



As an ENERGY STAR® Partner, DT Research Inc. follows the EPA's product qualification and certification process to ensure the products marked with the ENERGY STAR® logo are ENERGY STAR® qualified for energy efficiency.

The ENERGY STAR® program specifications for computers were to promote energy efficiency and reduce air pollution through more energy-efficient equipment in homes, offices, and factories. One way products achieve this goal is by using the Microsoft Windows power management feature to reduce power consumption when the product is not in use. The power management feature enables the computer to initiate a low-power or "sleep" mode after a period of user inactivity.

To take advantage of these potential energy savings, users should use the default power management settings that are provided with ENERGY STAR qualified computers. The default power management settings on ENERGY STAR® qualified computers are preset to behave in the following ways :

- Turn off display after 10 minutes of user inactivity.
- Initiate a low power sleep mode for the computer after 30 minutes of user inactivity.
- Briefly press the power button will bring the computer out of sleep mode.

Additional information on the ENERGY STAR® program, its environmental benefits and the potential energy and financial savings of the power management feature can be found on the EPA ENERGY STAR® Power Management Web site at <http://www.energystar.gov/powermanagement>.

### Product End-of-Life Notice

For reuse and recycling facilities, please visit the links below to access disassembling instructions:

<http://www.dtresearch.com.tw/zh/About/csr.html> or

[http://www.dtresearch.com.tw/EPEAT/LT320\\_Product\\_End-of-Life\\_Disassembly\\_Instructions.pdf](http://www.dtresearch.com.tw/EPEAT/LT320_Product_End-of-Life_Disassembly_Instructions.pdf)

# DT Research Rugged Convertible Laptop



## BASIC OPERATION GUIDE

# LT320

### INTRODUCTION

Thank you for acquiring DT Research's LT320 Rugged Laptop. Featuring a flexible, robust enclosure, the Rugged Laptop with a 11.6" convertible display and an LED-backlit keyboard is powered by the Intel® processor, offering optimal combinations of performance and power savings. The LT320 Rugged Laptop is available with Microsoft® Windows® operating system. The software operating system features web browser, client/ server computing software, media player, accessories, and applications support.

### PACKAGE CONTENTS

- One LT320 with one Battery Pack
- AC-DC Power Adapter with Power Cord
- Basic Operation Guide



## Input/ Output Ports

- |                               |                                |
|-------------------------------|--------------------------------|
| <b>A</b> Latest USB/charging  | <b>E</b> Audio Jack            |
| <b>B</b> Ethernet Port (RJ45) | <b>F</b> DC-in Jack            |
| <b>C</b> HDMI Output Port     | <b>G</b> Smart Card/CAC Reader |
| <b>D</b> USB 3.0 Ports        |                                |

## Button Functions

| BUTTON | ACTION  | BUTTON | ACTION   |
|--------|---|--------|--|
| 1      | Power Button                                    | 5      | 88 Standard, Full-size Keyboard with Backlight   |
| 2      | Programmable Buttons                            | 6      | Multi-touchpad   |
| 3      | Brightness Control Buttons                      | 7      | Service Door Switch  |
| 4      | Programmable Button or NVIS/ Normal Mode Toggle | 8      | Battery Latch<br>*Push the switch up to unlock the latch, then slide the latch left to remove the battery. |

## PRECAUTIONS

- Always exercise care when operating and handling the LT320.
- Do NOT apply excessive pressure to the display screen.
- We recommend using the Digital Pen (optional) to keep the screen clean.
- Avoid prolonged exposure of the display panel to any strong heat source. Wherever possible, the LT320 should face away from direct light to reduce glare.
- If the AC-DC power adapter is used to recharge or power the laptop, do NOT use any AC-DC adapter other than the one provided or acquired from the manufacturer or its partners.
- In the unlikely event that smoke, abnormal noise, or strange odor is present, immediately power off the LT320 and disconnect all power sources. Report the problem to your device provider immediately.
- Never attempt to disassemble the LT320, as this will void the warranty.

## NOTE:

To obtain protection consistent with any IP rating for the device, the I/O (audio, power, USB, card reader, etc.) port doors must be closed. If the IP protection is compromised by mishandling or misuse, such as by leaving port doors open or improperly closed, any resulting product damage will not be covered under any DT Research warranty.

## BASIC FEATURES

The LT320 rugged laptop integrates a high-brightness touchscreen, USB ports, and embedded networking elements such as wireless LAN or optional 4G LTE/ AWS.

A LT320 typically integrates an 802.11 wireless LAN (WLAN) adapter that may connect to other wireless devices or access points. If your LT320 does not come with such a network adapter, please consult your device provider to establish the desired network connectivity.

## OPERATION

### Powering ON and OFF

To activate the LT320, push and quickly release the Power Button. The display will come on in a few seconds. To put the LT320 in Standby mode, push and quickly release the Power Button. To turn the LT320 off for extended storage, power off safely using any software function that “shuts down computer” provided in the software operating system.

#### NOTE:

The battery pack shipped with your laptop may be low in power—please use the AC-DC adapter with the LT320 when setting up for the first time to fully charge the battery pack, or use the optional battery charger kit.

#### NOTE:

When the battery pack is charging, the blue Battery LED should blink slowly. If plugging in the AC-DC adapter does not trigger this blinking activity and the LED stays dark, the battery pack(s) may have been drained substantially. Try unplugging/ replugging the AC-DC adapter to the LT320 a few times to activate the charging process.

#### NOTE:

To conserve power, use (push and quick release) the Power Button to put the laptop in “Standby” mode while not in use. Pushing briefly on the same button will wake up the system within seconds.

#### NOTE:

Avoid using the Power Button (“hold 4+ seconds” feature) to turn off the laptop—this form of hardware shutdown is intended to be a means of recovery from lockups, and not as normal operation.

### Start Up

If the power up (from Standby mode or otherwise) is successful, the appropriate interface will be displayed after a launch sequence of several seconds. The wireless LAN connection may take 10 to 15 seconds to be established.

### Configuring the Rugged Laptop

The LT320 may be configured using the utilities and methods dictated by the software operating system. The LT320 should be configurable for various properties such as user profiles, network features, and several system elements.

### NVIS Mode and Screen Brightness Control (optional)

- When power button is pressed to power on the unit, power LED will flash orange once to indicate the unit is booting. Unit will boot into NVIS mode with zero nit brightness by default and display will be dark. You can press the “Brightness Up” and “Brightness Down” buttons to set NVIS mode display to desired brightness (up to 20 nits).
- To toggle between NVIS and high-brightness display mode, press the “NVIS/ Normal Mode Toggle” button. When changed from NVIS mode to high-brightness mode, display brightness percentage will be same as the brightness level set in NVIS mode before toggling.
- Use brightness control buttons to set desired brightness level. When changed from normal display mode to NVIS mode, display brightness will be set to 0 nit (display is dark) and you need to use brightness control buttons to change display to desired brightness.
- Brightness up, Brightness down, NVIS/Normal toggle, Windows Key and Control Center functions are fixed and not user programmable.
- Two programmable buttons can be programmed through Button Manager.

## Wireless Networking

### Wireless LAN

The LT320 is often delivered with an embedded (user-inaccessible) 802.11 WLAN adapter equipped with a hidden custom antenna.

- Through the support of typical WLAN adapters, the LT320 should be able to detect all 802.11 access points in the vicinity to select the access point of choice for connection.
- The SSID and WEP/WPA/WPA2 (if enabled) parameters on the LT320 and the access points have to match. The SSID is case-sensitive and it is recommended to enable WEP/WPA/WPA2 encryption (or advanced alternatives) for secure access.
- When WEP/WPA/WPA2 is enabled, you may need to consult your network administrator or your networking equipment literature to properly configure associated settings such as Authentication mode, etc.
- Refer to the access point operating manuals for setting up the 802.11 access points.

## USING THE RUGGED LAPTOP

### Peripherals Support

Through its USB 3.0 ports, the LT320 supports a wide range of USB-based peripherals. These peripherals are applicable for software installation, applications storage, data storage, and system software recovery and updates.

### For More Support

Users can download the Laptop Modules Basic Operation Guides from the DT Research website.

If the LT320 comes with a Mobile broadband module, please contact your product and/or service provider for the SIM Card installation procedures.

### Federal Communication Commission Interference

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules.

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

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

This Class [B] digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada.