still unable to resolve the problem, contact Technical Support.

USB device

In addition to the information in this section, also refer to the documentation supplied with your USB device.

Problem	Procedure
USB device does not work	Remove the USB device from the computer and then reconnect it to a free port in order to ensure that it is firmly attached. Ensure that any required USB device drivers are properly installed. To achieve this, you should refer to both the device documentation and the operating system documentation.

Sound system

In addition to the information in this section, also refer to the documentation supplied with your audio device.

Problem	Procedure
No sound is heard	Press the function keys to increase or decrease volume. Check the software volume settings. Check to see if Mute is turned to Off. Check to make sure that the headphone connection is secure. Check within the Windows Device Manager application to ensure that the sound device is enabled and that the device is properly working.
Annoying sound is heard	In this instance, you might be experiencing feedback from either the internal microphone or an external microphone connected to the computer. Refer to *Sound System and Video mode* for further information. Volume cannot be adjusted during Windows start up or shut down. If you are still unable to resolve the problem, contact Technical Support.

External monitor

Also refer to *Operating Basics*, and to the documentation supplied with your monitor for further information.

Problem	Procedure
Monitor does not turn on	After confirming that the monitor's power switch is on, check the connections to make sure that the power cord/adaptor is firmly connected to the monitor and to a working power outlet.

Problem	Procedure
No display	Try adjusting the contrast and brightness controls on the external monitor. Press the function key in order to change the display priority and ensure that it is not set for the internal display only. Check to see if the external monitor is connected. When the external monitor is set as the primary display device in extended desktop mode, it does not display when the computer wakes up from Sleep Mode if the external monitor has been disconnected while in Sleep Mode. To keep this from happening, do not disconnect the external monitor while the computer is in Sleep or Hibernation Mode. Remember to turn off the computer before disconnecting the external monitor. When the display panel and an external monitor are set to Clone Mode and they are turned off by the timer, the display panel or the external monitor might not display when turned on again. If this occurs, press the function key to reset the display panel and external monitor to Clone Mode. When booting up the computer, screen of BIOS setting etc. might not be indicated correctly if the power saving function of the external monitor is enabled. In this case, turn the power of the external monitor OFF and ON once (to disable power saving function) and then restart your computer.
Display error occurs	Check that the cable connecting the external monitor to the computer is firmly attached. If you are still unable to resolve the problem, contact Technical Support.

LAN

Problem	Procedure
Cannot access LAN	Check for a firm cable connection between the LAN jack and the LAN hub.

Problem	Procedure
Wake-up on LAN does not work	Make sure the AC adaptor is connected. The Wake-up on LAN function consumes power even when the system is off. If problems persist, consult your LAN administrator.

Wireless LAN

Problem	Procedure
Cannot access Wireless LAN	Make sure that the wireless communication function of the computer is on. If problems persist, contact your LAN administrator.

Bluetooth®

Problem	Procedure
Cannot access Bluetooth® device	Check to ensure that the wireless communication function of the computer is on. Check to ensure that power to the external Bluetooth® device is turned on. Check to ensure that no optional Bluetooth® Adaptor is installed in the computer. The built-in Bluetooth® hardware cannot operate simultaneously with another Bluetooth® controller. If you are still unable to resolve the problem, contact Technical Support.

Technical support

If you require any additional help using your computer or if you are having problems operating the computer, you might need to contact us for additional technical assistance.

Before you call

Some problems you experience might be related to software or the operating system, so it is important that you investigate other sources of assistance first. Before contacting, try the following:

- Review troubleshooting sections in the documentation supplied with your software and/or peripheral devices.

- If a problem occurs when you are running software applications, consult the software documentation for troubleshooting suggestions and consider calling the software company's technical support department for assistance.
- Consult the reseller or dealer from where you purchased your computer and/or software - they are your best resource for current information and support.

Technical support

If you are still unable to solve the problem and suspect that it is hardware related, refer to the information listed in the accompanying warranty booklet.

Chapter 7

Appendix

Specifications

This section summarizes the technical specifications of the computer.

Physical Dimensions

The physical dimensions vary depending on the model you purchased.

Size	■ Approximately 305.9 (w) x 201.7 (d) x 15.95 (h) millimeters (13.3" LCD screen) ■ Approximately 323.9 (w) x 211.8 (d) x 18.75 (h) millimeters (14.0" LCD screen) ■ Approximately 358.9 (w) x 230.5 (d) x 18.95 (h) millimeters (15.6" LCD screen) (not including parts that extend beyond the main body)

Environmental Requirements

Conditions	Ambient temperature	Relative humidity
Operating	5°C (41°F) to 35°C (95°F)	20% to 80% (noncondensing)
Non-operating	-20°C (-4°F) to 60°C (140°F)	10% to 90% (noncondensing)
Wet-bulb temperature	29°C maximum	

Conditions	Altitude (from sea level)
Operating	-60 to 3,000 meters
Non-operating	-60 to 10,000 meters maximum

Power Requirements

AC adaptor	100-240V AC 50 Hz or 60 Hz (cycles per second)

Computer	5-20V DC

AC Power Cord and Connectors

The AC input plug of the power cord must be compatible with the various international AC power outlets and the cord must meet the standards for the country/region in which it is used. All cords must meet the following specifications:

Wire size:	Minimum 0.75 mm^2
Current rating:	Minimum 2.5 amperes

Certification agencies

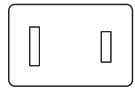
China:	CQC		
U.S. and Canada:	UL listed and CSA certified No. 18 AWG, Type SVT or SPT-2		
Australia:	AS		
Japan:	DENANHO		
Europe:			
Austria:	OVE	**Italy:**	IMQ
Belgium:	CEBEC	**The Netherlands:**	KEMA
Denmark:	DEMKO	**Norway:**	NEMKO
Finland:	FIMKO	**Sweden:**	SEMKO
France:	LCIE	**Switzerland:**	SEV
Germany:	VDE	**United Kingdom:**	BSI

In Europe, two conductors power cord must be VDE type, H05VVH2-F or H03VVH2-F and for three conductors power cord must be VDE type, H05VV-F.

For the United States and Canada, two-pin plug configuration must be 2-15P (250 V) or 1-15P (125 V) and three-pin plug configuration must be 6-15P (250 V) or 5-15P (125 V) as designated in the U.S. National Electrical Code Handbook and the Canadian Electrical Code Part II.

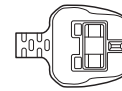
The following illustrations show the plug shapes for the U.S.A. and Canada, the United Kingdom, Australia, Europe, Middle-East, Africa, South Africa, Switzerland, Italy and China.

USA



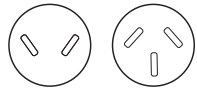
UL approved

United Kingdom, South Africa, Middle-East



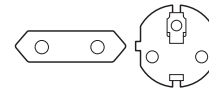
BS approved

Australia



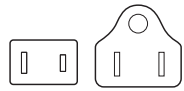
AS approved

Europe, Africa, South Africa, Middle-East



Approved by the appropriate agency

Canada



CSA approved

China

CCC approved

State of Israel

SII approved

Africa

Approved by the appropriate agency

Switzerland

Approved by the appropriate agency

Italy

Approved by the appropriate agency

Information for Wireless Devices

Wireless Technology Interoperability

The Wireless LAN is compatible with other LAN systems with Direct Sequence Spread Spectrum (DSSS) /Orthogonal Frequency Division Multiplexing (OFDM) radio technology, and is compliant to:

- The IEEE 802.11 Standard on Wireless LANs (Revision a/b/g/n/ac/ax), as defined and approved by the Institute of Electrical and Electronics Engineers.

Bluetooth® Modules are designed to be interoperable with any product with Bluetooth® wireless technology that is based on Frequency Hopping Spread Spectrum (FHSS) radio technology, and is compliant to:

- Bluetooth® Specification (depending on the model you purchased), as defined and approved by the Bluetooth® Special Interest Group.
- Logo certification with Bluetooth® wireless technology as defined by the Bluetooth® Special Interest Group.

This Bluetooth® product is not compatible with devices using Bluetooth® Version 1.0B specifications.

The wireless devices have not completed verification of connection and operation with all devices which are using the Wireless LAN or Bluetooth® radio technology.

Bluetooth® and Wireless LAN devices operate within the same radio frequency range and might interfere with one another. If you use Bluetooth® and Wireless LAN devices simultaneously, you might occasionally experience a less than optimal network performance or even lose your network connection.

If you experience any such problem, immediately turn off either one of your Bluetooth® or Wireless LAN.

Wireless devices and your health

Wireless products, like other radio devices, emit radio frequency electromagnetic energy. The level of energy emitted by wireless products however is far much less than the electromagnetic energy emitted by wireless devices like for example mobile phones.

Because wireless products operate within the guidelines found in radio frequency safety standards and recommendations, Dynabook believes wireless products are safe for use by consumers. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature.

In some situations or environments, the use of wireless products might be restricted by the proprietor of the building or responsible representatives of the organization. These situations might for example include:

- Using the wireless products equipment on board of airplanes, or
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies to the use of wireless devices in a specific organization or environment (for example, airports), you are

encouraged to ask for authorization to use the wireless device prior to turning on the equipment.

Wireless LAN Technology

The wireless communication function of the computer supports some wireless communication devices.

Only some models are equipped with both Wireless LAN and Bluetooth® functions.

- *Do not use the Wireless LAN (Wi-Fi®) or Bluetooth® functionalities near a microwave oven or in areas subject to radio interference or magnetic fields. Interference from a microwave oven or other source can disrupt Wi-Fi® or Bluetooth® operation.*
- *Turn off all wireless functionalities when near a person who might have a cardiac pacemaker implant or other medical electric device. Radio waves might affect pacemaker or medical device operation, possibly resulting in serious injury. Follow the instruction for your medical device when using any wireless functionality.*
- *Always turn off wireless functionality if the computer is near automatic control equipment or appliances such as automatic doors or fire detectors. Radio waves can cause malfunction of such equipment, possibly resulting in serious injury.*
- *It might not be possible to make a network connection to a specified network name using the ad hoc network function. If this occurs, the new network (*) has to be configured for all computers connected to the same network in order to re-enable network connections.*
  ** Make sure to use new network name.*

Security

- Dynabook strongly recommends that you enable encryption functionality, otherwise your computer is open to illegal access by an outsider using a wireless connection. If this occurs, the outsider might illegally access your system, eavesdrop, or cause the loss or destruction of stored data.
- Dynabook is not liable for the loss of data due to eavesdropping or illegal access through the wireless LAN and the damage thereof.

Card Specifications

Compatibility	■ IEEE 802.11 Standard for Wireless LANs
Network Operating System	■ Microsoft Windows Networking
Media Access Protocol	■ CSMA/CA (Collision Avoidance) with Acknowledgment (ACK)

Radio Characteristics

Radio Characteristics of Wireless LAN module might vary according to:

- Country/region where the product was purchased
- Type of product

Wireless communication is often subject to local radio regulations. Although Wireless LAN networking products have been designed for operation in the license-free 2.4 GHz and 5 GHz band, local radio regulations might impose a number of limitations to the use of wireless communication equipment.

Radio Frequency	■ Band 5 GHz (5150-5850 MHz) (Revision a, n, ac and ax) ■ Band 2.4 GHz (2400-2483.5 MHz) (Revision b/g, n and ax)

The range of the wireless signal is related to the transmit rate of the wireless communication. Communications at lower transmit range might travel larger distances.

- The range of your wireless devices can be affected when the antennas are placed near metal surfaces and solid high-density materials.
- Range is also impacted due to "obstacles" in the signal path of the radio that might either absorb or reflect the radio signal.

Radio Frequency Interference Requirements

This device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range.

High-power radars are allocated as primary users (i.e. priority users) of the bands 5.25 to 5.35 GHz and 5.65 to 5.85 GHz and these radars could cause interference and/or damage to LE-LAN devices.

Bluetooth® wireless technology

Some computers in this series have Bluetooth® wireless communication function which eliminates the need for cables between electronic devices such as computers, printers, and mobile phones. When it is enabled, Bluetooth® provides a safe and trustworthy wireless personal area network environment that is quick and easy.

You cannot use the built-in Bluetooth® functions of the computer and an external Bluetooth® adaptor simultaneously. For reference, Bluetooth® wireless technology has the following features:

Security

Two advanced security mechanisms ensure a high level of security:

- Authentication prevents access to critical data and makes it impossible to falsify the origin of a message.
- Encryption prevents eavesdropping and maintains link privacy.

Worldwide operation

The Bluetooth® radio transmitter and receiver operate in the 2.4 GHz band, which is license-free and compatible with radio systems in most countries in the world.

Radio links

You can easily establish links between two or more devices, with these links being maintained even if the devices are not within a line-of-sight of each other.

Radio Regulatory Information

The Wireless device must be installed and used in strict accordance with the manufacturer’s instructions as described in the user documentation that comes with the product. This product complies with the following radio frequency and safety standards.

The wireless modules listed here are applicable for your products at the time of this manual's production. However, succeeding products are subject to change without notice.

Europe

Restrictions for Use of 2400.0 - 2483.5 MHz Frequencies in Europe

Azerbaijan:	Limited implementation	No license needed if used indoor and power not exceeding 30 mW (14.77 dBm).
Italy:	Implemented	The public use is subject to general authorisation by the respective service provider.

Russian Federation:	Limited implementation	Using SRD (Short Range Device) with FHSS (Frequency-Hopping Spread Spectrum) modulation. 1. Maximum 2.5 mW (4 dBm) EIRP (Equivalent Isotropically Radiated Power) is permitted to use. 2. Maximum 100 mW (20 dBm) EIRP is permitted to use with the following conditions: Permitted to use SRD for outdoor applications without restriction on installation height only for purposes of gathering telemetry information for automated monitoring and resources accounting systems. Permitted to use SRD for other purposes for outdoor applications only when the installation height is not exceeding 10 m above the ground surface. 3. Maximum 100 mW (20 dBm) EIRP. Indoor applications are permitted to use.

		Using SRD with DSSS (Direct Sequence Spread Spectrum) and other than FHSS wideband modulation. 1. Maximum EIRP density is 2 mW/MHz. Maximum 100 mW (20 dBm) EIRP is permitted to use. 2. Maximum EIRP density is 20 mW/MHz. Maximum 100 mW (20 dBm) EIRP is permitted to use with the following condition: It is permitted to use SRD for outdoor applications only for purposes of gathering telemetry information for automated monitoring and resources accounting systems or security systems. 3. Maximum EIRP density is 10 mW/MHz. Maximum 100 mW (20 dBm) EIRP. Indoor applications are permitted to use.
Ukraine:	Limited implementation	EIRP =100 mW (20 dBm) with built-in antenna’s maximum gain is 6 dBi.

Restrictions for Use of 5150 - 5350 MHz Frequencies in Europe

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain and Northern Ireland, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden	Limited implementation	This product is for indoor use only.

Restrictions for Use of 5725 - 5875 MHz Frequencies in Europe

Russian Federation:	Limited implementation	When duty cycle is 0.1% or using LBT (Listen Before Talk) technology. Antenna height should not exceed 5 m, with maximum EIRP 25 mW (13.98 dBm) is permitted to use.

Software Version and Maximum Power Output of the Wireless Module

Europe: model AX201NGW

Software Version	Intel® PROSet/Wireless WiFi Software 22.x and following versions
Maximum Power Output	
(2400 - 2483.5 MHz) IEEE802.11 b/g/n/ax mode / Bluetooth	Maximum 50.1 mW (17.0 dBm) EIRP
(2400 - 2483.5 MHz) BLE	Maximum 17.8 mW (12.5 dBm) EIRP
(5150 - 5725 MHz) IEEE802.11 a/n/ac/ax mode	Maximum 22.4 mW (13.5 dBm) EIRP

Europe: model AW-XB547NF

Software Version	6001.0.15.11x and following versions
Maximum Power Output	
(2400 - 2483.5 MHz) IEEE802.11 b/g/n/ax mode / Bluetooth	Maximum 50.1 mW (17.0 dBm) EIRP
(2400 - 2483.5 MHz) BLE	Maximum 17.8 mW (12.5 dBm) EIRP
(5150 - 5725 MHz) IEEE802.11 a/n/ac/ax mode	Maximum 22.4 mW (13.5 dBm) EIRP
(5745 - 5875 MHz) IEEE802.11 a/n/ac/ax mode	Maximum 22.4 mW (13.5 dBm) EIRP

Europe: model AW-CB304NF

Software Version	2024.0.10.13x and following versions
Maximum Power Output	
(2400 - 2483.5 MHz) IEEE802.11 b/g/n mode / Bluetooth	Maximum 50.1 mW (17.0 dBm) EIRP
(2400 - 2483.5 MHz) BLE	Maximum 17.8 mW (12.5 dBm) EIRP
(5150 - 5725 MHz) IEEE802.11 a/n/ac mode	Maximum 22.4 mW (13.5 dBm) EIRP
(5745 - 5875 MHz) IEEE802.11 a/n/ac mode	Maximum 22.4 mW (13.5 dBm) EIRP

To remain in conformance with European spectrum usage laws for Wireless LAN operation, the above 2.4 GHz and 5 GHz channel limitations apply for outdoor usage. The user should use the wireless LAN utility to check the current channel of operation. If operation is occurring outside of the allowable frequencies for outdoor use, as listed above, the user must contact the applicable national spectrum regulator to request a license for outdoor operation.

Canada - Innovation, Science and Economic Development Canada (ISED)

This device complies with RSS-247 of the ISED 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.

Ce dispositif est conforme à la norme CNR-247 d'Innovation, Sciences et Développement économique Canada (ISDE) applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Les dispositifs fonctionnant dans la bande 5.15-5.25 GHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5.25-5.35 GHz et 5.65-5.85 GHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

The term “IC” before the equipment certification number only signifies that the ISED technical specifications were met.

USA - Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Refer to the FCC information section for the detailed information.

Caution: Exposure to Radio Frequency Radiation

The radiated output power of the Wireless device is far below the FCC radio frequency exposure limits. Nevertheless, the Wireless device shall be used in such a manner that the potential for human contact during normal operation is minimized.

In the usual operating configuration, the distance between the antenna and the user should not be less than 20 cm. Please refer to the computer user's manual for the details regarding antenna location.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca

Caution: Radio Frequency Interference Requirements

This device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range.

High-power radars are allocated as primary users (i.e. priority users) of the bands 5.25 to 5.35 GHz and 5.65 to 5.85 GHz and these radars could cause interference and/or damage to LE-LAN devices.

Australia and New Zealand regulatory compliance

This equipment incorporates a radio transmitting device. When used in the Clamshell mode, a separation distance of 20cm from the antennas will ensure the radio frequency exposure level complies with the Australian and New Zealand Standards.

Using this equipment in Japan

In Japan, the frequency bandwidth of 2,400 MHz to 2,483.5 MHz for second generation low-power data communication systems such as this equipment overlaps that of mobile object identification systems (premises radio station and specified low-power radio station).

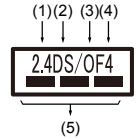
1. Important notice

The frequency bandwidth of this equipment may operate within the same range as industrial devices, scientific devices, medical devices, microwave ovens, licensed radio stations and non-licensed specified low-power radio stations for mobile object identification systems (RFID) used in factory production lines (Other Radio Stations).

1. Before using this equipment, ensure that it does not interfere with any of the equipment listed above.
2. If this equipment causes RF interference to other radio stations, promptly change the frequency being used, change the location of use, or turn off the source of emissions.
3. Contact an authorized service provider if you have problems with interference caused by this product to Other Radio Stations.

2. Indication for Wireless LAN

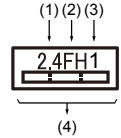
The indication shown below appears on this equipment.



1. 2.4 : This equipment uses a frequency of 2.4 GHz.
2. DS : This equipment uses DS-SS modulation.
3. OF : This equipment uses OFDM modulation.
4. 4 : The interference range of this equipment is less than 40 m.
5. ▬▬▬ : This equipment uses a frequency bandwidth from 2,400 MHz to 2,483.5 MHz. It is possible to avoid the band of mobile object identification systems.

3. Indication for Bluetooth®

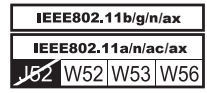
The indication shown below appears on this equipment.



1. 2.4 : This equipment uses a frequency of 2.4 GHz.
2. FH : This equipment uses FH-SS modulation.
3. 1 : The interference range of this equipment is less than 10 m.
4. ▭▭▭ : This equipment uses a frequency bandwidth from 2,400 MHz to 2,483.5 MHz. It is impossible to avoid the band of mobile object identification systems.

4. About the JEITA

5 GHz Wireless LAN supports W52/W53/W56 Channel.



Device Authorization

This device obtains the Technical Regulation Conformity Certification and it belongs to the device class of radio equipment of low-power data communication system radio station stipulated in the Telecommunications Business Law of Japan.

- Intel® Wi-Fi® 6 AX201

  The Name of the radio equipment: AX201NGW

  DSP Research, Inc.

  Approval Number: D180131003
- Azure Wave Wi-Fi AW-XB547NF

  The Name of the radio equipment: AW-XB547NF

  DSP Research, Inc.

  Approval Number: D210109201
- Azure Wave Wi-Fi 5 AW-CB304NF

  The Name of the radio equipment: AW-CB304NF

  DSP Research, Inc.

  Approval Number: D160283201

The following restrictions apply:

- Do not disassemble or modify the device.
- Do not install the embedded wireless module into other device.

Accessibility

Accessibility options provided by Windows 11 operating system are accessible through Accessibility features of Windows settings. It allows you to customize your Dynabook notebook the way you want to use it. To see the available features in one of the following ways:

- Go to **Start** and select Settings .
- Using a keyboard, press the **(Windows key) + I**, scroll up to the word **Settings**, then press Enter.

Then select **Accessibility** from the **Settings** screen.

Accessibility for Dynabook notebook

Accessibility options provides those with learning, vision, hearing, mobility and other impairments with the following features categories.

Vision

- **Text size:** To change the size that appear in Windows and in applications.
- **Visual effects:** Animations, transparency and automatically hide scroll bars in Windows can be enabled or disabled. **Notifications for** can be adjusted for 5 seconds, 7 seconds, 15 seconds, 30 seconds, 1 minute and 5 minutes.
- **Mouse pointer and touch:** Makes pointer, cursor and touch feedback easier to see. Change pointer size and colour, cursor thickness, touch feedback and make visual feedback for touch points darker and larger.

- **Text cursor:** Makes the text cursor easier to see by changing the colour, size, and thickness.
- **Magnifier:** Makes part or all of your screen bigger allowing words and images easier to see. For more information, refer to Use Magnifier to make things on the screen easier to see.
- **Colour Filters:** Makes photos and colours easier to see by applying a colour filter to your screen. Toggle **Turn on colour filters** to enable or disable this feature. Then, select a colour filter from the menu and see which one best suits you.
- **Contrast Themes:** This can be used to change to different contrast themes. Choose a theme from the drop-down menu to customize colour for links and button text. To turn high contrast mode on or off from the sign-in screen, select the **Accessibility** button, then turn on the toggle under High Contrast. From the keyboard press **Left Alt + Left Shift + Print Screen**.
- **Narrator:** Screen-reading app built into Windows 11. For more information, refer to How to use Narrator.

Click here for more information about making your device easier to see or use without a screen.

Hearing

- **Audio:** For those with hearing difficulties, this option makes it easier to hear with features like **Hear all sounds in one channel**, and **Display audio alerts visually**.
- **Captions:** Lets you read the word spoken in the audio portion of a video, TV show or movie that supports Closed Caption technology. You can select the settings you want and see how they appear in preview.

Click here for more information about making your device easier to hear or use with these visual alternatives to sound.

Interaction

- **Speech:** Talk instead of type. Press the **(Windows key) + H** to start dictation or select the microphone button on the touch keyboard. Cortana, the Windows 11 built-in digital assistant, can help with setting reminders, opening apps, finding facts, and sending emails and text messages.

  Cortana is only available in certain countries and some Cortana features might not be available everywhere.
- **Keyboard:** Among many other features, this option allows those with limited typing ability to type by pointing and clicking.
- **Mouse:** Allows you to change the size and color of the mouse pointer making it easier to view. Other mouse properties settings are customizable through the **Additional mouse options**.

- **Eye control:** Allows you to setup an eye tracking device. Refer to Compatible Eye tracking device for more information.

For more information about Accessibility and other features with Windows 11 operating system, Click here.

Others

- **Hardware:** All ports used for input or output device connections are industry standards and can be used to connect to any industry standard compatible third party devices.
- **Power On/Off:** User can choose to have their notebook go to sleep mode to avoid having to manually power off or click on **Start** and then select ⏻ **(Power) > Shutdown** when closing the lid. Click here for more information on this feature. The notebook can be configured to resume when the lid is open without having to push the power on button. This can be specified in the Power Options. Right click on the battery icon in task bar and select **Power Options** to configure.
- **Sign-in options:** Windows offers a number of sign-in options including biometric and non-biometric, refer to *Sign-in options* in Chapter 2 of the user's manual.
- **Touch Pad:** The Touch Pad on the palm rest supports several features, refer to *Using the Touch Pad* section for more information.
- **Keyboard:** The number of keys available on your keyboard depends on which region your computer is configured for, with keyboards being available for numerous languages. There are different types of keys, functions keys, Windows special key, and the keypad overlay. Refer to *The Keyboard* section for more information.
- **Fingerprint Sensor:** Some notebook configurations have fingerprint sensor for enrolling and recognizing fingerprints. Refer to *Using the Fingerprint Sensor* section for more information.
- **Battery:** When the AC adaptor is not connected, the main power source of the computer is the main battery. Refer to the *Battery* section for information about charging and caring of the battery pack.
- **Memory Media:** The computer is equipped with a memory media slot that can accommodate some kinds of memory media with various memory capacities so that you can transfer data between devices. Refer to *Memory media* section for more information.
- **HDMI™ out port:** HDMI out port digitally transfers both video and audio data and can be connected to HDMI™compatible external display. Refer to *The HDMI™ out port* section for more information.
- **LAN:** Your computer may have built-in Ethernet LAN (10BASE-T, 100BASE-TX or Gigabit Ethernet LAN 1000BASE-T). Refer to *LAN* section for more information on how to connect/disconnect to a LAN.
- **Wireless Display:** Your computer might support wireless display, a wireless technology which utilizes Wi-Fi to allow the computer to be wirelessly connected to external displays including TVs as extended screens. Refer to *Wireless display* section for more information.

- **Security Lock:** This feature enables you to anchor your computer to a desk or other object in order to prevent unauthorized removal or theft. Refer to *Security lock* section for more information.
- **Sound System and Video mode:** This section describes some of the audio controls functions such as volume mixer, Microphone level, Realtek Audio Console and video modes. Refer to *Sound Systems and Video mode* section for more information.
- **Utilities and Advanced Usage:** Your computer comes with pre-installed utilities such as dynabook Support Utility, dynabook Setup Utility (including System Password, etc), and dynabook Maintenance Utility. Refer to *Utilities and Advanced Usage* section for more information. You might have all the software listed depending on the model you purchased.
- **Special features:** Your computer may come pre-installed with several special features such as Display automatic power off, Internal storage drive automatic power off, System automatic Sleep/Hibernation Mode, Power on password, Intelligent power supply, Battery save mode, Panel power on/off, Low battery automatic Hibernation Mode, Sleep Mode, Hibernation Mode, USB Wake-up function, and Heat dispersal. Refer to *Special features* section for more information.
- **Troubleshooting:** Dynabook has designed this computer for durability, however, should problems occur, you are able to use the procedures detailed in the *Troubleshooting* section to help determine the cause. You should familiarize yourself with this section as knowing what might go wrong can help prevent problems from occurring in the first place.
- **Support:** Please visit our support website support.dynabook.com if you need further assistance.

Legal Footnotes

Non-applicable Icons

Certain computer chassis are designed to accommodate all possible configurations for an entire product series. Therefore, be aware that your selected model might not have all the features and specifications corresponding to all of the icons or switches shown on the computer chassis.

CPU

CPU performance in your computer product might vary from specifications under the following conditions:

- use of certain external peripheral products
- use of battery power instead of AC power
- use of certain multimedia, computer generated graphics or video applications
- use of standard telephone lines or low speed network connections

- use of complex modeling software, such as high end computer aided design applications
- use of several applications or functionalities simultaneously
- use of computer in areas with low air pressure (high altitude >1,000 meters or >3,280 feet above sea level)
- use of computer at temperatures outside the range of 5°C to 30°C (41 -86°F) or >25°C (77°F) at high altitude (all temperature references are approximate and might vary depending on the specific computer model - contact Technical Support for details).

CPU performance might also vary from specifications due to design configuration.

Under some conditions, your computer product might automatically shut down. This is a normal protective feature designed to reduce the risk of lost data or damage to the product when used outside recommended conditions. To avoid risk of lost data, always make back-up copies of data by periodically storing it on an external storage medium. For optimum performance, use your computer product only under recommended conditions. Read additional restrictions in your product documentation. Contact technical service and support, refer to *Technical support* section for more information.

64-Bit Computing

Certain 32-bit device drivers and/or applications might not be compatible with a 64-bit CPU operating system and therefore might not function properly.

Memory (Main System)

Part of the main system memory might be used by the graphics system for graphics performance and therefore reduce the amount of main system memory available for other computing activities. The amount of main system memory allocated to support graphics might vary depending on the graphics system, applications utilized, system memory size, and other factors.

Battery Life

Battery life might vary considerably depending on product model, configuration, applications, power management settings, and features utilized, as well as the natural performance variations produced by the design of individual components. Published battery life numbers are achieved on select models and configurations tested by Dynabook at the time of publication. Recharge time varies depending on usage. Battery might not charge while computer is consuming full power.

After going through many charge and discharge cycles, the battery loses its ability to perform at maximum capacity and needs to be replaced. This is a

normal phenomenon for all batteries. To purchase a new battery pack, see the accessories information that is shipped with your computer.

Internal Storage Drive Capacity

1 Gigabyte (GB) means 10^9 = 1,000,000,000 bytes using powers of 10. The computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = 2^{30} = 1,073,741,824 bytes, and therefore shows less storage capacity. Available storage capacity will also be less if the product includes one or more pre-installed operating systems, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity might vary.

LCD

Over a period of time, and depending on the usage of the computer, the brightness of the LCD screen will deteriorate. This is an intrinsic characteristic of LCD technology.

Maximum brightness is only available when operating in AC power mode. Screen dims when the computer is operated on battery power and you might not be able to increase the brightness of the screen.

Graphics Processing Unit (GPU)

Graphics processing unit (GPU) performance might vary depending on product model, design configuration, applications, power management settings and features utilized. GPU performance is only optimized when operating in AC power mode and might decrease considerably when operating in battery power mode.

Total Available Graphics Memory is the total of, as applicable, Dedicated Video Memory, System Video Memory and Shared System Memory. Shared System Memory varies depending on system memory size and other factors.

Wireless LAN

The transmission speed over the wireless LAN and the distance over which wireless LAN can reach might vary depending on surrounding electromagnetic environment, obstacles, access point design and configuration, and client design and software/hardware configurations.

The actual transmission speed is lower than the theoretical maximum speed.

Copy Protection

Applicable copy protection standards included in certain media may prevent or limit recording or viewing of the media.

Glossary

The terms in this glossary cover topics related to this manual. Alternate naming is included for reference.

Abbreviations

AC:	Alternating Current
AMT:	Intel® Active Management Technology
ASCII:	American Standard Code for Information Interchange
BIOS:	Basic Input/output System
BD-ROM:	Blu-ray Disc™ Read-only Memory
bps:	bits per second
CD:	Compact Disc
CD-ROM:	Compact Disc Read-only Memory
CD-RW:	Compact Disc-rewritable
CMOS:	Complementary Metal-oxide Semiconductor
CPU:	Central Processing Unit
DC:	Direct Current
DDR:	Double Data Rate
DIMM:	Dual Inline Memory Module
DVD:	Digital Versatile Disc
DVD-R:	Digital Versatile Disc-recordable
DVD-RAM:	Digital Versatile Disc-random Access Memory
DVD-R DL:	Digital Versatile Disc Recordable Dual Layer
DVD-ROM:	Digital Versatile Disc-read Only Memory
DVD-RW:	Digital Versatile Disc-rewritable
DVD+R DL:	Digital Versatile Disc Recordable Double Layer
FAT:	File Allocation Table
FCC:	Federal Communications Commission
FHD:	Full High Definition
GB:	gigabyte
GBps:	gigabytes per second
HD:	High Definition
HD+:	High Definition Plus
HDD:	Hard Disk Drive
HDMI™:	High-definition Multimedia Interface™

HDMI™ CEC:	High-definition Multimedia Interface™ Consumer Electronics Control
HTML:	Hypertext Markup Language
IEEE:	Institute of Electrical and Electronics Engineers
I/O:	Input/Output
IRQ:	interrupt request
ISP:	Internet Service Provider
KB:	kilobyte
LAN:	Local Area Network
LCD:	Liquid Crystal Display
LED:	Light Emitting Diode
MB:	megabyte
MBps:	megabytes per second
MMC:	MultiMediaCard
OCR:	Optical Character Recognition (Reader)
PC:	Personal Computer
PCI:	Peripheral Component Interconnect
PCMCIA:	Personal Computer Memory Card International Association
RAM:	Random Access Memory
RGB:	Red, Green, and Blue
RFI:	Radio Frequency Interference
ROM:	Read-Only Memory
RTC:	Real-Time Clock
S/P DIF:	Sony/philips Digital Interface Format
SD:	Secure Digital
SDHC:	Secure Digital High Capacity
SDXC:	Secure Digital Extended Capacity
SDRAM:	Synchronous Dynamic Random Access Memory
SSD	Solid-State Drive
TFT:	Thin-film Transistor
URL:	Uniform Resource Locator
USB:	Universal Serial Bus
WAN:	Wide Area Network
WQHD:	Wide Quad High Definition

www:	World Wide Web

Index

A

AC adaptor
- additional 4-17
- connecting 2-2
- DC IN 19V jack 3-2

B

Battery
- extending life 4-9
- monitoring capacity 4-8
- real time clock 4-7
- save mode 5-4

Bluetooth® 7-6

C

Cleaning the computer 1-18

Cooling vents 3-5

D

DC IN/Battery indicator 3-11

Display
- automatic power off 5-4
- screen 3-8

Documentation list 2-1

Dual Pointing Device
- Touch Pad 6-8

E

Equipment checklist 2-1

External monitor
- problems 6-11

G

Graphics Processing Unit 3-10

H

Hard disk drive
- automatic power off 5-4

K

Keyboard
- function keys 4-3
- function keys F1...F12 4-3
- problems 6-6
- Windows special keys 4-4

L

LAN
- cable types 4-14
- connecting 4-14

LAN jack 4-14

M

Media care
- card care 4-11
- memory card care 4-11

Memory media card
- inserting 4-11
- removing 4-12

Memory media slot 4-9

microSD/SDHC/SDXC card
note 4-10

Moving the computer 1-19

P

Password
power on 5-4

Power
Hibernation Mode 2-11
panel on/off 5-5
Shut Down mode 2-9
Sleep Mode 2-10
turning off 2-9
turning on 2-6

Problems
AC power 6-5
Analyzing the problem 6-2
Battery 6-5
Dual Pointing device 6-8
External monitor 6-11
Hardware and system
checklist 6-4
HDD 6-7, 6-8
Internal display panel 6-7
Keyboard 6-6
Memory Media Card 6-8
Overheating power
down 6-5
Power 6-4
Real Time Clock 6-6
Sound system 6-11
Technical support 6-13
Touch Pad 6-8
USB device 6-10
USB mouse 6-9

R

Recovery hard disk drive 2-15

Recovery Media 2-14

S

SD/SDHC/SDXC card
formatting 4-10

Security lock 4-16

Sleep Mode
setting 2-10
system automatic 5-4

Sound system
problems 6-11

U

USB device
problems 6-10

V

Video mode 4-19

Video RAM 3-10

W

Web Camera 3-7

Wireless communication 7-5

Instruction Manual for Safety and Comfort

dynabook

Table of Contents

Introduction **4**

Safe Use of Product, Components and Accessories **5**

Power 5
Communication 12
Main Unit 15
Systems/Peripherals 22

Computer User Comfort Recommendations **27**

Good Working Posture 27
Viewing Recommendations 28
Using the product with an external keyboard, mouse or monitor 28
Typing style 29
Taking breaks and varying tasks 29
Mobile computing tips 30
Transporting the product 30
Seeking additional help 30
Check list 31

© 2020 Dynabook Inc. All Rights Reserved.

Any references in this Guide to “TOSHIBA” shall mean Dynabook Inc. and/or its affiliates.

The product system you purchased may include Recordable and/or ReWritable optical media drive(s) and associated software, among the most advanced data storage technologies available. As with any new technology, you must read and follow all set-up and usage instructions in the applicable user guides and/or manuals enclosed or provided electronically. If you fail to do so, this product may not function properly and you may lose data or suffer other damage.

TOSHIBA, ITS AFFILIATES AND SUPPLIERS DO NOT WARRANT THAT OPERATION OF THE PRODUCT WILL BE UNINTERRUPTED OR ERROR FREE. YOU AGREE THAT TOSHIBA ITS AFFILIATES AND SUPPLIERS SHALL HAVE NO RESPONSIBILITY FOR DAMAGE TO OR LOSS OF ANY BUSINESS, PROFITS, PROGRAMS, DATA OR REMOVABLE STORAGE MEDIA ARISING OUT OF OR RESULTING FROM THE USE OF THE PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

While Toshiba has made every effort at the time of publication to ensure the accuracy of the information provided herein, such information is subject to change without notice.

TOSHIBA PROVIDES NO WARRANTY WITH REGARD TO THIS MANUAL OR ANY OTHER INFORMATION CONTAINED HEREIN. ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND/OR NONINFRINGEMENT OF THIRD PARTY RIGHTS ARE HEREBY DISCLAIMED. TOSHIBA ASSUMES NO LIABILITY FOR ANY DAMAGES INCURRED DIRECTLY OR INDIRECTLY FROM ANY TECHNICAL OR TYPOGRAPHICAL ERRORS OR OMISSIONS CONTAINED HEREIN. IN NO EVENT SHALL TOSHIBA BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR EXEMPLARY DAMAGES, WHETHER BASED ON TORT, CONTRACT OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH THIS MANUAL, OR ANY INFORMATION CONTAINED HEREIN OR THE USE THEREOF.

Trademarks

Wi-Fi is a registered trademark of the Wi-Fi Alliance.

The Bluetooth® word mark is a registered trademark owned by Bluetooth SIG, Inc.

Blu-ray Disc™, Blu-ray™ and the logos are trademarks of the Blu-ray Disc Association.

Other trademarks and registered trademarks not listed above may be used in this manual.

Introduction

All of the Safety Instructions contained in this Manual must be read carefully and must be fully understood before you attempt to use your product, in order to avoid potential hazards that could cause bodily injury, property damage, or damage the product.

Not all components or functions introduced in this Manual will be provided with your product. Some features are only available on certain models.

Store this Manual near your product, for convenient future reference.

This Manual contains:

- Product Safety Instructions which should be observed to avoid hazards that could cause bodily injury and/or property damage.
- User Instructions which should be observed to maximize the use and enjoyment of your product.
- The Safety Instructions contained in this Manual have been categorized according to the seriousness of the potential hazards, through the use of Signal Words.

Signal Words	Meaning
⚠DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor injury or moderate injury.
CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in property damage.
NOTE	Provides important information.

Safe Use of Product, Components and Accessories

Power

⚠WARNING

Handling of the battery

- Never attempt to dispose of a battery by burning or by throwing it into a fire, and never allow exposure to a heating apparatus (e.g., microwave oven). Heat can cause a battery to explode and/or release caustic liquid, both which may possibly cause serious injury.
- Never attempt to disassemble, tamper with or repair a battery. The battery could overheat and ignite. Leakage of the caustic alkaline solution or other electrolytic substances could cause fire, possibly resulting in death or serious injury.
- Never short-circuit the battery by either accidentally or intentionally bringing the battery terminals in contact with another conductive object. This could cause serious injury or a fire, and could also damage the battery and product. Always wrap the battery in plastic (or place it in a plastic bag) whenever transporting it, to avoid exposing the terminals to another conductive object which could result in serious injury. Always cover the metal terminals with insulating tape when disposing of the battery, to prevent accidental short-circuiting which could result in serious injury.
- Never drive a nail or any other sharp object into the battery, hit battery with a hammer or other object or step on it. Doing so could cause a fire or explosion possibly resulting in serious injury.
- Never charge the battery by a method other than as instructed in the User’s Manual. Doing so could cause a fire or explosion possibly resulting in serious injury.
- Never connect the battery to a plug socket or a car cigarette plug socket. The battery could rupture or ignite causing a fire or explosion possibly resulting in serious injury.

⚠WARNING

- Never allow a battery to become wet. A wet battery will overheat or ignite causing rupture or fire, possibly resulting in death or serious injury.
- Never store a battery in an area of high humidity. This could cause a fire or explosion possibly resulting in serious injury.
- Never expose a battery to abnormal shock, vibration or pressure. Never use a battery which has been exposed to abnormal shock even if the appearance is normal. The battery's internal protective device could fail, causing it to overheat or ignite resulting in caustic liquid leakage, or explosion or fire, possibly resulting in death or serious injury.
- Never subject a battery to heat, and never store it or use it near a heat source. The battery could ignite or explode when heated or burned, possibly resulting in death or serious injury. Subjecting a battery to heat could also cause caustic liquid to leak. It can also cause failure, malfunction, or loss of stored data.
- Keep your product in room temperature and charge the battery every half year if it is not used for long periods.

Use of correct battery

- Always use the correct battery provided with your product or an equivalent battery specified in the User’s Manual. Other batteries have different voltage and terminal polarities. Use of non-conforming batteries could generate smoke or cause fire or rupture, possibly resulting in serious injury.

Battery safety

- Never allow caustic electrolyte fluid leaked from the battery to contact your eyes, body or clothing.

  Use appropriate protective gloves when handling a damaged battery.

  If caustic electrolyte fluid from the battery should contact your eyes, immediately wash your eyes with large amounts of running water and obtain prompt medical attention, to help prevent permanent eye damage.

  If electrolyte fluid should contact any part of your body, immediately wash it off under running water to help prevent skin rashes.

  If electrolyte fluid should contact your clothes, promptly remove them to help prevent the electrolyte fluid from contacting your body, possibly resulting in serious injury.

⚠WARNING

Battery warning indicators

- Always immediately turn the power off and disconnect the power cable/ cord plug from the plug socket and stop using the battery if you observe any of the following conditions:
  - Offensive or unusual odor
  - Excessive heat
  - Discoloration
  - Deformation, cracks or leaks
  - Smoke
  - Other unusual event during use, such as abnormal sound

  In such an event, carefully and immediately remove the battery (for models with the removable battery) from your product. In some instances, you might have to wait for your product to cool down before removing the battery, in order to avoid any possible minor injury due to heat exposure. Do not turn on your product's power again until an authorized Toshiba service provider has checked it for safety. Continued use could cause a fire or rupture possibly resulting in serious injury or product failure including but not limited to the loss of data.

Disposal of used batteries

- Always dispose of used batteries in compliance with all applicable laws and regulations. Put insulating tape, such as cellophane tape, on the electrode during transportation to avoid a possible short circuit, fire or electric shock. Failure to do so could possibly result in serious injury.

Never leave the dry cell battery in the product for a long time

- Never leave the dry cell battery in the product (e.g., remote controller, wireless keyboard/mouse, stylus pen) for a long time if it is not in use. Failure to do so could possibly damage your product.

Indications of damage if your product is dropped

- If your product is dropped, and emits smoke, unusual odor or excessive heat, immediately unplug the AC adaptor (if connected) and shut off your product.

  Do not turn on your product’s power again until an authorized Toshiba service provider has checked it for safety.

  Continuing to use your product could cause a fire or battery rupture possibly resulting in serious injury. It could also cause a product failure including but not limited to the loss of data.

⚠WARNING

Do not disassemble, modify, tamper with or repair your product

- Do not attempt to disassemble, modify, tamper with or repair product (including AC adaptor). Disassembly, modification, tampering or repairing your product could cause fire or electric shock, possibly resulting in serious injury.

  Please contact an authorized Toshiba service provider for any repair service.

Disconnect the power cable/cord before moving your product

- Before moving your product, shut down your product, disconnect the power cable/cord and wait until your product cools down and if the power button has a lock, set it to the lock position. Failure to follow this instruction may cause excessive force to be applied to the connector section, which could cause a product failure or fire, possibly resulting in serious injury.

Handling the AC adaptor power cables/cords or plugs

- When handling the power cable/cord, follow these precautions:
  - Never tamper with the power cable/cord or plug.
  - Never splice or alter a power cable/cord.
  - Never bend or twist a power cable/cord.
  - Never pull on a power cable/cord to remove a plug from a socket. Always grasp the plug directly.
  - Never place heavy objects on a power cable/cord.
  - Never run a power cable/cord through a pinch point such as a door or window.
  - Never place a power cable/cord near a heat source.
  - Never use nails, staples or similar objects to fasten or attach cord in place.
  - Never attempt to disassemble or repair an AC adaptor.

  Doing any of the above may damage the cables, and/or result in a fire or electric shock, possibly resulting in serious injury.

⚠WARNING

Attaching the power cable/cord

- Always confirm that the power plug (and extension cable plug if used) has been fully inserted into the socket, to ensure a secure electrical connection. Failure to do so may result in a fire or electric shock, possibly resulting in serious injury.
- Be careful if you use a multiple connector. An overload on one socket could cause a fire or electric shock, possibly resulting in serious injury.
- The socket outlet must be near to your product and easily accessible.

Disconnecting electrical power

- To disconnect electrical power to your device, remove the power cord/ cable from the electrical outlet.

Dust on the power plug connectors or connector base

- If dust gets on the power plug connectors or connector base, turn the power off and disconnect the power plug. Then clean the connector and/or connector base with a dry cloth. Continuing to use your product without cleaning the power plug may result in a fire or an electric shock, possibly resulting in serious injury.

Only use TOSHIBA AC adaptor

- Always use the TOSHIBA AC adaptor that was provided with your product, or use AC adaptors specified by TOSHIBA to avoid any risk of fire or other damage to your product. Use of an incompatible AC adaptor could cause fire or damage to your product possibly resulting in serious injury. TOSHIBA assumes no liability for any damage caused by use of an incompatible adaptor.

Use correct power source

- Never plug the AC adaptor into a power source that does not correspond to both the voltage and the frequency specified on the regulatory label of the unit. Failure to do so could result in a fire or electric shock, possibly resulting in serious injury.

⚠WARNING

Only use approved power cables/cords

- Always use or purchase power cables/cords that comply with the legal voltage and frequency specifications and requirements in the country of use. Failure to do so could result in a fire or electric shock, possibly resulting in serious injury.

Do not handle the power plug with wet hands

- Never attempt to connect or disconnect a power plug with wet hands. Failure to follow this instruction could result in an electric shock, possibly resulting in serious injury.

Avoid prolonged contact with the AC adaptor

- The surface of the AC adaptor can become hot when in use for long periods. Avoid prolonged contact to prevent skin irritation and/or heat injury.

⚠CAUTION

Inserting the battery

- When installing a battery or before moving your product, always make sure the battery is inserted correctly and securely. If the battery falls out, while you are carrying your product, you could be injured or the battery could be damaged.

CAUTION

Do not use an impaired or exhausted battery

- Never continue to use a battery after its recharging capability has become impaired, or after the warning message indicating that the battery power is exhausted has been displayed.

  Continued use of an exhausted or impaired battery could result in the loss of data or damage to your product.

NOTE

Handling of the battery

- Never attempt to install batteries in reverse polarity. For more information on batteries, please refer to your product User's Manual.

Storing your product

- If you do not intend to use your product for a long period of time, disconnect the power plug from the plug socket and store your product in a plastic bag to avoid dust accumulation.

Communication

⚠WARNING

Turn Wi-Fi®, Bluetooth™ and Wireless WAN Functionalities off for Cardiac Pacemakers

- Turn Wi-Fi, Bluetooth and Wireless WAN Functionalities off when near a person who may have a cardiac pacemaker implant or other medical electric device. Radio waves may affect pacemaker or medical device operation, possibly resulting in serious injury. Follow the instruction of your medical device when using any Wi-Fi or Bluetooth or Wireless WAN functionality.

Turn off the power to your product in medical facilities or near electronic medical equipment

- Always turn off the power to your product when visiting medical facilities such as hospitals or when near electronic medical equipment.

  Radio waves (antenna), line noise (AC adaptor) or electromagnetic waves (product circuits) could adversely affect electronic medical devices and equipment. This may result in an accident or malfunction of the device or equipment, which could possibly result in serious injury.

⚠WARNING

Turn Wi-Fi or Bluetooth or Wireless WAN Functionalities off when located close to automatic control equipment or appliances

- Always turn off Wi-Fi or Bluetooth or Wireless WAN functionality if your product is near automatic control equipment or appliances such as automatic doors or fire detectors. Radio waves can cause malfunction of such equipment, possibly resulting in serious injury.

Turn Wi-Fi or Bluetooth or Wireless WAN Functionalities off in aircraft

- Turn off the Wi-Fi or Bluetooth or Wireless WAN functionality in aircraft or in places that generate or can generate radio interference. Radio waves can potentially affect them, causing an accident due to malfunction.

Check if a car has adequate electromagnetic compatibility when using your product in a car

- When using your product in a car, check with the automobile dealer if the car has an adequate electromagnetic compatibility (EMC). Radio waves from your product can potentially hamper safe driving. Depending on car model, your product can rarely affect car electronic equipment if it is used in a car.

CAUTION

Turn off the power to your product when it is interfering with radio equipment

- If your product interferes with radio equipment, turn your product power off immediately. Such interference could cause equipment malfunction.

CAUTION

Do not use the product near a microwave oven

- Do not use your product in the places near a microwave oven where a magnetic field generates and places where static electricity or radio interference generates.

Ensuring Wireless Network Security

- A wireless LAN can greatly enhance the flexibility of your LAN configuration and operations. You can exchange data between products and other devices on the LAN without the restrictions inherent in cabling.

  Toshiba strongly recommends that you take appropriate steps to ensure that the proper security is in place whenever you use a wireless connection to protect your privacy and guard against identity and/or data theft. However, please note that even with security settings activated, experienced malicious hackers may still be able to gain access to your network and/or secured data.

  The Access Point (AP) security settings determine the wireless network security, not your wireless product. If the AP has not been configured for security, then your wireless product will not be able to use those features. Additionally, your wireless product's security settings must match those of the AP or the feature will not function. Please contact the person responsible for the AP for information on security for wireless connections.

Main Unit

⚠WARNING

Turning off your product where electronic devices are regulated or controlled

- When you have to turn off your product aboard an aircraft or in places where electronic devices are regulated or controlled, always completely shut down your product. This includes turning off any wireless communication switches or devices, and canceling settings that reactivate your product automatically, such as a timer recording function. Failure to completely shut down your product in this way could allow the operating system to reactivate and run pre-programmed tasks or preserve unsaved data, which could interfere with aviation or other systems, possibly causing serious injury.

Provide adequate ventilation

- Always make sure your product and AC adaptor have adequate ventilation and are protected from overheating when the power is turned on or when an AC adaptor is connected to a power outlet (even if your product is in Standby mode). In this condition, observe the following:
  - Never cover your product or AC adaptor with any object.
  - Never place your product or AC adaptor near a heat source, such as an electric blanket or heater.
  - Never cover or block the air vents including those located at the base of your product.
  - Always operate your product on a hard flat surface. Using your product on a carpet or other soft material can block the vents.
- Always provide sufficient space around your product.

  Overheating your product or AC adaptor could cause system failure, product or AC adaptor damage or a fire, possibly resulting in serious injury.

⚠WARNING

Choking hazards

- Never leave small parts such as covers, small batteries, small memory cards, caps and screws within the reach of infants or small children. Swallowing a small part may cause choking and suffocation resulting in death or serious injury. If a part is swallowed, immediately take appropriate emergency action and consult a doctor.

Avoid liquids, moisture and foreign objects

- Never allow any liquids to spill into any part of your product, and never expose your product to rain, water, seawater or moisture. Exposure to liquid or moisture can cause electric shock or fire, resulting in damage or serious injury. If any of these eventualities should accidentally occur, immediately:
  1. Turn off your product.
  2. Disconnect the AC adaptor from the power plug socket and product.
  3. Remove the battery(for models with the removable battery)..

  Do not turn on the power again, until you have taken your product to an authorized service center. Failure to follow these instructions could result in serious injury or permanent damage to your product.
- Never allow metal objects, such as screws, staples and paper clips, to enter your product or keyboard. Foreign metal objects can create a short circuit, which can cause product damage and fire, possibly resulting in serious injury. If a metal object should accidentally enter your product, immediately:
  1. Turn off your product.
  2. Disconnect the AC adaptor from the power plug socket and product.
  3. Remove the battery (for models with the removable battery).
  4. Disconnect all cables from connectors (if any).

  Do not turn on the power again, until you have taken your product to an authorized service center. Failure to follow these instructions could result in serious injury or permanent damage to your product.

Avoid moist or damp environments

- Never use or place your product in a bathroom or any other damp environment or in an outdoor environment or location where it may be exposed to rain, mist, fog or other source of water or moisture. Such exposure could cause a fire or electric shock, possibly resulting in serious injury. It may also cause a product failure, or loss of data.

⚠WARNING

Do not use liquid cleaners or aerosol cleaners

- Always turn off the power and unplug the product from the electrical outlet before cleaning. The injected combustible gas produced by these types of cleaners may remain inside of your product. The electrostatic spark from the motor or contact point of switch may ignite the gas residue, which could result in an explosion, fire, or burn injury. Instead use a lightly dampened cloth for cleaning in general and remove dust with a dry cloth.

Display screen safety

- If the LCD panel is damaged, causing a liquid crystal leak, never ingest or touch the liquid. Serious injury could result.
- If LCD liquid should accidentally contact your lips or mouth, always rinse immediately with large amounts of water.
- If LCD liquid contacts your body, always use large amounts of water to wash it off immediately to prevent skin rash.
- If LCD liquid should accidentally contact your eyes, always rinse them immediately with large amounts of water, and obtain prompt medical attention.
- If any of the LCD liquid contacts your clothes, remove them immediately and wash with a synthetic detergent.
- Failure to follow these instructions may result in serious injury.
- Never touch the LCD if it is damaged or broken, as the liquid contained within the display may leak, possibly resulting in serious injury. Contact an authorized Toshiba service provider immediately for replacement of the damaged LCD and dispose of any damaged LCD in compliance with local laws and/or regulations.
- Never touch a cracked or damaged display screen as it could result in possible injury.

Experiencing discomfort

- If you experience discomfort while operating your product, stop immediately and rest. Continuous operation for long periods without adequate rest may cause pain in the arms, wrists, hands, back, neck or other parts of the body. If pain persists despite rest, consult your doctor.

⚠CAUTION

Avoid placing your product on unstable surfaces

- Never place your product on a shaky table, uneven, tilted surface or other unstable location. your product may fall, causing damage to your product or possibly injury.
  Depending on the direction and/or angle of tilt of your product, your product could automatically shut down to avoid overheating.

Avoid extended contact between your product base/palm rest and your skin

- Product base and palm rest can become hot! Avoid prolonged contact to prevent skin irritation and/or heat injury.
- Today's performance products generate heat under normal operating conditions, as a function of system activity. Avoid extended contact between your product base or palm rest and your skin. Under certain operating conditions such prolonged contact between your product base or Palm Rest and your skin may result in skin irritation and/or heat injury.

Consider using a hard product insulating pad or similarly suitable hard insulating material when using a product on your lap.

Disposal of this product

- Discard this product in accordance with applicable laws and regulations. For further information, contact your local government.

CAUTION

Never expose your product to excess heat, extremely low temperatures or sudden temperature variations

- Never expose your product to excess heat, extremely low temperatures, or sudden temperature variations. This may result in a system failure, malfunction, loss of data or damage to your product.

CAUTION

Never place your product in a dusty location

- Do not expose your product to dusty environments. If dust gets inside your product, it could cause a system failure, malfunction or loss of data. If dust contaminates your product, do not turn on the power. Take it to an authorized Toshiba service provider before you use it.

Clean any dust accumulated on your product’s air vents

- Always remove the dust accumulated on your product's air vents. Failure to follow this instruction could cause overheating of your product or result in lower performance.

Never place your product or AC adaptor on a heat sensitive surface

- Never place your product or AC adaptor on a wooden surface, furniture, or any other surface that could be marred by exposure to heat since your product base and AC adaptor's surface increase in temperature during normal use.
- Always place your product or AC adaptor on a flat and hard surface that is resistant to heat damage.

Never operate your product during a thunderstorm

- Never operate your product on AC power during a thunderstorm. If you see lightning or hear thunder, never touch your product, cables and peripherals. An electric surge caused by the storm, may result in a system failure, loss of data or hardware damage.

Never place your product near magnets

- Never place your product near an object that generates a magnetic field, such as a speaker or TV. Do not wear magnetic bracelets while using your product. Exposure to magnetic fields can cause system failure, malfunction or loss of data.

CAUTION

Never place or drop heavy objects onto your product

- Never place a heavy object on your product and be careful not to drop a heavy object onto your product. It could damage your product or cause system failure.

Never place or drop objects onto your product's display screen

- Never place or drop objects onto your product's display screen. Failure to follow this instruction could result in possible damage to your product.

Never use benzine, thinner or other chemicals to clean your product

- Never use benzine or naphtha (petroleum), thinner or other chemicals when cleaning your product, AC adaptor, or storage device. The use of benzine or naphtha (petroleum), thinner or other chemicals may result in deterioration, deformation or discoloration of those items and the loss of data.

NOTE

Take a rest periodically

- When using this product, rest your eyes periodically and relax or stretch your muscles to avoid strain.

Turn your product off when not in use

- Never leave the power to your product on continuously for more than 24 hours. Turn the power off when this product is not in use.

NOTE

Product installation environment

- Always provide sufficient space around your product to ensure adequate ventilation.
- Never cover or block the air vents.
- Use your product at temperatures and humidity levels within the recommended environmental ranges. These ranges may vary depending on the specific product model - please refer to your product documentation or Toshiba website for details.
- Always avoid abrupt changes of temperature or humidity.
- Never place close to heat radiating appliances such as a heater.
- Never place close to corrosive chemicals.
- Never place close to magnetic field radiating appliances such as a stereo speaker.
- Always place this product on a hard flat surface.
- Provide a sufficient space behind your product to allow easy adjustment of the display panel.
- Always provide sufficient space for operating a mouse and other peripheral devices.

(See “Provide adequate ventilation” section in this **Instruction Manual for Safety and Comfort**)

Systems/Peripherals

⚠DANGER

Do not disassemble or repair your optical drive

- The product may contain a Optical Disk Drive (ODD), such as a CD-ROM, CDR/W, DVD, Blu-ray Disc™ drive or similar which have built-in laser device. To prevent any risk of exposure to laser radiation, do not disable or open any ODD assembly for any reason.
- The ODD comply with the safety requirements and is classified as Class 1 Laser Product, under the US DHHS Standard and IEC/EN60825-1 Laser Safety Standard. The ODD device contain no user adjustments or any user serviceable or replaceable parts.

⚠WARNING

Do not alter or disassemble your product

- Never open any cover on your product, or remove screws or in any way attempt to alter or disassemble your product. Never try to connect a peripheral device except as instructed in the manual. Doing so could damage your product or cause serious injury including electric shock and burns.

Headset and earphone volume level notice

- Do not set the volume too high when using headphones. Continuous exposure to loud sound can harm your hearing. To reduce the risk of hearing damage, lower the volume to a safe, comfortable level and reduce the amount of time listening at high levels.
- For your own safety, before using headsets or earphones, always reset the volume. Some headphones are louder than other headphones, even if the volume control setting is the same.
- Changing the default audio or equalizer settings might lead to higher volume and should only be done with caution.

⚠CAUTION

Connecting peripheral devices

- Always turn the power off before connecting a peripheral device that is not approved for Hot Insertion. An electrical shock or system failure may result if the peripheral device is connected while the power is turned on.
- Hot Insertion means connecting or disconnecting a device while your product power is on.

Do not use unauthorized peripheral devices or application software

- Before using a peripheral device or application software that is not an authorized Toshiba part or product, make sure the device or software can be used with your product. Use of incompatible devices may cause injury or may damage your product.

Do not use cracked, deformed or repaired CDs, DVDs and Blu-ray™ discs

- Never use a cracked, deformed or repaired CD/DVD/Blu-ray Disc™ Fragments from a damaged CD/DVD/Blu-ray Disc™ could cause injury.

Closing the optical drive

- Always keep fingers away from the sides of the tray when closing the tray of an optical drive (CD/DVD/Blu-ray Disc™ drive, CD-RW drive, Multi-drive or any other optical drive) to avoid pinching your fingers.

Handling of the optical mouse or laser mouse

- Never look directly at the light source of an optical mouse or laser mouse.

⚠CAUTION

Replacing the memory module

- Turn off the power and disconnect the AC adaptor when installing or replacing a memory module.
- If you use your product for an extended period of time, the memory modules and the circuits located close to the memory modules will become hot. Allow them to cool to room temperature before you replace them.

CAUTION

Never remove the key caps

- Never remove the key caps on your keyboard. Doing so could cause damage to the parts under the key caps.

Do not turn off power while application software is running

- Never turn off the power while an application is running. Doing so could cause loss of data.

Do not turn power off or remove external storage device while it is writing or reading media

- Never turn off the power, disconnect an external storage device or remove storage media during data read/write. Doing so can cause data loss.

Formatting storage media

- Never format storage media without checking its content. Formatting destroys all stored data.

CAUTION

Periodic back up of stored data

- It is a good idea to periodically back up the internal hard disk or other main storage device to external media. General storage media is not durable or stable over long periods of time and under certain conditions may result in data loss.

Save data before installing devices or software

- Before you install a device or application, save any data in memory to the hard disk drive or other storage media. Failure to do so may result in the loss of data.

Caring for CDs, DVDs and Blu-ray™ discs

- Take proper care of your CD/DVD/Blu-ray™ discs to avoid data loss or damage to the disc or to the optical drive.
  - Never bend a CD/DVD/Blu-ray Disc™.
  - Never damage the surface of a CD/DVD/Blu-ray Disc™.
  - Never place the CD/DVD/Blu-ray™ discs in direct sunlight.
  - Never expose the CD/DVD/Blu-ray™ discs to extreme heat or cold.
  - Never place a heavy object on a CD/DVD/Blu-ray Disc™.
  - Never write on, or otherwise mar, the read surface of a CD/DVD/Blu-ray Disc™.

Always use AC power when writing to the optical drive

- When writing to media using an optical drive, always connect the AC adaptor to a power plug socket or power source to ensure maximum performance. If data is written powered by the batteries, writing may sometimes fail due to low battery power and data loss may occur.

NOTE

Anti-virus software

- Use a virus-check program and make sure it is updated regularly.

Use AC power when playing video of DVD/Blu-ray™

- When playing video of DVD/Blu-ray™, always connect the AC adaptor to a power plug socket or power source to ensure maximum performance. Operation on battery power might result in skipped frames.

Erasing data

- If your hard disk or other storage media contains sensitive data, you should be aware that standard deletion procedures do not remove data from the media. These standard deletion procedures include:
  - Selecting Delete for a target file
  - Putting files in the Recycle Bin and emptying the Recycle Bin
  - Reformatting the media
  - Reinstalling an operating system from the recovery media

  The procedures above delete only the initial part of the data used for file management. This makes the file invisible to the operating system, but the data can still be read by specialized utilities. If you dispose of your product, please delete all the data on its Hard Disk Drive/Solid State Drive. Doing so prevents unauthorized use of such data. To ensure your data is not used for unauthorized purposes, you can:
  - Physically destroy the Hard Disk Drive/Solid State Drive.
  - Use a proven specialized utility to overwrite all data
  - Take the Hard Disk Drive/Solid State Drive. to a professional deletion service

  All data deletion costs will be borne by you.

Computer User Comfort Recommendations

Good Working Posture

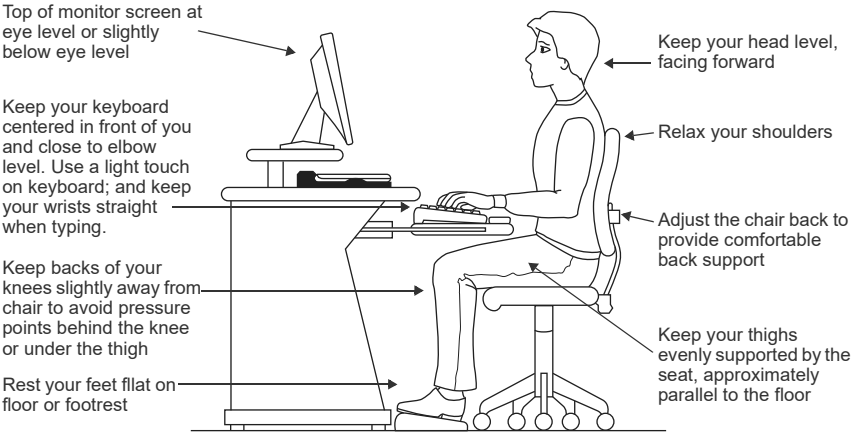
- Adjust your chair height: your feet should be flat on the floor and the bottom of your thighs should be evenly supported by the seat. If your feet cannot reach the floor, use a foot rest. Avoid pressure points behind the knee or under the thigh.
- The space under your desk should be free of clutter so that your legs and feet are not restricted, and you can get close enough to your product and other items that you use frequently.
- Adjust the chair back rest: it should match the curve of your back and provide comfortable back support.
- Adjust the chair arm rests: they should be about the same height as the keyboard and comfortably support your arms, allowing your shoulders to relax.
- When using the keyboard, it should be centered in front of you.
- The keyboard and pointing device should be close to your elbow level. The keyboard should be flat so that your wrists are straight when typing. However, if the product is on a worksurface that is above your elbow height you may need to slope the product to keep your wrists straight.
- Work with relaxed shoulders.
- When typing, keep your wrists straight and try not to rest your wrists on the product. Support your arms on your forearm area. The forearms can be supported by the chair arm supports or the desk surface.
- The product display should be tilted so that the image on the screen is clear.
- Avoid glare: position the product so that light sources (lamps or windows) do not shine or reflect directly into your eyes. Place the product display away from bright light sources or reduce the light intensity from windows by using blinds. Glare on the product display may cause eye strain, eye fatigue or headaches.
- Certain product displays have a brightness approaching that of a TV device. We recommend that you adjust the brightness of your product display to a comfortable level to prevent possible eye strain.
- Keep your head level, facing forward and balanced over your torso.
- Adjust the font size of text on your screen to make viewing comfortable.

- Rest your eyes periodically by focusing on objects that are farther away.

Viewing Recommendations

- Some individuals may experience health-related complications when exposed to certain images or flashing lights (for example when playing videos or games). Discontinue use and consult a physician if you experience any health-related complications.

Using the product with an external keyboard, mouse or monitor



- When using a product for long hours, it may be more comfortable to dock the product and use an external keyboard, mouse and monitor.
- The keyboard and mouse (or trackball) should be close to your elbow level.
- The mouse should be next to the keyboard to avoid a reach. If you have to reach, the arm should be supported in the forearm area by the desk surface or the chair arm supports.
- Alternative keyboards, such as the split curved keyboard, may improve shoulder and arm comfort.
- Select a mouse that is comfortable for you to use.
- Don’t rest your wrists on the edge of the keyboard or on the work surface when typing.
- The monitor should be about an arm length away while sitting back in the chair.
- The monitor should be centered in front of your body.

- The top of the monitor should be at or slightly below eye level. A monitor that is too high or too low can cause awkward head and neck postures and may lead to discomfort in the neck muscles.
- If you use bifocals you may need to lower the monitor. Alternatively, you might consider customized prescription product glasses.

Typing style

- Learn to touch type so that you don't have to look down at the keyboard.
- Type with straight wrists.
- Type lightly.
- Learn the keyboard shortcuts for your applications. You will be more productive.
- Use the pointing device (e.g., touch pad, Accupoint®, or tablet pen whichever is available with your product, or other optional pointing devices like mouse or trackball) with a comfortable hand posture. Avoid awkward hand postures or high gripping force.
- It is helpful to change the type of pointing device that you use on a regular basis to avoid working in just one hand posture.

Taking breaks and varying tasks

- Change they way you work so that you are not stuck in the same posture for long periods of time. Some people find it comfortable to occasionally stand while using the product. To do this properly, the product needs to be on an elevated surface. Make sure you follow the Good Working Posture points mentioned above while working.
- Take short, strategically spaced rest breaks to avoid eye strain and body fatigue. For example, stand up and walk around or stretch for a few minutes every hour.
- Taking regular breaks is especially important if you are working long hours on your product or working on a deadline.
- If stress at work is affecting your health, try to identify the sources of the stress and evaluate ways to reduce the stress.

Mobile computing tips

- When using the product at airports, on airplanes or trains, or at meetings, make sure that you take the time to consider the points just mentioned.
- When working on the road it may be difficult to set up the product in an optimal position. In these situations it is important that you take frequent breaks and change your posture frequently to relieve the excess loads on your body.
- Be creative, when in a hotel room, use a rolled up blanket or pillows to provide back support, or to provide arm support. To position the product at a good height, remember to operate the product on a hard flat stable surface. Using your product on a carpet, blanket or other soft materials can block the air vents including those located at the base of the product and possibly cause overheating of your product (See “Provide adequate ventilation” section in this **Instruction Manual for Safety and Comfort**).

Transporting the product

Carrying your product for a long time may lead to shoulder and arm fatigue. If you carry your product with other items, consider using an ergonomically-designed computer case.

Seeking additional help

Follow the advice from your company health and safety staff. Contact them if you need assistance making adjustment to your workstation or adjusting the lighting.

Again, if you experience persistent or recurrent pain, ache, numbness, burning, or stiffness you should promptly see a qualified health care provider. These sensations may be caused by serious medical conditions that can be treated.

For more specific recommendations on the safety and comfort of your product environment, customers in the United States may visit the United States Department of Labor, Occupational Safety & Health Administration website at: http://www.osha.gov/SLTC/etools/computerworkstations/

Check list

- ❏ Is your chair comfortable - does it support your back and arms well?
- ❏ Are your feet flat on the ground?
- ❏ Is there adequate space under your desk for your legs?
- ❏ Are the keyboard and mouse at elbow level?
- ❏ Are your shoulders relaxed when using the keyboard?
- ❏ Are your shoulders relaxed when using a mouse or other optional pointing device?
- ❏ Are your hands and wrists aligned in a comfortable, straight posture?
- ❏ Are your arms supported in the forearm area (not at the wrist)?
- ❏ Do you hold the mouse or trackball with a loose, relaxed hand?
- ❏ Do you use a light touch when typing or using the mouse?
- ❏ Do you clean your mouse or trackball regularly?
- ❏ Is the top of your monitor close to eye level?
- ❏ Is the monitor about an arm length away?
- ❏ Have you eliminated the glare on the monitor?
- ❏ Is the monitor tilted so that it is easy to read?
- ❏ Do you change postures regularly?
- ❏ Do you take breaks, at least once an hour?