

FlashAir™
Wireless LAN embedded SD Memory Card
User Manual

First Edition / Rev. 0.01 (2011/09/29)

TOSHIBA Corporation
Semiconductor & Storage Products Company

Revision History

Date	Revision	Contents
2011. 9. 29	0.01	1 st Edition

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1. FlashAir Memory Card Users Manual



2. Manual

Thank you for purchasing this Toshiba product. To ensure proper use, please read this manual and your device manual carefully and entirely before using this Toshiba product, then retain this manual for future reference.

3. LIMITED WARRANTY

This Toshiba Product (“the Product”) is warranted against defects in materials and workmanship for one (1) year from the date of purchase. Retain the original dated sales receipt. Proof of the date of purchase will be required with any request for warranty replacement.

Toshiba’s sole liability in the event of such defects is to repair or replace the Product, at Toshiba’s option, and Toshiba may replace the Product with a remanufactured Product.

4. LIMITATIONS

- (1) This warranty does not cover circumstances beyond Toshiba’s control, nor problems caused by failure to follow the operation instructions for the Product.
- (2) The Product is labeled based on the memory chip(s) it contains, not the amount of memory capacity available for data storage by the end user. Part of the capacity is reserved for product functionality. Approximate minimum consumer-useable capacity for each product is xxxxx.
- (3) With the passage of time, or after extended use, the Product may lose some or all of its functionality, including the reading, writing, and deleting of data, and the performance speed of the Product may decrease below the original speed specific to the Product’s applicable SD or UHS Speed Class.
- (4) Toshiba does not warrant that the use or operation of the Product will be error free, nor does it warrant that any data stored on the Product will remain accessible or uncorrupted. To protect against accidental data loss, back up your data frequently on multiple types of storage media.
- (5) Each card may only be used in the compatible device shown in “Compatibility” table. Please comply with the device restrictions, e.g., capacity restrictions. Toshiba does not warrant that the Product will be compatible with all devices that may use storage media similar to the Product. Toshiba does not warrant that Product will be compatible with all software except the operating software explicitly specified by Toshiba.
- (6) Approximate maximum speed for SDHC is listed in “Transfer Speed” table. The speed is based on Toshiba’s testing conditions.
- (7) Read and write speed may vary depending on user-specific conditions such as devices used and file size read or written.
- (8) THIS WARRANTY DOES NOT APPLY TO FAILURES DUE TO SHIPPING DAMAGE, ACCIDENT, ALTERATION, MODIFICATION, UNAUTHORIZED SERVICE, MISUSE, ABUSE, USE WITH INCOMPATIBLE DEVICES, ACCESSORIES OR ATTACHMENTS, FAILURE TO USE ITEMS SUPPLIED BY TOSHIBA (SUCH AS ADAPTERS), OR TO CLAIMS MADE AFTER THE EXPIRATION OF THIS WARRANTY. TOSHIBA EXPRESSLY DISCLAIMS ANY WARRANTIES, EXPRESS OR IMPLIED, OTHER THAN THOSE SET FORTH HEREIN, INCLUDING BUT NOT LIMITED TO WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. TOSHIBA SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, WHETHER OR NOT TOSHIBA HAD BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INCLUDING LOSS OF DATA, LOSS OF BUSINESS, OR OTHER LOSSES.
- (9) In the event that the exclusion of any implied warranty is ineffective under the law, the duration of the implied warranty will be one (1) year from the purchase date. Toshiba’s only obligation will be the replacement of this Product. Toshiba will not be responsible for any special, consequential, incidental or indirect damages resulting from the sale, purchase, use or malfunction of this Product, regardless of the case. Such damages for which Toshiba will not be liable include, but are not limited to, loss of or inability

to capture images, loss of revenue or profit, downtime costs, loss of the use of equipment, cost of substitute equipment, facilities or services, and claims by your customers for such damages.

5. YOUR RIGHTS

Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which may vary from state to state or province to province. If the applicable law does not permit such limitations or exclusions, this warranty will be deemed modified to the extent permitted, but the rest of the warranty remains in full force and effect.

6. UNINTENDED USAGE

The Product is intended for usage in general electronics applications. The Product is neither intended nor warranted for usage in equipment or system that requires extraordinarily high levels of quality and/or system reliability or in equipment the malfunction or failure of which may cause loss of human life, bodily injury, property damage or serious effect to the public. UNLESS OTHERWISE AGREED IN WRITING BY TOSHIBA, TOSHIBA SHALL ASSUME NO RESPONSIBILITIES OR LIABILITIES WHATSOEVER FOR ANY DAMAGES RESULTING FROM OR RELATION TO CUSTOMER'S UNINTENDED USAGE OF THE PRODUCT.

7. PRIVACY DATA

The Product, once directly or indirectly returned to Toshiba, may be analyzed for quality purposes by Toshiba or a company that provides components or services for the Product. Data that may still be remaining on the Product will be treated in confidence and will not be shared with any other third party. The returned Product and the data will be destroyed after the analysis.

8. EXPORT CONTROL

Unless written notice to the contrary is provided to the authorized reseller, you represent and warrant that any Product returned under warranty or otherwise does not contain any software or technology that is subject to export controls of the United States or of your country.

9. GEOGRAPHICAL COVERAGE

THIS LIMITED WARRANTY WILL BE HONORED ONLY IN MAINLAND CHINA, HONG KONG, TAIWAN, SOUTH KOREA, SINGAPORE, INDONESIA, MALAYSIA, BRUNEI, THAILAND, VIETNAM, PHILIPPINES, CAMBODIA, MYANMAR, INDIA, AUSTRALIA AND NEW ZEALAND. IN ALL OTHER REGIONS, TOSHIBA MAKES NO WARRANTY, AND SPECIFICALLY DISCLAIMS ANY AND ALL WARRANTIES WHETHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT AND TO THE FULLEST EXTENT PERMITTED UNDER APPLICABLE LAWS.

10. INSTRUCTIONS AND WARNINGS

Safety Precautions

WARNING

Keep the Product out of reach of children and pets.

Misuse of the Product including without limitation accidental swallowing may cause suffocation or other injury. Contact a doctor immediately if you suspect a child has swallowed the Product.

Failure to follow the instructions below could result in fire, damage to the Product and/or personal injury including burns and electric shock.

- **Do not disassemble or modify the Product.**
- **Do not bend, drop, place heavy objects upon the Product,** or otherwise expose the Product to strong force or impact.
- **If the Product produces an odor, overheats or smokes, immediately turn off the device with which**

the Product is used, including the computer and peripherals, and disconnect the power cord from the outlet. Do not use the Product again. Please contact the store that you purchased the Product from.

 **CAUTION**

Failure to follow the instructions below may also cause malfunction, corruption, or loss of data:

- Do not touch the terminals (connection surface) directly or with metal objects, because it may cause surges, including static electricity.
- Do not place in bathrooms or otherwise expose the Product to moisture or humidity.
- Do not expose the Product to dust, electric noise, strong magnetic fields, or corrosive chemicals or gases.
- Do not place near sources of heat or flame, or near flammable materials.
- Do not disconnect or turn off the power while data is being written or read.
- Do not remove the Product from the device with which the Product is used before processing the removal or stop function using the device's operating system.

Although the Product comes pre-formatted in compliance with SD or SDHC Memory Card standards, you may need to reformat the Product using the device with which you are using the Product.

Follow the instructions in the manual of the device to reformat the Product. When switching devices with which you are using the Product, you may need to reformat the Product using the new device. Reformatting the Product may cause all the data stored in the Product to be lost or corrupted. Ensure the Product contains no necessary data or files before reformatting. Formatting with a personal computer may cause problems with the Product such as the inability to read, write, or delete data. If you have such trouble, you may be able to repair the Product by reformatting it using the SD format utility found at the following link.

(http://www.sdcard.org/jp/consumers/formatter_3/)

Notice

- For instructions on connecting and disconnecting the Product to devices with which it is to be used, refer to the instruction manuals of the devices.
- If the Product is used in ways other than described in this instruction manual, however, data could be corrupted or lost.
Toshiba accepts no responsibility for corruption or loss of data stored on the Product, regardless of the type or cause of the problem or damage.
- Write protection is only applicable to the Toshiba SD memory family (SD/SDHC memory card and SDHC/SDXC UHS-I card). If the Product you purchased has a write protection feature, set the write protect tab on the side of the Product to the "LOCK" position to protect important data from being accidentally deleted. This prevents data from being written to the Product. Set the tab back to its original position (unlocked) when you want to store, edit or delete data.
- Deleting data in the Product completely by using an appropriate system or product; e.g., software for deleting data available on the market, is recommended when transferring or destroying the Product. Even if you delete or reformat the Product on a PC, digital still camera, or cell phone (for example), data may not be completely removed and/or may be recoverable if the device you used for the deletion or reformatting was not supplied with functionality that permanently deletes data from the Product. Please dispose in accordance with local rules when destroying the Product.

TOSHIBA RESERVES THE RIGHT TO MODIFY THE DESIGN OR SPECIFICATIONS OF THE PRODUCT OR THE PRODUCT INSTRUCTIONS OR WARNINGS AT ANY TIME IN ITS SOLE DISCRETION AND WITHOUT NOTICE. UPDATED INFORMATION WILL BE PROVIDED VIA

<http://www.toshiba.co.jp/p-media/wwwsite/index.htm>

* SD, SDHC and SDXC Logos are trademarks of SD-3C, LLC.

* All other company product names may be registered trademarks of their respective companies.

* The card in this package is made in Japan.

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11. Main Specifications

- [Operating Ambience] Temperature: -25~85°C(-13~185°F), Humidity:95%RH
- [Size] 32.0 (L) x24.0 (W) x2.1mm (T)
- [Weight] 2g
- [Interface] SDHC Memory Card Standard
- [Input Voltage] 2.7~3.6V(Max)
- [Content of the Package] SDHC memory Card (1 pc), Card case (1 pc), User manual
- [User Area] 7.4GB
- [WLAN Supported Channel] 1~11ch


12. How to view pictures inside memory by using Wireless LAN

The Product's wireless LAN (WLAN) function and Web server function are enabled when a special picture file is set to the protected mode. As the Web server function is enabled, the data stored in this card can be accessed via PC and Smartphone, etc.

●WLAN mode description

When Web server function is started, this product tries to find WLAN Access Point (AP) whose SSID matches with the card settings. If intended WLAN AP was found, the Product automatically tries to connect to it. Once succeed in the connection, the Product operates as station mode (WLAN infrastructure mode). On the other hand, if target WLAN AP cannot be found, the Product operates as access point mode (WLAN infrastructure mode).

● Default setting of Web server function

SSID	Flashair
Security Key	None
Encryption	None
IP Address	192.168.0.1 (The Product operates as access point mode.) Assigned by AP's DHCP (The Product operates as station mode.)
Subnet Mask	255.255.255.0
Setting picture for Web server operation	

●Caution for Web server function

If Web server function stops during use of the Product, the power of the host device like digital camera might be turned off. Therefore, please select the possible longest time if the host device like digital camera has the setting menu about length of time relating to the auto power off. WLAN function of this product may not operate in some host devices like digital camera in which radiated signal from the Product is blocked. The Product is designed for being used at a local network. Therefore a global IP address should not be assigned.

13. Compliance Information

Federal Communications Commission (FCC) Notice (USA)

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 the 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 or television technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

Declaration of Conformity for Products Marked with the FCC Logo (USA)

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.

Canadian Notice

This device complies with the Canadian ICES-003 Class B specifications and RSS-210 of Industry Canada. This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Wireless operation is subject to 2 conditions. The first is that the wireless device may not cause interference. The second is that the wireless device must accept any interference, including interference that may cause undesired operation of the device.

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.

Avis Canadien

Cet appareil est conforme à la norme canadienne NMB-003 classe B et CNR-210 d'Industrie Canada. Ce dispositif numérique de classe B respecte toutes les exigences du Règlement canadien matériel brouilleur. Fonctionnement sans fil est soumis à deux conditions. La première est que l'appareil sans fil peut ne pas provoquer des interférences. La seconde est que le dispositif sans fil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

Pour se conformer aux exigences de conformité RF canadienne l'exposition, cet appareil et son antenne ne doivent pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.

European Union Regulatory Notice

This device bearing the CE marking is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. This device complies with the following harmonized European standards.

Health: EN62311:2008

Safety: EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011

EMC : EN301 489-1 V1.8.1:2008, EN301 489-17 V2.1.1:2009

Radio: EN300 328 V1.7.1:2006

- The following CE marking is valid for EU non-harmonized telecommunications products.



Refer to the regulatory label provided on this product.

The telecommunications functionality of this product may be used in the following EU and EFTA countries:

Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, and United Kingdom.

EU Declaration of Conformity: This Product carries the CE-Mark in accordance with the related European Directives. Toshiba Electronics Europe GmbH, Hansaallee 181, D-40549 Dusseldorf, Germany is responsible for CE-Marking.

For further information, please visit www.toshiba-memory.com

Hotline: 0 180-5677765 from Germany 0,14 Euro/min.
+49 180-5677765 from other Countries than Germany

France

L'utilisation de cet équipement (2.4 GHz Wireless LAN) est soumise a certaines restrictions: Cet équipement peut être utilisé a l'interieur d'un batiment en utilisant toutes les frequences de 2400 a 2483.5 MHz. Pour une utilisation en environnement exterieur, les frequences comprises entre 2400-2454 MHz peuvent être utilisé. Pour les dernieres restrictions, voir <http://www.arcep.fr>.

For 2.4 GHz Wireless LAN operation of this product certain restrictions apply: This product may be used indoors for the entire 2400-2483.5 MHz frequency band. For outdoor use, only 2400-2454 MHz frequency band may be used. For the latest requirements, see <http://www.arcep.fr>.

Italy

E'necessaria una concessione ministeriale anche per l'uso del prodotto. Verifici per favore con il proprio distributore o direttamente presso la Direzione Generale Pianificazione e Gestione Frequenze. License required for use. Verify with your dealer or directly with the General Direction for Frequency Planning and Management (Direzione Generale Pianificazione e Gestione Frequenze).