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KanguruClone 5HD & 14HD - SATA User Manual

Model no.: KCLONE-5HD-SATA & KCLONE-14HD-SATA

Notices and Information

Please be aware of the following points before using your KanguruClone

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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, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to 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 Distance 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.

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1. INTRODUCTION

Congratulations on your purchase of the KanguruClone HD-SATA from Kanguru Solutions.

The KanguruClone is a high speed, stand-alone SATA hard drive duplicator that can simultaneously clone up to 5 or 14 hard drives (depending on model). The duplicator has many advanced features for the IT professional, yet a novice can begin cloning hard drives within minutes of taking it out of the box.

The KanguruClone copies the content of a Master hard drive to up to 5 or 14 drives simultaneously (depending on model). With ultra fast copy speeds of up to 9GB/min, the KanguruClone is one of the fastest cloning systems available.

Features

- √ Up to 9GB/min transfer rates
- √ Simultaneously clone up to 5 or 14 hard drives (depending on model)
- √ HDD size and brand independent.
- √ Supports all standard SATA hard drives. Master & Target drives can be different sizes, brands and models.
- √ IDE hard drives supported with adapters (sold separately)
- √ One-year Standard Warranty: This system comes complete with a one-year parts and 90 day labor warranty. One-year and two-year extended warranties available, contact Kanguru sales for more information.
- √ Clones any operating system: including DOS, Win98, Win2K, Win NT, Win XP, Win Vista, Win 7, Linux, Mac and many more.
- √ 5 Copy Operations:
 - **Smart Copy** - System automatically detects the most efficient copy method
 - **Brief Copy** - Copies only sectors with data (compatible with most major file systems)
 - **Resize Copy** - Copies HDDs with different capacities
 - **Full Copy** - Sector for sector duplication
 - **Ratio Copy** - Copies a defined percentage of the Master HDD
- √ Powerful diagnostic functions
- √ Supports HPA (Host Protection Area) copy
- √ Up to 999 x wipe cycles (7 x wipe cycles complies with the American DOD 5220-22.M Standard)
- √ Load disk images to a Storage Center for convenient storage

1.1 Package Contents

If any of the following items are missing, please call Kanguru Solutions' Tech Support department at: (508) 376-4245, extension 2 and replacement parts will be shipped to you ASAP.

- KanguruClone Hard Drive Duplicator unit with internal power supply
- Power cable
- User manual
- Registration form

5 Target Models:

- 6 x SATA data + power cable

14 Target Models:

- 15 x SATA data + power cable

3.5" and 2.5" IDE adapters sold separately

Light Tower accessory sold separately

1.2 Specifications

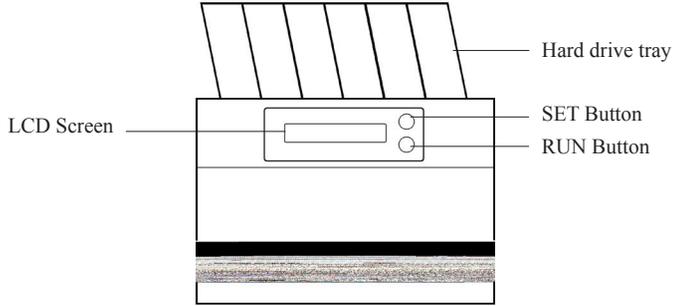
KanguruClone 5HD - SATA	
LCD Screen	20 x 2 Characters back-lit LCD
Input Device	2 Push Buttons
Dimensions	13.5" x 9.5" x 6.5"
Weight	10 lbs.
Power Supply	Standard 250W ~ 4P Power (5V~12V)
Operating Temperature	5°C ~ 55°C
Relative Humidity	20% ~ 60%

KanguruClone 14HD - SATA	
LCD Screen	20 x 2 Characters back-lit LCD
Input Device	2 Push Buttons
Dimensions	14.5" x 20.5" x 6.5"
Weight	18 lbs.
Power Supply	Standard 500W ~ 4P Power (5V~12V)
Operating Temperature	5°C ~ 55°C
Relative Humidity	20% ~ 60%

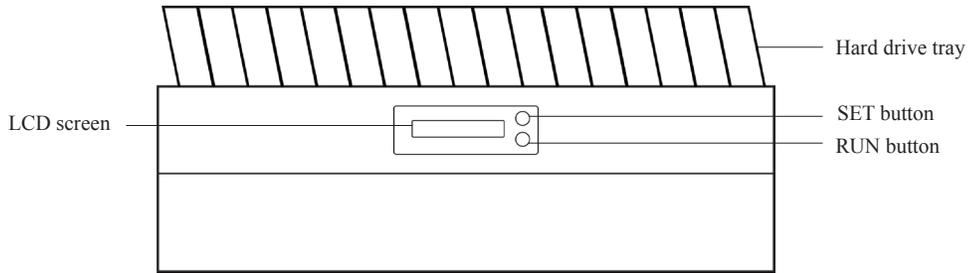
1.3 Parts and Functions

Front View

5HD

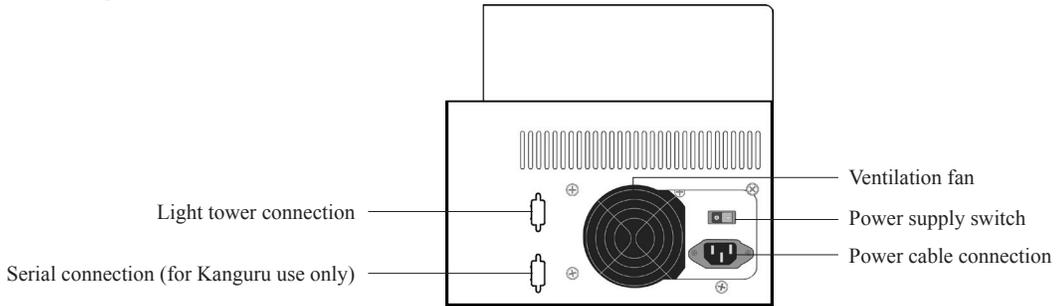


14HD

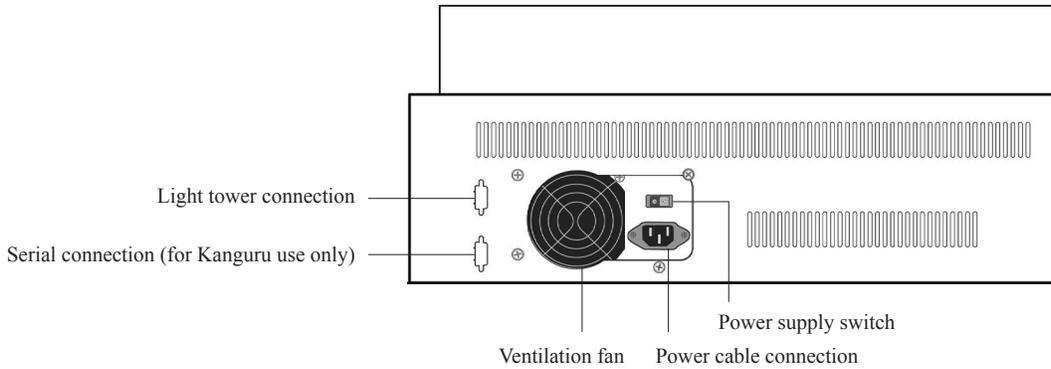


Rear View

5HD

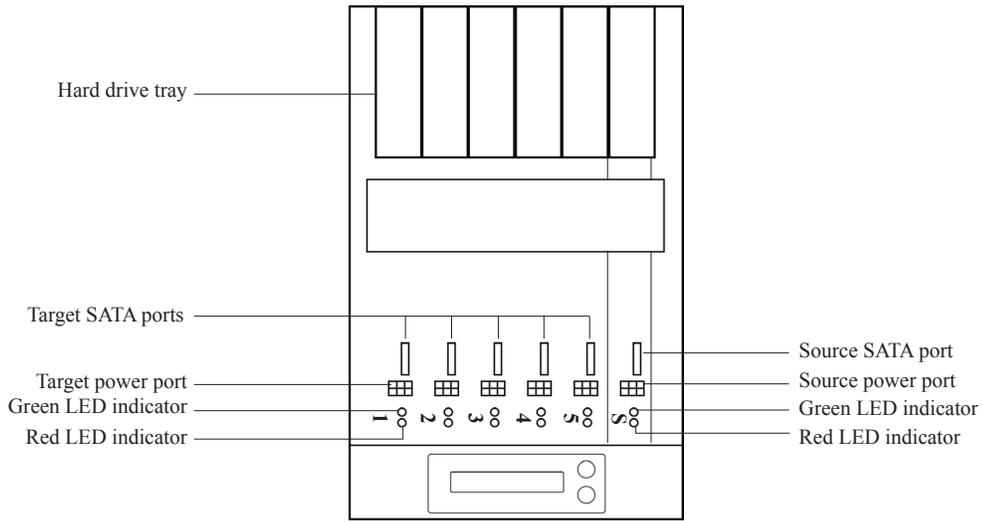


14HD

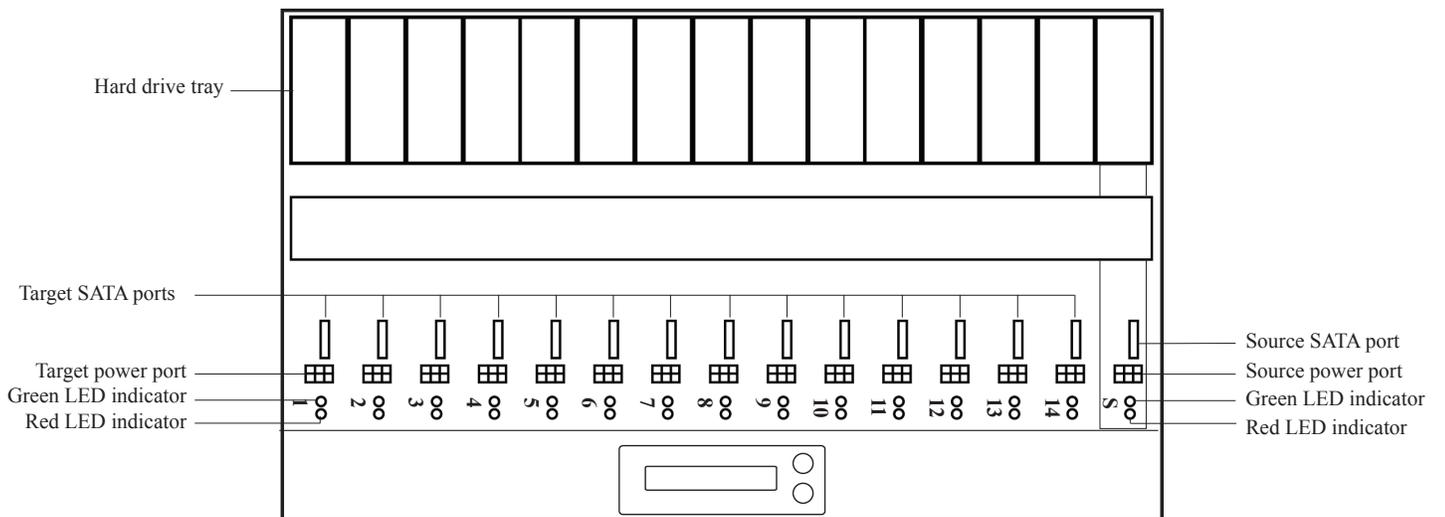


Top View

5HD



14HD



1.4 Hardware Setup

1. Place the KanguruClone where there is proper ventilation. Avoid using the KanguruClone in environments with high temperatures.
2. Before plugging in the AC Power Cable, please make sure that the voltage is adjusted to the same as your local voltage 110V/220V.

Note: Make sure that sufficient power is supplied to the KanguruClone. Incorrect power will cause faulty operation. It is highly recommended that you use a UPS (uninterruptible power supply) with the KanguruClone.

3. You are now ready to begin using your KanguruClone. To begin, turn on the unit with the power switch located on the back panel.

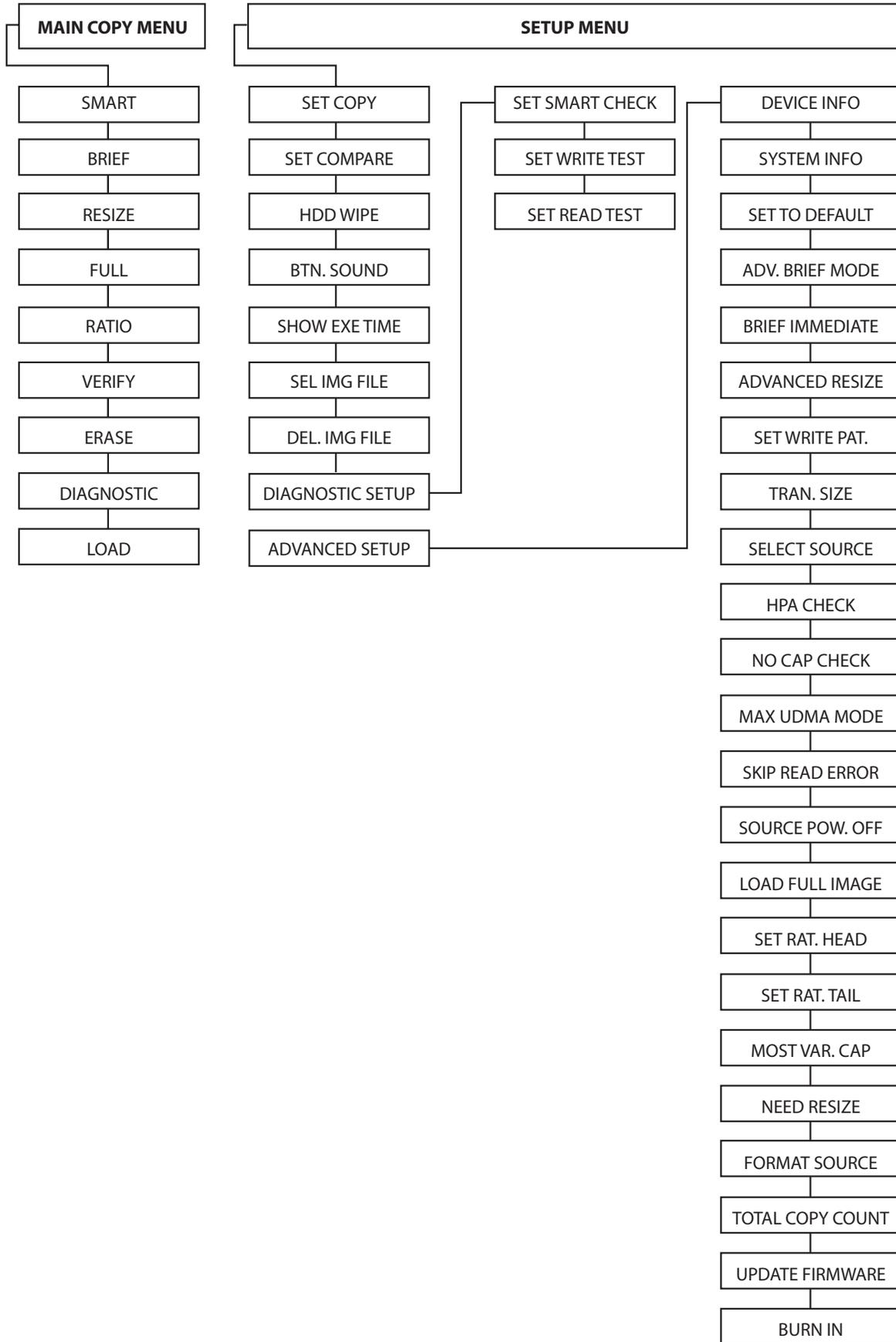
Things to remember

- Make sure that sufficient power is supplied to the KanguruClone. Incorrect power will cause faulty operation. It is highly recommended that you use a UPS (uninterruptible power supply) with the KanguruClone.
- The KanguruClone is powered by an internal power supply that is controlled by a rocker switch located at the rear of the unit.
- The KanguruClone supplies power to all drives during a cloning session. There is no need to connect an external power source to the drives. The unit can supply up to 1.5A at 12V and up to 1A at 5V to each drive.

Note: the drives are not powered until you start a copy operation.

- It is OK to connect and disconnect Master or Target drives while the KanguruClone is powered on. However, do NOT connect or disconnect drives while any operation is running or is in progress. The green LED light will blink to indicate that the unit is cloning or operating.
- The supplied cables are NOT standard cables like the ones found in a PC. Do not attempt to use these cables in a PC nor to use PC cables with the KanguruClone. Doing so may cause damage to the unit and drives.
- Your the Source port is labeled 'S'. Target ports are any other ports labeled with a number.
- Connect all Master and Target hard drives before you execute an operation.

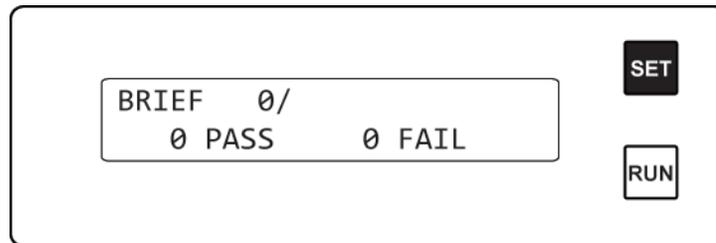
1.5 Function Tree Diagram



2. THE USER INTERFACE

Kanguru Solutions designed the KanguruClone's menu system with the professional in mind. The menu system is fast, responsive, and easy to navigate. This means fewer key presses are needed to achieve a desired action.

Important! The menu system is controlled by 2 push buttons located to the right of the LCD screen.



The 'SET' and 'RUN' buttons can be pressed in two ways:

- **Tap** – the button is pressed and released immediately. If the BTN. SOUND option is enabled (see section 7.4 Button Sound on page 27), a **Tap** will be accompanied by a short audible tone.
- **Hold** – the button is pressed and held for 2 seconds. If BTN. SOUND option is enabled (see section 7.4 Button Sound on page 27), a **Hold** will be accompanied by a short audible tone, followed by a higher pitched tone.

Note: When following the instructions listed in this manual, please pay close attention to whether you should **tap** a button or **hold** a button. The same button may function one way if tapped and another way if held.

2.1 The Menus

There are three tiers to the duplicator user interface: Main menu, Setup menu and Advanced Setup menu.

2.1.1 The Main Menu

The Main menu contains the main duplication operations: FULL, SMART, BRIEF, RESIZE, VERIFY, ERASE and LOAD. The duplicator will start in this menu by default.

```
SMART  0/
      0 PASS  0 FAIL
```

- **Tap** the ‘SET’ button to navigate through the different operations within the Main menu.
- **Tap** the ‘RUN’ button to execute an operation.

2.1.2 The Setup Menu

The SETUP menu contains options for configuring the way your duplicator operates. From the Main menu, **hold** the ‘SET’ button to enter the SETUP menu.

```
SETUP
>[*] SET COPY
```

- **Tap** the ‘SET’ button to navigate through the different SETUP menu options
- **Tap** the ‘RUN’ button to select/configure an option.
- While in the SETUP menu, **hold** the ‘SET’ button to return to the Main menu.

2.1.3 The Advanced Setup Menu

The ADVANCED SETUP menu contains advanced options for configuring the way your duplicator operates. From the SETUP menu, **tap** the ‘SET’ button to navigate to the ADVANCED SETUP option and then **tap** the ‘RUN’ button to enter the ADVANCED SETUP menu.

```
ADVANCED SETUP
>DEVICE INFO
```

- **Tap** the ‘SET’ button to navigate through the different menu options.
- **Tap** the ‘RUN’ button to select/configure an option.
- While in the ADVANCED SETUP menu, **hold** the ‘SET’ button to return to the SETUP menu.

3. DUPLICATION MODES

The KanguruClone can clone hard drives in one of five ways: SMART mode, BRIEF mode, RESIZE mode, FULL mode and RATIO mode.

After duplication has been completed you can configure the duplicator to automatically compare the data on the Source drive with the data on the Target drives to ensure that all data was copied successfully. For more information on configuring the Compare operation see chapter 4. Defining Copy and/or Compare on page 15.

3.1 Smart

SMART mode checks the Source and Target drives and determines which copy mode is the most efficient and automatically operates in that mode.

- First it will try to detect the Source drive's file system. If it does not recognize the file system then it will copy in FULL mode. The Duplicator supports the following file systems: FAT, FAT32, exFAT, NTFS, EXT2, EXT3, EXT4, XFS, RFS, HFS, HFS+
- If it is able to recognize the file system of the Source, it will compare the capacity between the Source and the Target.
 - If the Source is formatted in a Windows file system and its capacity is smaller than the Target then the duplicator will copy in RESIZE mode. The system will determine whether it needs to execute in Resize mode based on the NEED RESIZE option under the ADVANCED SETUP menu (see section 8.19 Need Resize on page 36).
 - If the Source's capacity is equal to the Target, then it will copy in BRIEF mode.
 - If the Target drives are of mixed capacities, it will determine a suitable copy mode based on the capacity of the smallest Target drive.
 - If the Target drives are of mixed capacities and the difference between drives exceeds the MOST VAR. CAP parameter, then the higher capacity drives that exceed the MOST VAR. CAP parameter will be excluded from the duplication. The MOST VAR. CAP parameter can be configured under the ADVANCED SETUP menu (see section 8.18 Most Varied Capacity on page 35).

3.2 Brief

BRIEF mode copies only the sectors that contain data and skips any blank sectors (including information hidden in sub channels). This mode supports the following file systems: FAT, FAT32, exFAT, NTFS, EXT2, EXT3, EXT4, HFS, HFS+, JFS, XFS.

Note: If the Source is not formatted as a supported file system then the duplicator will automatically switch to FULL mode. If you want to copy an unsupported file system in BRIEF mode, you will need to enable ADV. BRIEF MODE (see section 8.4 Advance Brief Mode on page 31).

3.3 Resize

RESIZE mode is used to copy between Source and Target drives of different capacities. The Resize mode allows for copying from a smaller capacity Source to larger capacity Target drives. Resize copy supports the following file systems: FAT, FAT32, NTFS. If the Source is not formatted as a supported file system then the duplicator will automatically switch to FULL mode. When duplicating in Resize mode, Target drives should all be the same capacity.

Note: When using Resize Copy to duplicate a drive with multiple partitions, each partition will be expanded equally in proportion to the remaining unallocated space. If you want to resize only the last partition on the drive, you will need to enable Advanced Resize (see section 8.6 Advanced Resize on page 32).

3.4 Full

FULL mode copies drives sector by sector from the Source to the Target(s), and supports all major OS formats (DOS/Windows/Mac/Linux). This mode is the slowest copy mode, but the safest.

3.5 Ratio

The Ratio Copy operation allows you to copy a defined percentage of the Master hard drive. The Master hard drive is divided in 1000 units. You must define the beginning and ending percentages before using this operation. To define the percentages you have to enter the Advanced Setup menu, and configure the SET RAT. HEAD and SET RAT. TAIL options. For more information on defining the beginning and ending sectors see section 8.16 Set Ratio Head on page 35 and section 8.17 Set Ratio Tail on page 35.

4. DEFINING COPY AND/OR COMPARE

Before performing a duplication, take a moment to define the SET COPY and SET COMPARE options under the SETUP menu. These options will tell the duplicator how the FULL, SMART, BRIEF and RESIZE modes will operate.

4.1 Set Copy Functionality

When enabled FULL, SMART, BRIEF and RESIZE modes will execute a Copy process. The SET COPY option is enabled by default.

To change the SET COPY option:

1. From the Main menu, **hold** the 'SET' button to enter the SETUP menu.
2. **Tap** the 'SET' button to navigate to the SET COPY option. It is marked with an asterisk by default, signifying that copy functionality is currently enabled.
3. **Tap** the 'RUN' button to toggle whether copy functionality is enabled or disabled.



```
SETUP
>[*] SET COPY
```

4.2 Set Compare Functionality

When enabled FULL, SMART, BRIEF and RESIZE modes will execute a Compare process, comparing the data between the Source and Target drives and confirming that they are identical. The SET COMPARE option is disabled by default.

To change the SET COMPARE option:

1. From the Main menu, **hold** the 'SET' button to enter the SETUP menu.
2. **Tap** the 'SET' button to navigate to the SET COMPARE option. It should not be marked by default, signifying that compare functionality is currently disabled.
3. **Tap** the 'RUN' button to toggle whether the option is enabled or disabled.



```
SETUP
>[*] SET COMPARE
```

4.3 Set Copy & Compare Functionality

Both the SET COPY and SET COMPARE options can be enabled at the same time. When both options are enabled FULL, SMART, BRIEF and RESIZE modes will execute a Copy & Compare process, copying the data from the Source to the Target drives and then comparing the data on all drives to ensure that they are identical.

5. DUPLICATION

The KanguruClone HDD Duplicator can operate in either one of two duplication methods:

- With a Master HDD as the source
- With a Storage Center as the source

Both methods are described in the following sections.

5.1 Duplicating From a Master HDD

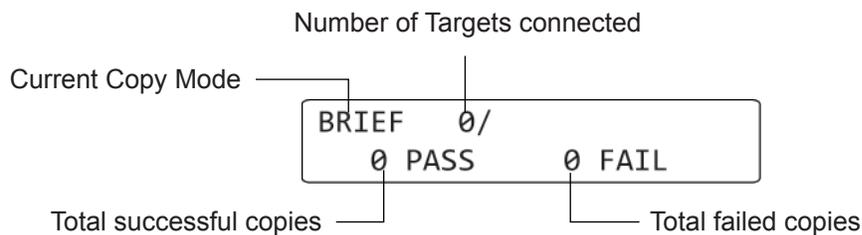
Using a Master HDD as the Source is the simplest and most convenient way to perform the duplication process.

IMPORTANT! Connect all Master and Target hard drives before you execute an operation.

To execute the duplication of a Master HDD:

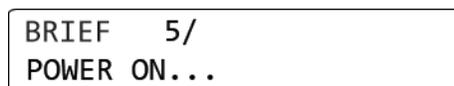
1. From the Main menu, **tap** the ‘SET’ button to navigate to the desired copy mode. For more information on the different available copy modes see chapter 3. Duplication Modes on page 13.

The screen will display the following:



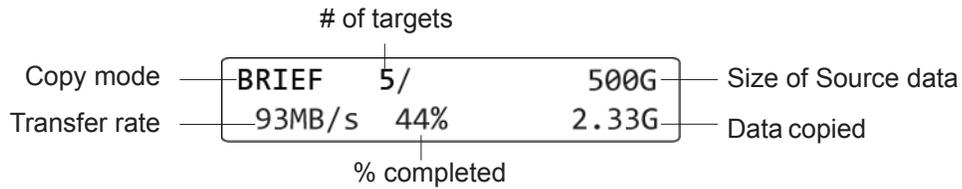
Note: The system will not recognize any connected drives before duplication begins. Therefore the “Number of Targets connected” value will always be zero until you execute the copy process.

2. Once you have selected the desired copy mode, **tap** the ‘RUN’ button to execute. The duplication process begins as the system initializes the connected disks. At this point the system will be able to display the number of connected targets correctly.



(Continued on next page)

- Once all connected disks have been detected and initialized, the duplication process begins. During duplication the screen will display the following information:



WARNING! Do not remove any drives while they are in use. You can tell if a drive is in use if the green LED next to it is blinking. Wait for a solid green or red LED before removing a drive. If you want to interrupt the current process, **tap** the ‘RUN’ or ‘SET’ button.

- Once the copy process is completed the screen will either provide you with a “Target All Success” message or, if for any reason a drive was not duplicated successfully, an error code. For more information on the meaning of the error codes, please see chapter 9. Error Code List on page 39.

Drives that completed successfully will have a solid green LED displayed next to it, indicating that there are no errors on that drive. Drives that failed the duplication process will have a solid red LED next to it.

- Tap** the ‘SET’ button to return to the Main menu.

Note: The duplicator will keep a running count of the number of passed and failed drives until you change copy modes.

5.2 Duplicating From a Storage Center

The KanguruClone hard drive duplicator allows you to turn a standard hard drive into a Storage Center. You can load images of your Master HDDs directly to the Storage Center providing you with a convenient way to store common Source files.

5.2.1 Formatting a hard drive as a Storage Center

First you need to format a hard drive as a Storage Center:

1. From the Main menu, **hold** the 'SET' button to enter the SETUP menu.
2. From the SETUP menu, **tap** the 'SET' button to navigate to the ADVANCED SETUP option and then **tap** the 'RUN' button to enter the ADVANCED SETUP menu.
3. From the ADVANCED SETUP menu, **tap** the 'SET' button to navigate to the FORMAT SOURCE operation.
4. Connect the hard drive that you want to use as a Storage Center to the Source port on the duplicator.
5. **Tap** the 'RUN' button to execute the FORMAT SOURCE option.
6. A confirmation screen appears. **Tap** the 'RUN' button to proceed with formatting the hard drive as a Storage Center or **tap** the 'SET' button to cancel.

Caution! Formatting will erase any data currently stored on the hard drive.

Once the format has completed, tap any button to return to the ADVANCED SETUP menu. Your hard drive has now been formatted as a Storage Center. You can now load images of Master HDD's to the Storage Center for convenient duplication.

Note: A hard drive formatted as a Storage Center will not be recognized when connected directly to a computer. The Storage Center uses a proprietary format not recognized by most operating systems.

5.2.2 Loading a Master HDD image to the Storage Center

Once you have formatted a hard drive to act as a Storage Center, you can load images of your Master HDD's to the Storage Center. To load a Master HDD image to the Storage Center:

1. Make sure your Storage Center is connected to the Source port and that the Master HDD is connected to any other target port.
2. From the Main menu, **tap** the 'SET' button to navigate to LOAD. You will see the following screen:

LOAD	0/
0 PASS	0 FAIL

(Continued on next page)

3. **Tap** the ‘RUN’ button. The duplicator will initialize the disks and then ask you to input a name for the image file. Up to 999 files can be stored in the Storage Center (depending on the capacity of the hard drive).

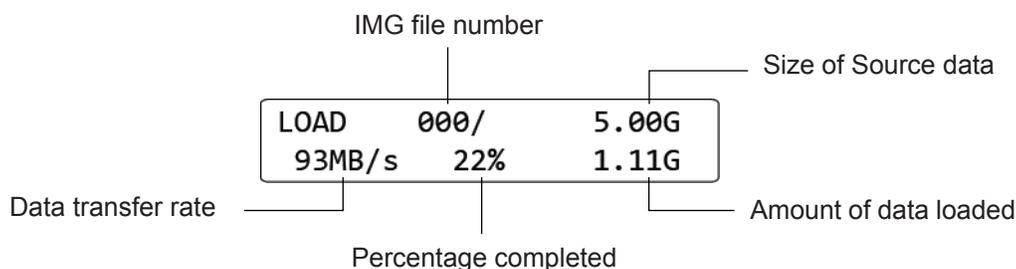
Please Input
>[000] SEL IMG FILE

- a) The file name consists of three digits. The digit furthest to the right will be blinking, indicating that it is currently selected. **Tap** the ‘RUN’ button to increase the digit by one.
- b) **Tap** the ‘SET’ button to select the next digit to the left. **Tap** the ‘RUN’ button to increase the digit by one. Repeat this step as necessary.

Note: If your duplicator displays the error message, “TARGET NOT FORMATTED” then the hard drive connected to the Source port has not been formatted as a Storage Center yet (see section 5.2.1 Formatting a hard drive as a Storage Center on page 18).

4. When you have completed naming the image file, **hold** the ‘RUN’ button and the Load process will begin.

Note: If the image file name you enter already contains an image file previously loaded on the Storage Center, the system will ask you to confirm overwriting the previously saved file. **Tap** the ‘RUN’ button to confirm or **tap** the ‘SET’ button to cancel.



5. When the load process has completed you can remove the Master HDD.

5.2.3 Duplicating an image file stored on a Storage Center

Now that you have loaded an image file on the Storage Center, you can begin the copy process:

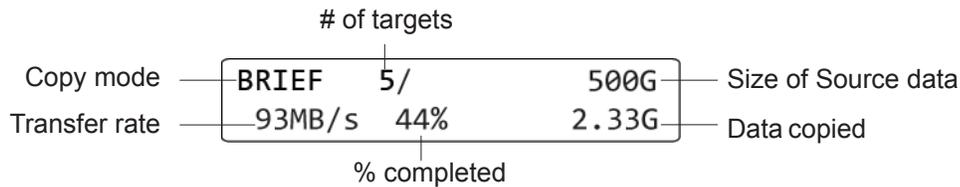
1. Make sure the Storage Center is connected to the Source port.
2. From the Main menu, **hold** the ‘SET’ button to enter the Setup menu.
3. From the Setup menu, **tap** the ‘SET’ button to navigate to the SEL IMG FILE option.

SETUP
>[001] SEL IMG FILE

In the example above, file number 001 is currently selected.

(Continued on next page)

4. **Tap** the ‘RUN’ button to change the SEL IMG FILE option.
 - a) The file name consists of three digits. The digit furthest to the right will be blinking, indicating that it is currently selected. **Tap** the ‘RUN’ button to increase the digit by one.
 - b) **Tap** the ‘SET’ button to select the next digit to the left. **Tap** the ‘RUN’ button to increase the digit by one. Repeat this step as necessary.
5. **Hold** the ‘RUN’ button when you have completed selecting the image file name.
6. **Hold** the ‘SET’ button to return to the Main menu.
7. From the Main menu, **tap** the ‘SET’ button to navigate to the desired copy mode.
8. Connect your Target drives into any available target ports.
9. **Tap** the ‘RUN’ button to execute. Once all connected disks have been detected and initialized, the duplication process begins. During duplication the screen will display the following information:



WARNING! Do not remove any drives while they are in use. You can tell if a drive is in use if the green LED next to it is blinking. Wait for a solid green or red LED before removing a drive. If you want to interrupt the current process, **tap** the ‘RUN’ or ‘SET’ button.

Note: If you receive the following error message: “NO DATA FOUND”, then the image file that you selected does not contain any data. Either select a different image file or Load the data from a Master HDD to that image file.

10. Once the copy process is completed, Target drives that completed successfully will have a green LED displayed next to it, indicating that there were no errors on that drive. Target drives that failed the duplication process will display a red LED next to it.

Note: The duplicator will keep a running count of passed and failed drives until you change copy modes.

6. OTHER OPERATIONS

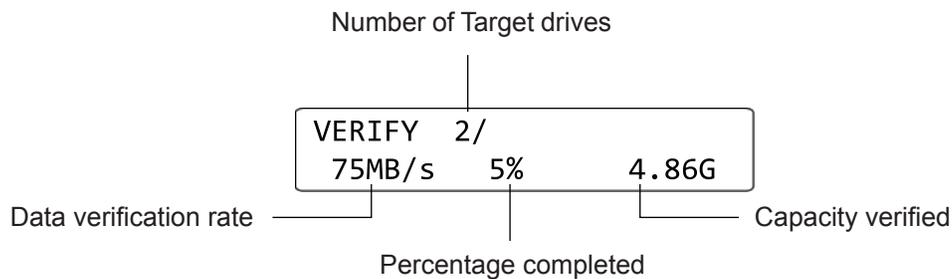
Besides the Copy and Compare modes, the KanguruClone Hard Drive Duplicator has several additional operations that are incredibly useful, including: VERIFY, ERASE and LOAD.

6.1 Verify

VERIFY will check all connected hard drives and determine if they are readable. The verification operation will check any hard drive connected to a Target port and verifies that all sectors on the hard drive are readable.

To verify your hard drives for duplication:

1. From the Main menu, **tap** the 'SET' button to navigate to VERIFY.
2. Connect your hard drives to any available Target ports. **Tap** the 'RUN' button to begin the verify process. The following screen will be displayed during verification:



3. Once the verification process has completed, the following screen will be displayed:

VERIFY
 TARGET ALL SUCCESS

A green LED indicator light will appear by the drives that have been verified as readable. A red LED indicator light will appear by drives that are unreadable.

4. **Tap** the 'SET' button to return to the Main menu.

6.3 Diagnostic

The Diagnostic feature allows you to run tests to verify the health of your target hard drives. If you are experiencing a high rate of failures during the duplication process, there could be something mechanically malfunctioning with your hard drives and the Diagnostic functions are a simple way to verify the health of your drives.

There are three Diagnostic modes available:

- **SMART Check** - (Self-Monitoring, Analysis and Reporting Technology) monitors hard drive indicators of reliability and is often able to anticipate future failures. SMART checks the electrical and mechanical performance as well as the read performance of the disk. Electrical tests can include a test of cache, a read/write circuitry test, or a test of the read/write head elements. Mechanical tests include seeking and servo on data tracks. SMART Check is disabled by default.
- **Write Test** - Checks the ability to write data to all sectors on the target hard drives. Write test is enabled by default.
- **Read Test** - Checks the ability to read data by first writing random data to all sectors on the target hard drives and then attempts to read them. Read Test is disabled by default.

For information on enabling other Diagnostic modes, please see section 7.8 Diagnostic Setup on page 28.

6.4 Load

LOAD allows you to store an image of a hard drive to a Storage Center.

A Storage Center is a hard drive that has been formatted to store hard drive images. The Storage Center allows you to quickly and conveniently access common duplication projects. For information on formatting a hard drive as a Storage Center see section 8.20 Format Source on page 36.

To load an image of a hard drive to a Storage Center:

1. From the Main menu **tap** the 'SET' button to navigate to LOAD.
2. Connect your Storage Center to the duplicator's Source port.
3. Connect the Master hard drive to any available Target port.
4. **Tap** the 'RUN' button to begin the load process.

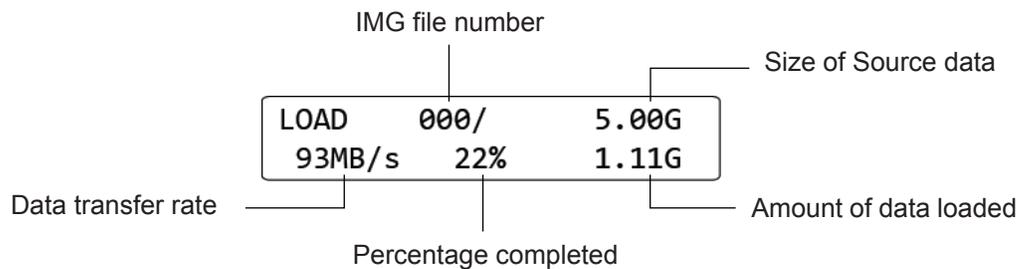
Note: If the screen displays the message "DEVICE NOT FORMATTED" it means that the hard drive connected to the Source port has not been formatted as a Storage Center. For information on formatting a hard drive as a Storage Center see section 8.20 Format Source on page 36.

5. The duplicator will ask you to input a file name for the image. Enter a file name:

Please Input
>[001] SEL IMG FILE

- a) The file name consists of three digits. The digit furthest to the right will be blinking, indicating that it is currently selected. **Tap** the 'RUN' button to increase the value by one.
 - b) **Tap** the 'SET' button to select the next digit to the left. **Tap** the 'RUN' button to increase the digit by one. Repeat this step as necessary.
6. When you have completed naming the image file, **hold** the 'RUN' button and the load process will begin.

Note: If the image file name you enter already contains an image file previously loaded on the Storage Center, the system will ask you to confirm overwriting the previously saved file. **Tap** the 'RUN' button to confirm or **tap** the 'SET' button to cancel.



7. When the load process has completed you can remove the Master HDD.

7. THE SETUP MENU

To enter the SETUP menu, from the Main menu **hold** the ‘SET’ button. Once you have entered the SETUP menu:

- **Tap** the ‘SET’ button to navigate the different menu options.
- **Tap** the ‘RUN’ button to change an option’s setting.

7.1 Set Copy

The SET COPY option allows you to enable or disable the Copy operation. **Tap** the ‘RUN’ button to change this option’s setting.

- [*] – Copy enabled (default). FULL, SMART, BRIEF or RESIZE modes will perform a Copy operation.
- [] – Copy disabled. FULL, SMART, BRIEF or RESIZE modes will not perform a Copy operation.

Note: To perform a Copy & Compare operation, set both the SET COPY and SET COMPARE options to enabled.

7.2 Set Compare

The SET COMPARE option allows you to enable or disable the Compare operation. **Tap** the ‘RUN’ button to change this option’s setting.

- [] – Compare disabled (default). FULL, SMART, BRIEF or RESIZE modes will not perform a Compare operation.
- [*] – Compare enabled. FULL, SMART, BRIEF or RESIZE modes will perform a Compare operation.

Note: To perform a Copy & Compare operation, set both the SET COPY and SET COMPARE options to enabled.

7.3 HDD Wipe

The HDD WIPE option allows you to enable or disable the WIPE operation. When enabled, the ERASE operation in the Main menu will change to the WIPE operation (see section 6.2 Erase / Wipe on page 22). The Wipe operation ensures that the hard drive is completely erased and that the data is unrecoverable.

Unlike an Erase, which writes zeros to every sector on the hard drive, a Wipe is a four step process that ensures that data is unrecoverable. The four steps are as follows:

1. All sectors on the hard drive(s) are written to with 0's.
2. All sectors on the hard drive(s) are written to with 1's.
3. All sectors on the hard drive(s) are written to with a random pattern of 0's and 1's.
4. All sectors on the hard drive(s) are verified

Tap the 'RUN' button to change this option's setting.

- [] – Wipe disabled (default). The wipe operation is turned off and in the Main menu you will only see the ERASE option.
- [*] – Wipe enabled. The wipe operation is turned off and you will now see the WIPE option in the Main menu instead of ERASE.

When you enable the WIPE operation, the system will ask you to configure the number of Wipe Cycles. The Wipe operation can be run consecutively up to 999 times. 7 wipe cycles complies with the American DOD 5220-22.M standard.

```
SETUP
>[007] WIPE CYCLES
```

Note: The more Wipe Cycles you set, the longer the wipe process will take.

To set the number of Wipe Cycles:

1. The digit furthest to the right will be blinking, indicating that it is currently selected. **Tap** the 'RUN' button to increase the value by one.
2. **Tap** the 'SET' button to select the next digit to the left. **Tap** the 'RUN' button to increase the digit by one. Repeat this step as necessary.
3. **Hold** the 'RUN' button to confirm.

7.4 Button Sound

The BTN. SOUND option allows you to enable or disable the audible tone that sounds when you tap or hold a button. **Tap** the 'RUN' button to change this option's setting.

- [*] – Button sounds are enabled (default). Tapping a button will be accompanied by a short tone. Holding a button will be accompanied by a long tone followed immediately by a higher pitched tone.
- [] – Button sounds are disabled. No audible tones will sound when you tap or hold a button.

7.5 Show EXE Time

The SHOW EXE TIME option allows you to enable or disable whether the total execution time for an operation is displayed on the LCD screen. The total execution time will be displayed after an operation has completed. **Tap** the 'RUN' button to change this option's setting.

- [] – Disabled (default). The total execution time is not displayed.
- [*] – Enabled. The total execution time is displayed.

7.6 Select Image File

SEL IMG FILE is used for selecting an image file that has been saved to a Storage Center.

```
SETUP  
>[001] SEL IMG FILE
```

To select an image file:

1. From the SETUP menu, **tap** the 'SET' button to navigate to the SEL IMG FILE option.
2. **Tap** the 'RUN' button. The digit furthest to the right will be blinking, indicating that it is currently selected. **Tap** the 'RUN' button to increase the digit by one.
3. **Tap** the 'SET' button to select the next digit to the left. **Tap** the 'RUN' button to increase the digit by one. Repeat this step as necessary.
4. When you have completed selecting an image file, **hold** the 'RUN' button to confirm your selection.

7.7 Delete Image File

DEL IMG FILE is used for deleting an image file that has been saved to a Storage Center.

SETUP
>[001] DEL IMG FILE

To delete an image file:

1. From the SETUP menu, **tap** the ‘SET’ button to navigate to the DEL IMG FILE option.
2. **Tap** the ‘RUN’ button. The duplicator will ask you to input the name of the image file you want to delete.
 - a) The file name consists of three digits. The digit furthest to the right will be blinking, indicating that it is currently selected. **Tap** the ‘RUN’ button to increase the digit by one.
 - b) **Tap** the ‘SET’ button to select the next digit to the left. **Tap** the ‘RUN’ button to increase the digit by one. Repeat this step as necessary.
3. When you have completed entering the name of the image file, **hold** the ‘RUN’ button to delete the image file.

Note: If the screen displays the following message, “NO FILE_SYS IN SRC” then there is no data saved to the image file that you selected.

7.8 Diagnostic Setup

DIAGNOSTIC SETUP allows you to enable or disable any of the available Diagnostic Modes. **Tap** the ‘RUN’ button to enter the Diagnostic Setup menu and then **tap** the ‘SET’ button to navigate through the available Diagnostic modes. **Tap** the ‘RUN’ button to enable or disable the Diagnostic mode.

There are three Diagnostic modes available:

- **Set SMART Check** - (Self-Monitoring, Analysis and Reporting Technology) monitors hard drive indicators of reliability and is often able to anticipate future failures. SMART checks the electrical and mechanical performance as well as the read performance of the disk. Electrical tests can include a test of cache, a read/write circuitry test, or a test of the read/write head elements. Mechanical tests include seeking and servo on data tracks. SMART Check is disabled by default.
- **Set Write Test** - Checks the ability to write data to all sectors on the target hard drives. Write test is enabled by default.
- **Set Read Test** - Checks the ability to read data by first writing random data to all sectors on the target hard drives and then attempting to read them. Read Test is disabled by default.

Note: More than one diagnostic can be enabled at the same time. All enabled Diagnostic modes will be applied when you run the Diagnostic function.

8. THE ADVANCED SETUP MENU

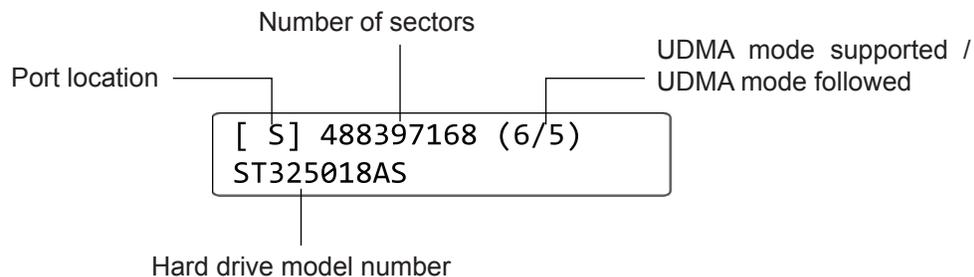
The ADVANCED SETUP menu provides you with extra options and operations for the advanced user. The ADVANCED SETUP menu can be accessed from the SETUP menu. From the SETUP menu, **tap** the ‘SET’ button to navigate to the ADVANCED SETUP option and then **tap** the ‘RUN’ button.

8.1 Device Info

DEVICE INFO allows you to view information about any hard drives currently connected to the duplicator.

To view device information:

1. From the ADVANCED SETUP menu, **tap** the ‘SET’ button to navigate to the DEVICE INFO function.
2. **Tap** the ‘RUN’ button to begin viewing the device information. Once the connected hard drives have been initialized you will see the following:



3. **Tap** the ‘SET’ button to view information about the next device.
4. After you have viewed all devices you will automatically return to the ADVANCED SETUP menu. You can also **hold** the ‘SET’ button to exit to the ADVANCED SETUP menu at any time.

8.2 System Info

SYSTEM INFO allows you to view information regarding your duplicator’s firmware version and build.

To view the system information:

1. From the ADVANCED SETUP menu, **tap** the ‘SET’ button to navigate to the SYSTEM INFO function.
2. **Tap** the ‘RUN’ button to begin viewing the system’s information:

```
KANGURU  DUPLICATOR
VER: 3.04  BLD:1007
```

3. **Tap** the ‘SET’ button to exit back to the ADVANCED SETUP menu.

8.3 Set to Default

SET TO DEFAULT allows you to restore all settings back to their factory default values.

To reset your duplicator to its original default configuration:

1. From the ADVANCED SETUP menu, **tap** the 'SET' button to navigate to the SET TO DEFAULT function.
2. **Tap** the 'RUN' button. The screen will display a message asking you to confirm the reset. **Tap** the 'RUN' button to confirm, or **tap** the 'SET' button to cancel.

ARE YOU SURE?
SET -> NO RUN -> YES

3. Once the reset has been completed, you will be displayed a confirmation message on the screen. Press any button to return to the ADVANCED SETUP menu.

8.4 Advance Brief Mode

The Brief copy mode is usually the fastest duplication method available. However Brief mode only supports a handful of file systems. The ADV. BRIEF MODE operation allows you to execute a Brief copy of unsupported file systems.

The Advance Brief copy mode requires a hard drive formatted as a Storage Center. For information on formatting a hard drive as a Storage Center, see section 8.20 Format Source on page 36.

To use the Advance Brief Copy:

1. From the ADVANCED SETUP menu, **tap** the 'SET' button to navigate to the ADV. BRIEF MODE function.
2. Enable the Advance Brief mode by **tapping** the 'RUN' button.

ADVANCED SETUP
>[*] ADV. BRIEF MODE

3. **Hold** the 'SET' button to return to the Setup menu.
4. **Hold** the 'SET' button to return to the Main menu.
5. Prepare a hard drive by connecting it to any Target port and then executing an Erase operation (see section 6.2 Erase / Wipe on page 22). Use this newly erased hard drive to create your Master hard drive.
6. **Tap** the 'SET' button to navigate to the LOAD operation.
7. Connect the Storage Center to the Source port.
8. Connect the Master hard drive to any Target port.
9. **Tap** the 'RUN' button to execute the Load operation. The duplicator will ask you to input the name of the image file you want to create.
 - a) The file name consists of three digits. The digit furthest to the right will be blinking, indicating that it is currently selected. **Tap** the 'RUN' button to increase the digit by one.
 - b) **Tap** the 'SET' button to select the next digit to the left. **Tap** the 'RUN' button to increase the digit by one. Repeat this step as necessary.
10. When you have completed entering the name of the image file, **hold** the 'RUN' button to start the Load process. This will build a data map of the Master hard drive image onto the Storage Center.

A data map image of the Master hard drive has now been saved to the Storage Center. You can now execute a Brief copy of this image file, regardless of the file system.

8.5 Brief Immediate

If you are experiencing issues when running Brief Copy, you can disable the Brief Immediate function which may improve the chance of a successful duplication. **Tap** the ‘RUN’ button to change this option’s setting. **Tap** the ‘SET’ button to confirm your selection.

- [*] – Brief Immediate is enabled (default). When Brief Immediate is enabled, data copying and analysis are done at the same time during Brief Copy. This is the faster option.
- [] – Brief Immediate is disabled. When you run a Brief Copy the duplicator will analyze the Source completely first, and then follow the analysis result to copy the data from the Source to the Target drives. Duplication through Brief Copy will take longer when Brief Immediate is disabled.

8.6 Advanced Resize

Advanced Resize is used when running Resize Copy to duplicate a Master drive with multiple partitions. **Tap** the ‘RUN’ button to change this option’s setting. **Tap** the ‘SET’ button to confirm your selection.

- [] – Advanced Resize is disabled (default). Resize Copy will equally resize all partitions proportionally to the amount of available unallocated space on the Target drive(s).
- [*] – Advanced Resize is enabled. Reszie Copy will only resize the last partition to use any remaining unallocated space on the Target drive(s).

8.7 Set Write Pattern

SET WRITE PAT. is used to define the data that you want to written to all sectors of your Target drives during an Erase operation. **Tap** the ‘RUN’ button to change this option’s setting. **Tap** the ‘SET’ button to confirm your selection.

The Write Pattern can be set to 00, 00, FF, C9, 5A, A5, AA, E5 or F6

8.8 Transfer Size

TRAN. SIZE setting allows you define the data transfer block size for each ATA command. Generally, larger transfer block sizes are better for duplication purposes than smaller sizes. However, there are some hard drives which can only accept 2MB data transfer size per ATA command. If your drives only support small data transfer block sizes, then you will need to change this setting. **Tap** the ‘RUN’ button to change this option’s setting. **Tap** the ‘SET’ button to confirm your selection.

The Transfer Size settings can be set to 1MB, 2MB, 4MB and 8MB. The KCLONE-14HD-SATA unit also has a 16MB option. The default value is set to the largest available option for your model.

8.9 Select Source

The Select Source option allows you to change which port is set as the Source port. This feature allows you to continue duplicating in the rare situation where the original Source port is no longer functioning correctly.

Warning! Connecting a Master hard drive to a non-Source port could result in data loss. We highly recommend not changing the Source location unless the original Source port is no longer responsive.

Tap the 'RUN' button to change the Source port location. The green LED indicator will light up next to the port currently selected as the Source.

8.10 HPA Check

The Host Protected Area (HPA), sometimes referred to as the Hidden Protected Area, is a partition on the hard drive that is not normally visible to an operating system. **Tap** the 'RUN' button to change this option's setting.

- [] – HPA Check is disabled (default). The system will not check for HPA partitions.
- [*] – HPA Check is enabled. When HPA CHECK is enabled the duplicator will support Host Protection Areas. When you duplicate a Master HDD that contains HPA, the system will detect the HPA partition, unlock it, copy the area and then re-lock the area once duplication is complete.

Note: When you view Device Info (see section) if the drive info displays an 'H' in the upper right corner then the hard disk contains a hidden Host Protected Area.

[S] 488397168 (6/5) H ST325018AS

8.11 No Capacity Check

The duplicator has a built in capacity check function which will check the capacity of the Master hard drive and the Target hard drive(s) during Full or Brief copy processes and determine whether the drives' capacities are the same.

Tap the 'RUN' button to change this option's setting.

- [] – No Capacity Check is disabled (default). When a Full or Brief copy process is executed the system will check the capacity between the Master and Target hard drive(s) to determine whether the capacity is the same. If the capacity is different the copy process will be cancelled.
- [*] – No Capacity Check is enabled. When a Full or Brief copy process is executed the system will not check the capacity between the Master and Target hard drive(s) and start the copy process as normal.

8.12 Max UDMA Mode

The MAX UDMA MODE option allows you to configure the maximum transfer speed allowed. **Tap** the ‘RUN’ button to change this option. The MAX UDMA MODE can be set as 0 – 6. The MAX UDMA MODE is set to 6 by default.

8.13 Skip Read Error

The SKIP READ ERROR option allows you to enable or disable error skipping during FULL, SMART, BRIEF and RESIZE modes. **Tap** the ‘RUN’ button to change this option.

- [] – Disabled (default). When an error is detected while reading from the Source, the duplicator will cancel the current process.
- [*] – Enabled. When an error is detected while reading from the Source, the duplicator will skip the bad sector on the Source and fill it with a zero on the Target.

8.14 Source Power Off

The SOURCE POW. OFF option allows you to configure whether the system turns off the power to the hard drive connected to the Source port when a copy process is completed. **Tap** the ‘RUN’ button to change this option.

- [*] – Enabled (default). When a copy operation is completed the power to the hard drive connected to the Source port is turned off.
- [] – Disabled. When a copy operation is completed the power to the hard drive connected to the Source port remains on until you change copy modes.

8.15 Load Full Image

The LOAD FULL IMAGE option allows you to control how image files are saved to a Storage Center during a Load operation (see section 6.4 Load on page 24). **Tap** the ‘RUN’ button to change this option.

- [] – Disabled (default). The system will analyze the Source’s file system before building the image. If the Source’s file system is recognized as FAT/ NTFS/ EXT1/ 2/ 3/ 4, the image will be a Brief image based on the file system and data area. If the Source’s file system is unrecognized the image will be a Full sector by sector image.
- [*] – Enabled. When executing a Load process, the system will not analyze the Source’s file system and will automatically build the image sector by sector.

8.16 Set Ratio Head

Note: The SET RAT. HEAD option configures the way that Ratio copy operates (see section 3.5 Ratio on page 14).

Ratio copy duplicates only a percentage of the Master hard drive. The SET RAT. HEAD option allows you to define a percentage of a Master hard drive to be duplicated, from the beginning of the hard drive up to the defined percentage. **Tap** the 'RUN' button to change this option.

The defined percentage can be 0%, 1%, 2%, 3%, 4%, 5%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80% or 90%. The default value is: 2%

8.17 Set Ratio Tail

Note: The SET RAT. TAIL option configures the way that Ratio copy operates (see section 3.5 Ratio on page 14).

Ratio copy duplicates only a percentage of the Master hard drive. The SET RAT. TAIL option allows you to define a percentage of a Master hard drive to be duplicated, from the end of the hard drive down to the defined percentage. **Tap** the 'RUN' button to change this option.

The defined percentage can be 0%, 1%, 2%, 3%, 4%, 5%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80% or 90%. The default value is: 0%

8.18 Most Varied Capacity

Note: The MOST VAR. CAP option configures the way that Smart copy operates (see section 3.1 Smart on page 13).

When you execute a Smart copy operation, the system will check the capacity between all connected Target drives. Any Target drives who's capacity exceeds the tolerance percentage defined by the MOST VAR. CAP option will be excluded from the operation. **Tap** the 'RUN' button to change this option.

For example:

- [0%] : All targets must be the same capacity. Any hard drives with a capacity larger than the smallest capacity drive connected will be excluded from the operation.
- [10%] : After the capacity of all Target hard drives has been checked, any hard drive that has a capacity greater than 10% of the smallest capacity hard drive will be excluded from operation.

The default value is: 3%

8.19 Need Resize

Note: The NEED RESIZE option configures the way that the Smart copy operates (see section 3.1 Smart on page 13).

When you execute a Smart copy operation, the system will check the capacity between the Source and all connected Target drives. If the capacity of any of the Target drives exceeds the capacity of the Source drive by the tolerance percentage defined by the NEED RESIZE option, then the duplicator will automatically execute a Resize copy. **Tap** the 'RUN' button to change this option.

For example:

- [0%] : All targets must be the same capacity. If the capacity between the Source and Targets is different than the system will execute a Resize copy.
- [10%] : If the capacity between the Source and Targets is between 0% and 10% then the system will execute a Brief copy. If the capacity of the Targets is larger than the capacity of the Master by more than 10% then the system will execute a Resize copy.

The default value is: 3%

8.20 Format Source

The FORMAT SOURCE operation allows you to format a hard drive as a Storage Center. Storage Centers can be used to store hard drive images for convenient access to your most commonly used Source files. For more information on using a Storage Center see section 5.2 Duplicating From a Storage Center on page 18.

To format a hard drive as a Storage Center:

1. Connect the hard drive you want to format as a Storage Center to the duplicator's Source port.
2. In the Advanced Setup menu, navigate to FORMAT SOURCE and then **tap** the 'RUN' button to format the hard drive.
3. You will receive a message asking you to confirm formatting the drive. **Tap** the 'RUN' button to proceed or **tap** the 'SET' button to cancel.

Caution! Formatting the internal hard drive will erase any saved image files stored on the hard drive.

Once the format has completed you will receive a message confirming that the format was successful.

8.21 Total Copy Count

TOTAL COPY COUNT keeps track of the total number of successful and unsuccessful duplications produced by the system. This is a running count that includes all copy modes. **Tap** the 'RUN' button to view the total copy count.

8.22 Update Firmware

The UPDATE FIRMWARE function allows you to upgrade your Kanguru Hard Drive Duplicator to the latest firmware version.

Warning! Do not attempt to update your duplicator's firmware unless specifically instructed to do so by a Kanguru Technician.

To update your firmware:

1. Contact Kanguru Technical Support at 508-376-4245 to receive a firmware update file.
2. Format a SATA hard drive as FAT32.
3. Copy the firmware file to the hard drive.
4. Connect the hard drive to the duplicator's Source port.
5. From the ADVANCED SETUP menu, **tap** the 'SET' button to navigate to UPDATE FIRMWARE and then **tap** the 'RUN' button.
6. Once the system has confirmed the firmware file, a message will be displayed on the screen asking you to confirm the firmware update. **Tap** the 'RUN' button to proceed or **tap** the 'SET' button to cancel.
7. Wait for the firmware update process to complete.
8. Once the firmware update process has completed, reboot your system and the new firmware version and build number will be displayed on the startup screen.

Warning! Do not disconnect power or turn off the duplicator while updating the firmware. Doing so may cause the duplicator to become non-functional.

8.23 Burn In

The BURN IN function allows the system to perform a Copy, Compare, Verify, Erase or Load function continuously to stress test for endurance, reliability and stability.

To perform a continuous burn in test:

1. From the ADVANCED SETUP menu, **tap** the 'SET' button to navigate to the BURN IN option.
2. The BURN IN option is disabled by default. **Tap** the 'RUN' button to enable it.
3. **Tap** the 'RUN' button to configure the BURN IN COUNT option. The BURN IN COUNT can be set to: 5, 10, 15, 20, 50 or MX. The number here will tell the system how many times it should repeat the Burn In test. If set to MX, the Burn In test will run continuously until you manually stop it.
4. **Tap** the 'SET' button to confirm your selection.
5. From the ADVANCED SETUP menu, **hold** the 'SET' button to return to the SETUP menu.
6. From the SETUP menu, **hold** the 'SET' button to return to the Main menu.
7. **Tap** the 'SET' button to navigate to the mode that you want to test.
8. **Tap** the 'RUN' button to begin the burn in test.
9. Once the operation has completed the screen will display the total execution time and the operation count. Once this information has been displayed for a few seconds the operation will start again automatically. This will be repeated until the BURN IN COUNT value configured in step 3 has been reached.
10. You can stop the burn in test at any time by **tapping** either the 'SET' button or 'RUN' button during operation. This will automatically disable the Burn In function and the duplicator will return to normal functionality.

9. ERROR CODE LIST

The Error Code List can give you some information to help you understand any problems that occur during duplication.

Error Code	Problem Description
A	ATA command interface error (read/write error)
B	Check Target speed error
C	Compare error
D	Data transfer error
E	ATA command, uncorrectable error (erase error)
F	Skip read error
G	ATA command ID not found error (read error)
H	Checksum error
I	ATA secure erase error
K	Unknown error
M	No error
N	No device detected
O	ATA SMART check error
P	Power on command error / identify UDMA error
R	ATA read error
S	Source read error
W	ATA write error
Y	PHY off

10. FAQ

Q: Do all Target hard drives have to be the same capacity? Same Brand?

A: If you select Full copy or Brief copy, the Target hard drives must have the same capacity as the Master hard drive. The hard drive brand is not important but capacity must be identical.

Q: Can I clone a smaller capacity Master drive to larger capacity Target drives?

A: Yes, use the “RESIZE COPY“ operation to clone a smaller capacity Master to larger capacity Targets. However, targets must all be the same size (i.e. you can clone a 20GB Master to five 100GB Targets using RESIZE COPY).

Q: Can I clone to Targets of various brands simultaneously?

A: Yes, the machine is able to clone hard drives of different brands as long as they are the same capacity.

Q: Can drives with different RPM speeds be cloned together?

A: Yes, the machine will adjust to hard drives with different RPMs.

Q: How does the duplicator handle multiple partitions on the Master drive?

A: The machine will auto-detect how many partitions in the source hard drive and then copy it, but you are unable to select a specific partition to copy.

Q: How does the duplicator handle multiple partitions of varying formats on the Master drive?

A: The machine will analyze the File System of the Master drive before it begins cloning.

Q: Can the duplicator clone operating systems such as UNIX and OS/2?

A: Yes, use the Full copy operation to copy any operating system.

Q: Can the duplicator defragment a partition?

A: No, this must be done directly by the operating system of your PC.

Q: Can the Duplicator copy Encrypted HDD's?

A: The KanguruClone is able to copy a limited number of encrypted HDD types through Full copy.

11. TROUBLESHOOTING

Problem	Possible Cause	Solution
<p>The KanguruClone will not start or there is no display on the LCD screen.</p>	<p>The power cable is damaged or not connected securely.</p>	<p>Make sure that the power cable is not damaged and is not loose.</p>
	<p>The voltage of the outlet the KanguruClone is plugged into does not match the KanguruClone.</p>	<p>Make sure that the voltage of the outlet matches the voltage of the KanguruClone.</p>
	<p>The power supply switch or the system power switch is in the Off position.</p>	<p>Make sure that the power switch located at the back of the unit is in the On position.</p>
<p>The KanguruClone cannot make copies of a Master hard drive.</p>	<p>The hard drive is not connected or was not detected by the Kanguru Clone.</p>	<p>Make sure that all connected hard drives have been successfully detected by the KanguruClone.</p>
	<p>The cables connecting the hard drive are not connected securely.</p>	<p>Make sure that no hard drive connection cables are loose.</p>
	<p>The hard drive jumpers are not set in the correct position.</p>	<p>Make sure that all the hard drive jumpers are set to the Master or Cable Select position.</p>
	<p>The hard drive may be faulty.</p>	<p>Make sure that the Master hard drive is not broken and does not have errors.</p>
	<p>The hard drive's format is not supported by Brief Copy or Resize Copy.</p>	<p>When executing a Brief Copy or Resize Copy, make sure that the format of the Master hard drive is supported.</p>
	<p>The hard drive contains a Host Protected Area.</p>	<p>Enable the HPA CHECK option under the Advanced Setup menu.</p>
<p>The KanguruClone is unstable or operates very slowly.</p>	<p>The data cables from the KanguruClone to the hard drives are not connected securely.</p>	<p>Make sure that none of the data or power cables are loose.</p>
	<p>A hard drive may have an error that is affecting the other hard drives, causing slow operation.</p>	<p>Try to identify the faulty hard drive and replace as needed.</p>
	<p>The cables do not meet the UDMA standards.</p>	<p>Only use the cables provided by Kanguru Solutions with the KanguruClone.</p>

12. WARRANTY INFORMATION

This product carries a 1 year* limited warranty on the power supply, controller, and all internal components. The warranty does not cover any IDE, SATA, or Power cables. Kanguru Solutions is not responsible for any damages incurred in the shipping process. Any claims for loss or damage must be made to carrier directly. Claims for shipping errors should be reported to Kanguru Solutions within three (3) working days of receipt of merchandise. Please refer to the RMA Procedure section of this manual if your duplicator needs servicing.

Kanguru Solutions does not offer money back returns on its duplicator product lines due to the unique nature of the product. All units will be fully supported under manufacturer's and/or extended warranty plans.

13. TECHNICAL SUPPORT

If you experience any problems using your Kanguru product or have any technical questions regarding any of our products, please call our tech support department. Our tech support is free and available Monday thru Friday, 9am to 5pm EST.

Call 1-508-376-4245

Or visit our website at www.Kanguru.com

RMA Procedure

All Duplicators being serviced MUST BE PACKED IN THE ORIGINAL PACKAGING. If you do not have your original packaging, you can purchase replacement packaging for \$25.00 from Kanguru’s Tech Support Department. Kanguru Solution’s warranty will not be honored in the event that a duplicator is received improperly packaged, altered, or physically damaged.

STEP ONE: Call for a RMA Number: 508-376-4245

Duplicators will not be accepted for repair without a valid RMA number. RMA numbers are valid for 30 days upon assignment. Any return without a valid RMA number will be returned to the customer at their expense.

STEP TWO: Ship and Insure your Duplicator

Kanguru Solutions strongly recommends you fully insure the duplicator for shipping. Kanguru Solutions is not responsible for if the package is lost or damaged in transit. We suggest using a shipping company that utilizes a “tracking” feature to verify “proof of delivery.” The customer is responsible for shipping charges when returning a product. Shipping back to the customer is covered by Kanguru Solutions during the first 90 days of purchase. After 90 days of purchase the customer is responsible for shipping both ways.

Clip and Use this Label to Ship Your Return

Kanguru Solutions Tech. Support Dept. 1360 Main St. Millis, MA 02054	
RMA#	<input type="text"/>



"Technology on the move!"



Kanguru Solutions
1360 Main Street
Millis, MA 02054
www.kanguru.com

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