UB800/SD800
1-7
Flash Duplicator

User Manual v A.01

Index

Product Disclaimer

U-Reach is not accountable for any incidental or consequential damages, which includes, but is not constrained to property harm, loss of time or data from use of a U-Reach product, or any other damages attributable to product malfunction or failure (including without limitation, those attributable to: (1) reliance of the materials provided, (2) costs of product replacement, (3) loss of use, data or profits, (4) delays or business interruptions, (5) and any principle of legal responsibility, arising out of or in reference to the use or overall performance or from delays in servicing or lack of ability to render service) of any U-Reach product. U-Reach makes every effort to ensure proper operation of all products. However, the customer is responsible to affirm that out of the U-Reach product meets the customer's quality requirement. The customer further acknowledges that fallacious operation of U-Reach product and/or software program, or hardware issues, can cause loss of data, defective formatting, or data loading. U-Reach will make efforts to resolve or repair any issues recognized by customer either within the warranty period or on a time and materials basis. Specifications and features subject to change without notice or obligation.

Warranty

U-Reach provides a basic one-year parts and labor warranty for all of its products (excluding cables, adapters, and other consumable items). An optional extended warranty is also available for an added cost. Telephone and email support is available for the life of the product as defined by U-Reach.
All warranties will be restricted and defined by the market region from which customers purchased.

Piracy Statement

U-Reach accepts no responsibility for copyright infringement or misuse of any U-Reach equipment. Copying all forms of data: audio, video, or software without the permission of the copyright holder is illegal. It is the sole responsibility of the user to ensure that the legal copyrights of the copyright owners are respected.

Before You Start

Important Notice

- Carefully read the entire manual before operating.
- Make sure the source device is correct and functioning.
- Equal capacity of source and target is recommended for guaranteed data consistency.
- Using the Copy+Compare function provides the most flawless duplication.
- Damage incurred due to non-compliance with U-Reach operating instructions will void the warranty.
- Store the equipment safely when not in use and keep out of the reach of children.
- Please turn off duplicator before replacing a socket.
- Never turn off the power while the firmware is updating.
- Use only approved, stable power sources.
- Use product only in a clean, dry, dust-free, and ventilated area. Liquids or foreign debris can severely damage your duplicator.
- It is typical for the machine to heat up during operation.
- While in use, do not move the duplicator or remove devices.
- Static electricity may cause duplication error. Please pay attention to the duplicator's environment while operating equipment. Purchasing electricity elimination equipment helps avoid shock.

Notice Symbols

Special items, procedures, or notes to be observed prior to use.

Note	Refers to related duplicator operations, special details, tips, or suggestions for operational effectiveness.

Caution	Refers to procedures that need to be adhered to or precautions.

Introduction

1. Features

Apart from inheriting the high-speed performance and well-recognized compatibility with diversified media, the flash duplicators support easy and fast duplication. Through a user-friendly interface, the flash duplicators can be operated standalone with no steep learning curve for users to climb. Their ergonomic design facilitates efficient operations by letting users easily insert and remove flash cards, and the 20%~80%-reduced footprint compared with their peers in the market has led to better space utilization and freight savings.

- Ultra-high transmission speed, each flash slot channel is independent from each other.
- Real multi-task processing capability. Whether it is copy, compare or format, each feature is independently executed. Each flash slot has an independent control processing unit.
- Non-PC based, with no risk of virus infection. Instant power on and off.
- One-touch copy. Real time information will be shown on the LCD screen.
- Supports Synchronous and Asynchronous copy/ compare/ erase/ format.
- Ultra high-speed bit-for-bit hardware comparison.
- Different SD card speed selection is available for different quality level flash media.
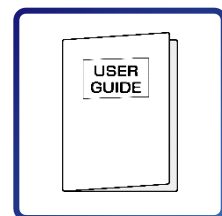
2. Package Contents

| Duplicator x 1 | 12V DC Adaptor x 1 | Power Cord x 1 | User Manual x 1 |

3. Hardware Overview

- **Front View (UB800)**

LCD Display

Control Buttons

Source Port

LED Indicators
Green: Pass
Red: Fail

- **Front View (SD800)**

Source Port

- **Back View**

Power Supply

Power Switch

Function Table

- **UB800**

| Function	Description
1. Copy	Data only or whole media duplication.
2. Compare	Bit-by-bit comparison between the source and all other copied flash medias.
3. Copy&Compare	First copies then compares the copied flash media with the source immediately after the copy has finished.
4. Information	**4.1 USB Info.** This feature will show flash's information of data; file format, content size, and capacity. **5.2 System Info.** This feature will show information of the duplicator system, including machine model number and software version.
5. Utility	**5.1 Do Format** → **5.1.1 Auto Format** Auto format media to be FAT16 or 32. **5.1.2 FAT16 Format** Format media to be FAT16. **5.1.3 FAT32 Format** Format media to be FAT32. **5.1.4 Set FAT 16 Cluster Size** Set the size of FAT16 Cluster. **5.1.5 Set FAT 32 Cluster Size** Set the size of FAT 32 Cluster. **5.2 Quick Erase** Erases the content of flash media. It will keep the FAT format.

	5.3 Full Erase Erases completely bit for bit of data on flash including format and content, takes more time.	
	5.4 System Update System firmware updating via the flash media.	
6. Setup	**6.1 Copy Area**	**System and Files** The system can automatically analyze the format of source data and only copy the data area. (Available for FAT16/32/64, NTFS, Linux (ext2/ext3/ext4))
		Whole Media The system will copy the whole content of flash including the empty space.
	6.2 Target Tolerance Set the tolerance % of capacity gap between the source and target. The default setting is "No limit".	
	6.3 Power Off Time Between Copy&Compare Set the power-off time between Copy and Compare when executing "Copy&Compare" function.	
	6.4 Select Speed Sets data transmission speed.	
	6.5 Monitor Device After Copy Allows user to set a device status check after duplication.	
	6.6 Set to Default Back to original manufacturer setting.	

- **SD800**

Function	Description
1. Copy	Data only or whole media duplication.
2. Compare	Bit-by-bit comparison between the source and all other copied flash medias.
3. Copy&Compare	First copies then compares the copied flash media with the source immediately after the copy has finished.
4. Fmt+Copy+Comp	Formats SD cards, copies, and then compares the copied flash media with the source immediately after the copy has finished.
5. Information	**5.1 SD Card Info.** This feature will show flash's information of data; file format, content size, and capacity. **5.2 System Info.** This feature will show information of the duplicator system, including machine model number and software version.

6. Utility	**6.1 Do Format**	**6.1.1 Auto Format** Auto format media to be FAT16 or 32.
		6.1.2 FAT16 Format Format media to be FAT16.
		6.1.3 FAT32 Format Format media to be FAT32.
		6.1.4 Set FAT 16 Cluster Size Set the size of FAT16 Cluster.
		6.1.5 Set FAT 32 Cluster Size Set the size of FAT 32 Cluster.
	6.2 Quick Erase Erases the content of flash media. It will keep the FAT format.	

	6.3 Full Erase Erases completely bit for bit of data on flash including format and content, takes more time.	
	6.4 System Update System firmware updating via the flash media.	
7. Setup	**7.1 Copy Area**	**System and Files** The system can automatically analyze the format of source data and only copy the data area. (Available for FAT16/32/64, NTFS, Linux (ext2/ext3/ext4))
		Whole Media The system will copy the whole content of flash including the empty space.
	7.2 Target Tolerance Set the tolerance % of capacity gap between the source and target. The default setting is "No limit".	
	7.3 Power Off Time Between Copy&Compare Set the power-off time between Copy and Compare when executing "Copy&Compare" function.	
	7.4 Select Speed Sets data transmission speed.	
	7.5 Set to Default Back to original manufacturer setting.	

1.Copy

1.Copy(Data)

→

Copy   7695M
3%   0:27   (3)270M

(3) means the Port
No.3 is the slowest
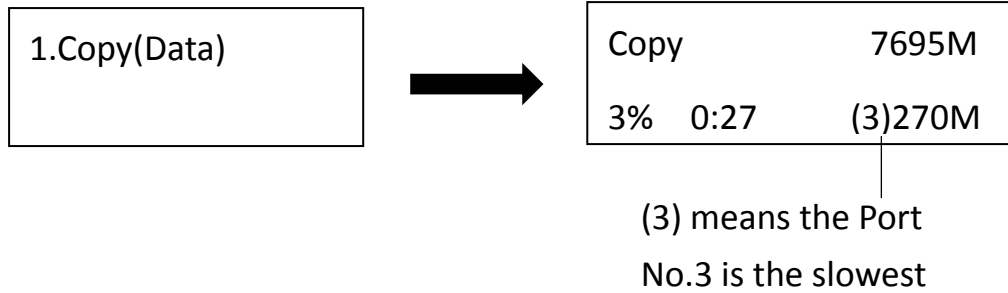
Copy area setting ➡ [Setup >> Copy Area]

Before duplication, select the area of data with "Copy area".

Select "System and Files"	Select "Whole Media"
1.Copy(Data)	1.Copy(Whole)

Note	● If user pulls out the flash card during copy process, the system will stop immediately and red light will turn on to notify users copy has failed. It is strongly suggested that users avoid this action because it will damage the flash card.
	● Original data in the target flash cards will be lost after the copy process is completed. Backup the existing data before starting the copying process.

2.Compare

Compare function checks the correctness of copying result. After the copying process is finished, go to function 2 and press "OK" to start comparing process.
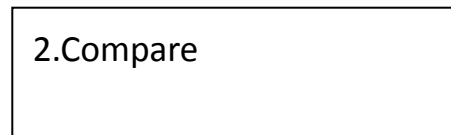
2.Compare

3.Copy&Compare

This function is the most convenient. Instead of going to function [2.Compare] and pressing "OK" again after copying, function [3.Copy&Compare] will automatically run the compare function after copying process is finished to make sure the copied result is correct.

3.Copy&Compare

Caution	The user is responsible for verifying the targets' quality. Please pick a few completed targets and test in a mass production environment for quality control.

4.Fmt+Copy+Compare *(Available in SD800)*

This function will automatically run the format function before copy, and run the compare function after copying process is finished to make sure the copied result is correct.

| Note	● Press ▲▼ together for 5 seconds to stop the slowest port during operation.
	● Press "ESC" for 5 seconds to stop all the ports during operation.
	● It is recommended to reboot the machine after manually stopping the copy.

5. Information

5.1 USB / SD Card Info.

This function will show the flash media's basic information such as file format, content size, and total capacity.
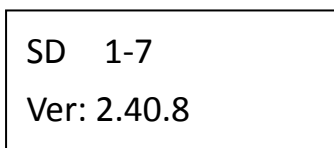
Press ▲▼ buttons to check the information of each flash media including the source.

Total Capacity of the Device

[#01]	3871M
FAT32	230M

Data Size
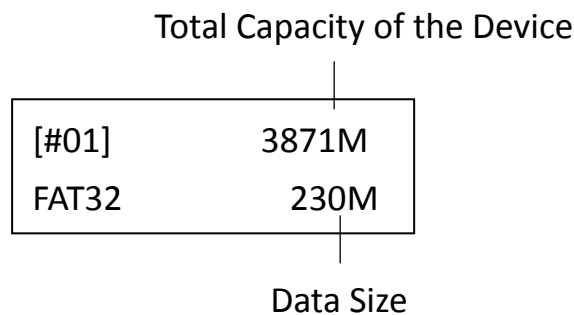
Note	Executing this function will not delete the content or format of flash media.

5.2 System Info.

This function will show the information of the duplicator's system, including model number and software version.

SD   1-7
Ver: 2.40.8

➡ Press ▼ for further information.

6. Utility

6.1 Do Format

6.1.1 Auto Format

This function is to format flash into FAT. Plug the flash media in the slot and press "OK", the system will automatically detect its capacity first and then format the media according to its capacity.

● If the flash media format is already FAT16 or FAT32, the format function won't change its original format.

● If the original flash media is not in FAT format, i.e. NTFS, Linux or FAT multi-partition. The system will execute format according to flash's capacity. When its capacity is above 2GB, the system will format the flash media to FAT32. If its capacity is below 2GB, the system will format the flash media to FAT16.

Capacity < 2GB	Format FAT16
Capacity > 2GB	Format FAT32

Caution	● The source port (port#1) will not execute any formatting because this function will delete the data of the flash media. ● The user is responsible for verifying the targets' quality. Please pick a few completed targets and test in a mass production environment for quality control.

6.1.2 FAT16 Format

Press "OK" to format any flash media to FAT16 format.

6.1.3 FAT32 Format

Press "OK" to format any flash media to FAT32 format.

6.1.4 Set FAT16 Cluster Size

Set the size of FAT16 cluster.
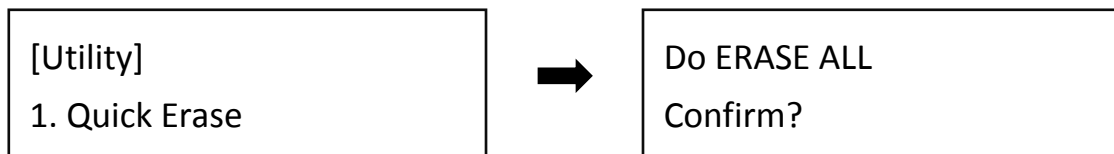
6.1.5 Set FAT32 Cluster Size

Set the size of FAT32 cluster.

6.2 Quick Erase

This function erases flash data while keeping the format if the original flash format is FAT16/32. Use the ▲▼ buttons to view status, progress, and information.

Note	Quick erase function will erase only FAT 16/32 formatted flashes.

[Utility] 1. Quick Erase	➡	Do ERASE ALL Confirm?

6.3 Full Erase

Completely erases the entire flash media, including format and content. This task takes longer. Pressing <ESC> during this process will abandon the task, but the original format and content will no longer be readable.

[Utility] 2. Full Erase	➡	Do ERASE ALL Confirm?
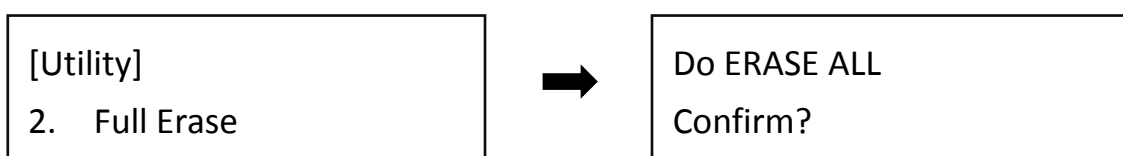
6.4 System Update

Step 1: Prepare a USB/SD Card for update.

Connect a USB/SD card to PC. Download the latest firmware, unzip the BIOS firmware, then save it to the root directory in the USB/SD card.

Note	The USB's format must be: FAT16 or FAT32.

Step 2: Proceed to update firmware.

Connect the USB/SD card to the source port. Scroll to select "6.4 Update BIOS", then press "OK" to start the firmware update process.

Caution	The firmware update process may take longer than 5 minutes. Please do not disrupt power or process during BIOS update. If interrupted, the system will become useless. U-Reach will not be held responsible for any damages.

7. Setup

7.1 Copy Area

❶ System and Files

It is also called "Quick Copy" mode. The system will automatically analyze the source flash card's file format. If the data's file format is FAT16/32/64, NTFS, Linux (ext2/3/4) which is recognizable by the system, it will only copy data instead of the whole flash.

[Copy Area]
System and Files

2GB → Copy 2GB data only

| Note	If the file format is non-recognizable, the system will still copy the whole flash card including the empty space even if you select "System and Files" as your copy area.

❷ Whole Media

The system will copy the whole flash card, including the empty space and format. This function is used when users want to copy the whole flash or have a flash source with unknown format. It will take a longer time to make "Whole media" copy.
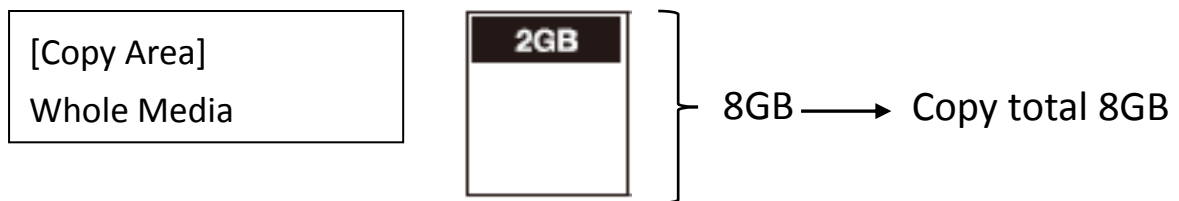
7.2 Target Tolerance

This function sets the acceptable difference range of flash capacities between the source and target. If the capacity difference between the source and target exceeds the tolerance setting, the copy will fail.

For example, if the target tolerance setting is "$\pm 1\%$", the targets whose capacities are more than 2.02GB or less than 1.98GB won't be copied.
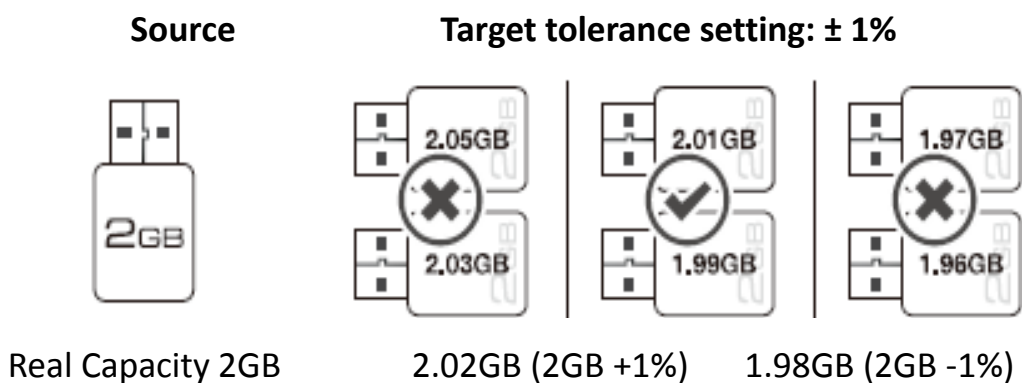
7.3 Power Off Time Between Copy&Compare

This setting is to prevent from any data loss because of unstable flash, we strongly recommend you use this function to set the time gap of power supply between copy and compare.

The time gap can be set from 0 to 15 seconds.

The default setting is "0".

```
[Power Off Time Between Copy&Compare]
                3
```

7.4 Select Speed

There are 5 transmission speed options:

```
[Select Speed]
Normal Mode
```

● Slowest Mode

● Slower Mode

● Normal Mode (Default)

● Faster Mode

● Fastest Mode

Use a good quality flash media that supports a faster mode. If unsure about the flash quality or notice a high copy/compare failure rate, use a slower transmission speed. The default setting is "Normal Mode".

7.5 Monitor Device After Copy *(Available in UB800)*

Allows user to set a device status check after duplication. The settings could show different results because each device has various settings.

For example, if a device is set to power off automatically after "complete" command, then user must set "Do NOT Check" to make sure the LCD keeps the

copy result for reference.

| [Monitor Device After Copy] | Total | OK: 10 | NG: 0 |
| Do NOT Check | 12:48 | OK: 10 | NG: 10 |

In this case, if set at "Do Check", the copied device will power off automatically after Copy job completes and the LCD will back to the previous job.

| [Monitor Device After Copy] | 1. Copy (Data) |
| Do Check | |

7.6 Set to Dfault

Restores original default settings.

| [Set to Default] | ➡ | Complete |
| | | All Parameter was cleared! |

FAQ

Q1.How to Prevent from Failed Duplication?

A:

➢ Stable Devices

❶ Good Connector

The adapter, extension cord, and card reader must be in good quality for proper connection.

❷ Stable Flash
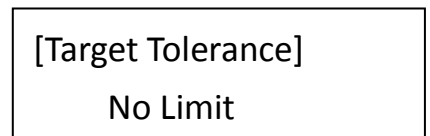
Use the flash devices with stable quality.

❸ Good Source

Make sure your source is a good source.

➢ Suitable Data & Settings

❶ Target Tolerance Settings. [Setup >> Target Tolerance]

Go to Function "Target Tolerance" to check if the setting of capacity difference range between source and target is right.
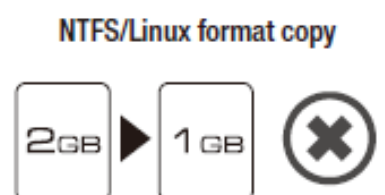
```
[Target Tolerance]
     No Limit
```

❷ Capacity of the Data in Source

Make sure that the data of source is within the capacity of target.

2GB   1GB

❸ Capacity of Targets

When copying formats NTFS/Linux copy, make sure that the target's capacity is equal to or larger than your source.

NTFS/Linux format copy

2GB   1GB

Q2. How do we know the data is correct after copy?

A: Use the [2. Compare] function to ensure duplication accuracy.

Q3. Is it possible to use an 8GB source copy to 16GB targets (source capacity less than target)?

A: Yes, copying from 8GB to 16GB is doable, but the target device will become 8GB when read on PC. After duplication, the target's FAT table will be identical to the source. You can restore its real capacity by re-formatting the device.

Q4. Is it possible to copy when there is a big difference between Source and Target's capacity? For example, a 8GB source copy to 16GB targets?

A: Yes, but the source data must be within the capacity of the target devices. However, due to capacity discrepancy, errors and lost data may occur. Using flash medias with the same capacity is strongly recommended.

❶ If Source capacity is SMALLER than the target, for example 8GB to 16GB:

Example:
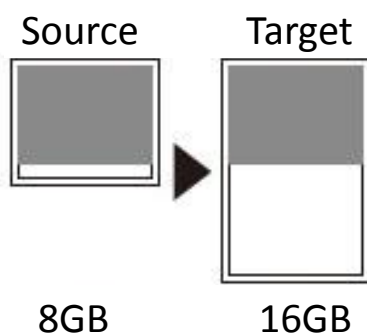
| Source	Target	**Copy OK**
8GB	16GB	**Warning:** The target 16GB WILL BECOME 8GB WHEN READ ON PC. You can reset its 16GB capacity by reformatting the device.

Caution	When there is a big difference between target and source's capacity, such as 8GB to 32GB or 8GB to 16GB, there is a risk of target capacity, compatibility and format errors. It is strongly recommended that target and source be in close range of capacity.

❷ If source capacity is LARGER than the target, for example 16GB copy to 8GB:

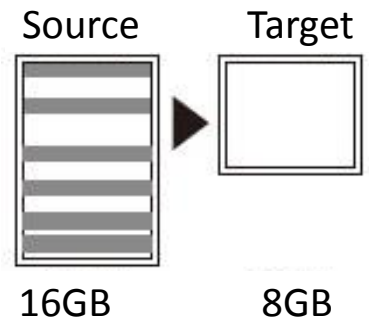▶There are two results as shown in illustrations (1) and (2)

(1) When a content is within the target flash media's capacity.
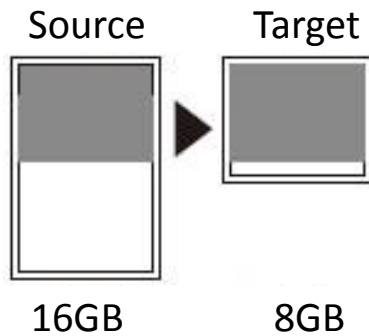
Source	Target		
		Copy OK	
		Because the data is within the 8GB area.	

16GB   8GB

(2) When the content is outside the target flash media's capacity.

Source	Target		
		Can't Copy	
		Because the data is out of the 8GB area.	

16GB   8GB

Caution	The copy will fail because the data was stored beyond the 8GB area. The duplicator will copy the data as is which means the location remains intact.

Specification

Model No.	UB800 / SD800	
Target	1 to 7	
Specifications	Capacity	Designed support capability up-to 2TB
	Operation Type	Stand-alone, FPGA-based operation (Non PC-based)
	LCD Display	Backlit Monochrome LCD Display
	LEDs	2 LED (Red/Green) Indicators per Port
	Control Panel	4 Push Buttons(▲, ▼, OK, ESC)
Features	Copy Modes	Quick Copy (Systems & Files Copy)
		Whole Media Copy
	Compare Function	Bit-by-bit data comparison
	Sanitization Modes	Quick Erase and Full Erase
	Format Functions	Formats device to FAT16 or FAT32
	Supported Formats	Quick Copy: FAT16/32/64, Windows (NTFS), and Linux (Ext2/Ext3/Ext4)
		Whole Media Copy: All Formats, including proprietary formats
	Supported O/S	All (Windows, Mac, Linux, and other stand-alone systems)
Hardware Specifications	Power Supply	12V DC Power Adapter

Hardware Specifications	Temperature	Working	5°C ~ 45°C (41°F ~ 113°F)
		Storage	-20°C ~85°C (-4°F ~ 185°F)
	Humidity	Working	20% ~ 80%
		Storage	5% ~ 95%
	Certifications	FCC, CE, RoHS	

Specifications subject to change without notice.