



**KANGURU™**  
*Secure. Anytime. Anywhere.*

## Kanguru Mobile Clone User Manual KCLONE-1HD-MBC



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Version: 5.0.2

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### FCC Compliance Statements

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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Congratulations on your purchase of the Kanguru Mobile Clone Hard Drive Duplicator from Kanguru Solutions.

The Kanguru Mobile Clone is a high speed, stand-alone SATA / PATA hard drive duplicator that can clone just about any hard drive. With all the features of Kanguru's full-size hard drive duplicators, transfer rates up to 6GB/min and a small form factor, the Kanguru Mobile Clone HD Duplicator is the perfect addition to any IT technician's toolbox.

## Features

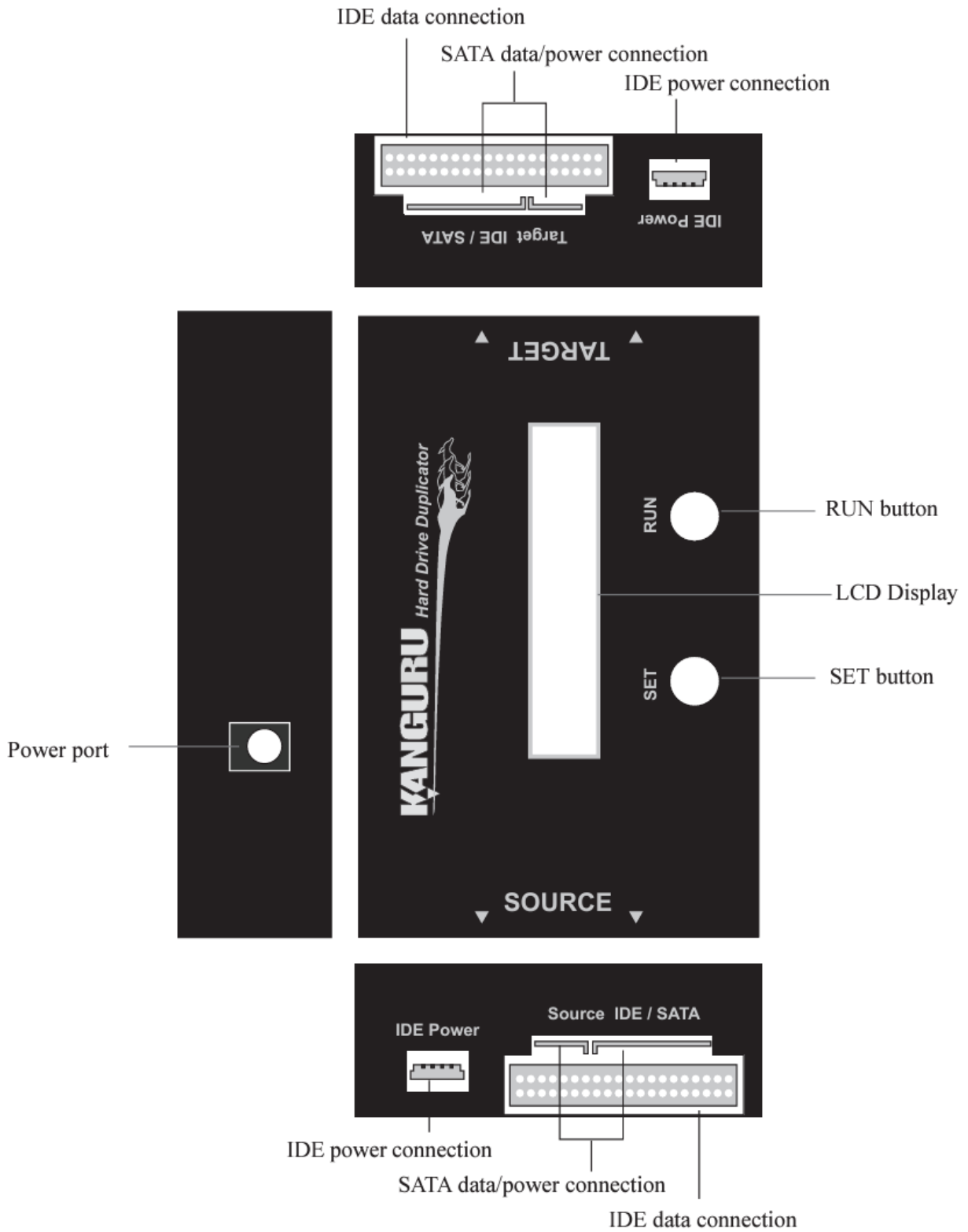
- Up to 6GB/min transfer rates
- Natively supports 3.5" PATA and 2.5"/3.5" S ATA hard drives
- HDD size and brand independent.
- Brief Copy - Copies only sectors with data (compatible with most major file systems)
- Resize Copy - Copies HDDs with different capacities
- Full Copy - Sector for sector duplication
- Post duplication Compare
- Secure Disk Wipe
- Read Verify diagnostic
- Supports HPA (Host Protection Area) copy
- Load images to a Storage Center for convenient access to common duplication jobs
- One-year Standard Warranty

## Package Contents

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

- 1 x Kanguru Mobile Clone HD Duplicator
- 1 x AC adapter
- 1 x Power cable
- 2 x IDE Data Cable
- 2 x IDE Power Cable
- 2 x S ATA Data/Power Cable
- 1 x Quick Start Guide

Model	KCLONE-1HD-MBC
Connection Interface	2.5"/3.5" SATA 3.5" PATA
Transfer rate	Up to 6GB/min
LCD Screen	20 x 2 Characters back-lit LCD
Input Device	2 Push Buttons
Dimensions	6.2" x 4" x 1.5"
Weight	2 lbs.
Power Supply	110/220V 60W
Operating Temperature	41°F ~ 95°F
Relative Humidity	20% ~ 80%



1. Place the Kanguru Mobile Clone where there is proper ventilation. Avoid using the Kanguru Mobile Clone in environments with high temperatures or extreme humidity.
2. Make sure that sufficient power is supplied to the Kanguru Mobile Clone. Incorrect power will cause faulty operation.
3. You are now ready to begin using your Kanguru Mobile Clone. To begin, turn on the duplicator by connecting the power adapter from an electrical outlet to the unit's power port.

## Things to remember

- Make sure that sufficient power is supplied to the Kanguru Mobile Clone. Incorrect power may cause faulty operation.
- The Kanguru Mobile Clone supplies power to drives during a duplication 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 execute an operation.*

- It is OK to connect and disconnect Master or Target drives while the Kanguru Mobile Clone is powered on. However, do NOT connect or disconnect drives while any operation is running or is in progress.
- 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 Kanguru Mobile Clone. Doing so may cause damage to the unit and/or drives.
- Connect the Source and Target hard drives before you execute an operation.





Kanguru Solutions designed the Kanguru Mobile Clone'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 below 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](#) 25 option is enabled, 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, 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.*

# Defining Copy and/or Compare

# 7

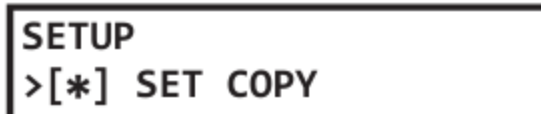
Before performing a duplication, take a moment to define the [SET COPY](#)<sup>[23]</sup> and [SET COMPARE](#)<sup>[24]</sup> options under the [Setup Menu](#)<sup>[22]</sup>. These options will tell the duplicator how the Full and Brief modes will operate.

## Set Copy Functionality

When **SET COPY** is enabled [Brief](#)<sup>[15]</sup>, [Resize](#)<sup>[16]</sup>, and [Full](#)<sup>[17]</sup> 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](#)<sup>[14]</sup>, 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

## Set Compare Functionality

When **SET COMPARE** is enabled Brief and Full 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

## Set Copy & Compare Functionality

Both the **SET COPY** and **SET COMPARE** options can be enabled at the same time. When both options are enabled Brief and Full 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.

The Kanguru Mobile Clone can perform multiple functions with the primary function being duplications.

There are two duplication methods available on the Kanguru Mobile Clone:

<a href="#">HDD as the Source</a> <sup>9</sup>	Using a Source HDD as the Source is the simplest and most convenient way to perform the duplication process.
<a href="#">Storage Center as the Source</a> <sup>10</sup>	You can load images of your Source HDDs directly to the Storage Center providing you with a convenient way to store common duplication jobs.

## Duplicating From a Source HDD

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

**IMPORTANT!** Connect your **Source HDD** on the side labeled **SOURCE**. Connect the **Target hard drives** on the side labeled **TARGET**. Connect all drives before you execute an operation.

To execute the duplication of a **Source HDD**:

1. From the **Main Menu**, tap the **SET** button to navigate to the desired copy mode. The screen will display the following:



[ BRIEF ] COPY

2. Once you have selected the copy mode, tap the **RUN** button to execute it. The duplication process begins as the system initializes the connected disks.



[ BRIEF ] COPY  
POWER ON...

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



[ BRIEF ] COPY  
30.44%

**WARNING!** Do not remove any drives while duplication is in progress. Wait for duplication to finish before removing a drive. If you wish to interrupt the current process, tap the **RUN** or **SET** button at any time.

4. Once the copy process is completed the screen will either provide you with a **Success** message or, if for any reason a drive was not duplicated successfully, an error message. Tap the **SET** button to view the total duplication time.

## Duplicating From a Storage Center

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

<a href="#">Formatting HDD for a Storage Center</a> <sup>11</sup>	This option allows you to format a drive so that it can be used as a Storage Center.
<a href="#">Loading a Source IMG</a> <sup>12</sup>	Provides steps on how to load an image onto the Storage Center.
<a href="#">Duplicating an IMG</a> <sup>13</sup>	Provides steps on how to duplicate an image from the Storage Center to a Target drive.

## Formatting an HDD as a Storage Center

First you need to format a hard drive as a [Storage Center](#)<sup>10</sup>:

1. From the [Main Menu](#)<sup>14</sup>, hold the **SET** button to enter the [Setup Menu](#)<sup>22</sup>.
2. From the **Setup Menu**, tap the **SET** button to navigate to the **FORMAT SOURCE** operation.
3. Connect the hard drive that you want to use as a Storage Center to the side of the duplicator labeled **SOURCE**.
4. Tap the **RUN** button to execute the **FORMAT SOURCE**. *Caution! Formatting will erase any data currently stored on the hard drive.*
5. 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.

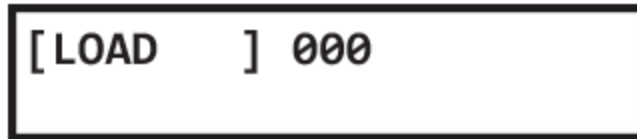
Once the format has completed, tap any button to return to the **Setup Menu**. Your hard drive has now been formatted as a Storage Center. You can now load images of **Source HDD's** to the Storage Center for convenient duplication.

*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.*

## Loading a Source HDD IMG to the Storage Center

Once you have formatted a hard drive as a [Storage Center](#)<sup>[10]</sup>, you can load images of your **Source HDDs** to the Storage Center. To load a **Source HDD** image to the Storage Center:

1. Make sure your **Storage Center** is connected to the side labeled **SOURCE** and that the **Source HDD** is connected to the side labeled **TARGET**.
2. From the [Main Menu](#)<sup>[14]</sup>, tap the **SET** button to navigate to [Load](#)<sup>[21]</sup>. You will see the following screen:



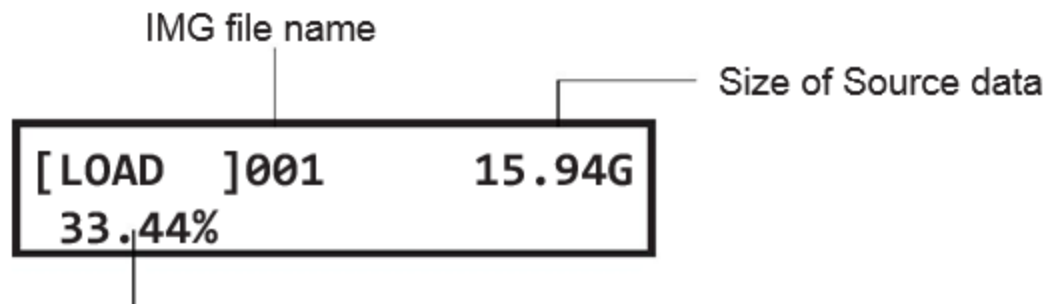
3. Tap the **RUN** button. The duplicator will initialize the disks and then ask you to input a name for the image file.



- 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.*

4. When you have completed naming the image file, hold the **RUN** button and the duplicator will begin loading an image of your **Source HDD** to the Storage Center. *Note: If the image file name you enter already contains an image file previously loaded on the Storage Center, the system will overwrite the previously saved file.*



5. When the load process has completed you can remove the **Source HDD** from the side labeled **TARGET**.



## Duplicating an IMG Stored on a Storage Center

Now that you have loaded an image file on the [Storage Center](#)<sup>10</sup>:

1. From the [Main Menu](#)<sup>14</sup>, hold the **SET** button to enter the [Setup Menu](#)<sup>22</sup>.
2. From the Setup Menu, tap the **SET** button to navigate to the [SEL IMG FILE](#)<sup>27</sup> option.



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

3. Tap the **RUN** button to select an image 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.
4. Hold the **RUN** button when you have completed selecting the image file name.
5. Hold the **SET** button to return to the **Main Menu**.
6. From the Main menu, tap the **SET** button to navigate to the desired copy mode.
7. Connect your Target drive to the side of the duplicator labeled **TARGET**.
8. Tap the **RUN** button to execute. Once all connected disks have been detected and initialized, the duplication process begins.

***WARNING!*** Do not remove any drives while duplication is in progress. Wait for duplication to finish before removing a drive. If you wish to interrupt the current process, tap the **RUN** or **SET** button at any time.








***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 Source HDD to that image file.

9. Once the copy process is completed the screen will either provide you with a **Success** message or, if for any reason a drive was not duplicated successfully, an error message. Tap the **SET** button to view the total duplication time.

The Main Menu allows you to select which mode you can use with Source and Target drives connected to your Kanguru Mobile Clone.

- Tap the **SET** button to navigate the different menu options.
- Tap the **RUN** button to active the option selected.

The modes that you can select in the Main Menu are as follows:

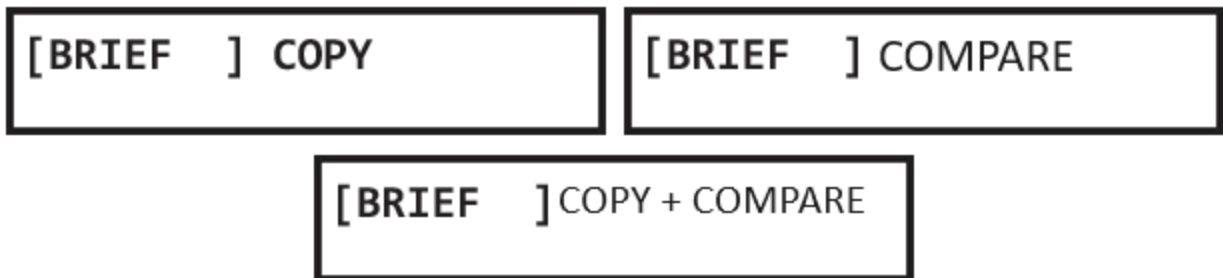
<a href="#">Brief</a>  15	Brief mode performs actions only the sectors that contain data and skips any blank sectors (including information hidden in sub channels). This mode is commonly the fastest mode and it supports the following file systems: FAT, FAT32, exFAT NTFS, EXT2, EXT3, EXT4, HFS, HFS+, JFS, XFS.
<a href="#">Resize</a>  16	Resize mode is used to copy between Source and Target drives of different capacities. Resize copy supports the following file systems: FAT, FAT32, NTFS.
<a href="#">Full</a>  17	Full mode performs operations sector by sector from the Source to the Target. This mode is commonly the slowest mode and it supports all major file system formats.
<a href="#">Erase</a>  18	Erase deletes all information on any hard drive connected to the side of the duplicator labeled TARGET. Data is erased by writing zeros into each sector on the hard drive.
<a href="#">Wipe</a>  19	The Wipe feature allows you to perform a disk wipe operation, ensuring that the hard drive is completely erased and that the data is unrecoverable.
<a href="#">Verify</a>  20	Verify will check that all sectors are readable on the drive connected to the side of the duplicator labeled TARGET. If a hard drive fails duplication, you should run the Verify feature to ensure that the drive is healthy.
<a href="#">Load</a>  21	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.

## Brief

Brief mode performs actions only the sectors that contain data and skips any blank sectors (including information hidden in sub channels). This mode is commonly the fastest mode and it 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](#)<sup>[7]</sup>.*

For information on how to change this mode to Copy, Compare, or Copy & Compare, please look at [Defining Copy and/or Compare](#)<sup>[7]</sup>.



## Resize

Resize mode is used to copy between Source and Target drives of different capacities. Resize copy supports the following file systems: FAT, FAT32, NTFS.

*Note: If the Source is not formatted as a supported file system, then the duplicator will automatically switch to [Full mode](#)<sup>17</sup>.*

The Kanguru Mobile Clone support copying from a smaller Source drive to larger Target drives. Duplicators running firmware version 2.56 or later have the ability to copy from a larger Source to a smaller Target. This is extremely useful when cloning an operating system from a larger capacity HDD to a smaller capacity SSD. In order to clone from a larger Source to a smaller Target, the following two conditions are met:

- The Master drive must be a Windows OS drive, formatted NTFS or FAT32. Large to small resizing is not supported for Mac or Linux operating systems.
- The total data content on the Master must be smaller than the total capacity on the Target (e.g. if the Master drive is a 500GB HDD with 100GB of used space, then the Target drive capacity must be greater than 100GB).

Other things to be aware of:

- Encrypted partitions are not supported by Resize.
- Hidden/boot partitions are supported, as are multi-partitions as long as they are formatted NTFS or FAT32.
- In a multi-partition situation, hidden/boot partitions are not resized. NTFS and FAT32 partitions are resized proportionally.

*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.*

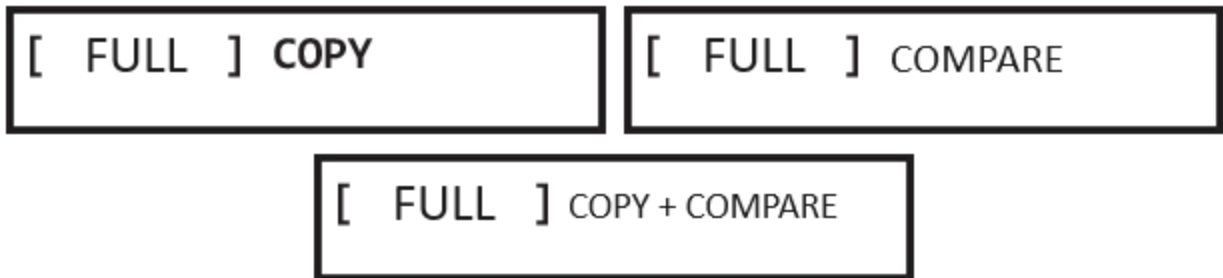


## Full

Full mode performs operations sector by sector from the Source to the Target. This mode is commonly the slowest mode and it supports all major file system formats.

*Note: If you have attempted to use either [Brief](#)<sup>[15]</sup> or [Resize](#)<sup>[16]</sup> and the Source is not formatted as a supported file system, then the duplicator will automatically switch to Full mode.*

For information on how to change this mode to Copy, Compare, or Copy & Compare, please look at [Defining Copy and/or Compare](#)<sup>[7]</sup>.



## Erase

Erase deletes all information on any hard drive connected to the side of the duplicator labeled **TARGET**. Data is erased by writing zeros into each sector on the hard drive.

***CAUTION!** The Erase operation will delete all data and file systems on any attached target hard drives. Make sure that you back up any important data before executing the Erase operation. Only hard drives connected to **TARGET** will be erased. Any hard drives connected to the side of the duplicator labeled **SOURCE** will not be affected by the Erase operation.*

To Erase a hard drive:

1. From the [Main Menu](#)<sup>14</sup>, tap the **SET** button to navigate to **Erase**.



2. Connect your hard drive to the side of duplicator labeled **TARGET**. Tap the **RUN** button to begin the Erase process. The following screen will be displayed:



Percentage completed

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



Tap the **SET** button to view the total erase time.

## Wipe

Although the data is removed through the [Erase](#)<sup>18</sup> operation, the data may still be retrievable with the right tools. The **Wipe** feature allows you to perform a disk wipe operation, ensuring 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.

**CAUTION!** *The Wipe operation will permanently delete all data and file systems on a hard drive. Make sure that you back up any important data before executing the Wipe operation. Only hard drives connected to the side of duplicator labeled **TARGET** will be erased. Any hard drives connected to the side of the duplicator labeled **SOURCE** will not be affected by the Wipe operation.*

To Wipe a hard drive:

1. From the [Main Menu](#)<sup>14</sup>, tap the **SET** button to navigate to **Wipe**.



2. Connect your hard drive to the side of duplicator labeled **TARGET**. Tap the **RUN** button to begin the Wipe process. The following screen will be displayed:



Percentage completed

The following will be displayed next to **[WIPE ]** to indicate which step the Wipe feature is at:

- WRT0 - Writing 0's to all sectors
- WRT1 - Writing 1's to all sectors
- WRTR - Writing a random pattern of 0's and 1's to all sectors
- RVEY - Read Verifying all sectors

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



Tap the **SET** button to view the total Wipe time.

## Verify

Verify will check that all sectors are readable on the drive connected to the side of the duplicator labeled **TARGET**. If a hard drive fails duplication, you should run the Verify feature to ensure that the drive is healthy.

To verify your hard drives for duplication:

1. From the [Main Menu](#)<sup>14</sup>, tap the **SET** button to navigate to **Verify**.



2. Connect your hard drive to the side labeled **TARGET**. Tap the **RUN** button to begin the Verify process. The following screen will be displayed during verification:



Percentage Completed

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



Tap the **SET** button to view the total Verify time.

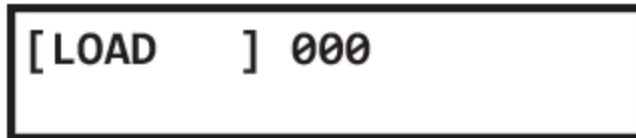


## Load

Load allows you to store an image of a hard drive to a [Storage Center](#)<sup>10</sup>. 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.

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

1. From the [Main Menu](#)<sup>14</sup> tap the **SET** button to navigate to **Load**.



2. Connect your Storage Center hard drive to the side of duplicator labeled **SOURCE**.
3. Connect the **Source** hard drive to the side of duplicator labeled **TARGET**.
4. Tap the **RUN** button to begin the load process.

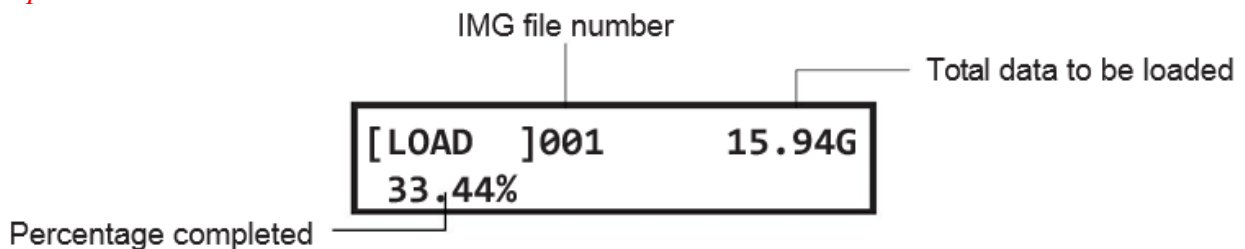
*Note: If the screen displays the message **SOURCE NOT FORMATTED** it means that the hard drive connected to the Source side has not been formatted as a Storage Center. Tap the **RUN** button to format the hard drive connected to the Source side as a Storage Center or tap the **SET** button to cancel.*

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



- 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 entered is already being used by another image file, 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.*



The Setup Menu provides you with options and operations for the user. To enter the Setup Menu, from the [Main Menu](#)<sup>[14]</sup> 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.
- Hold the **SET** button to return to the Main Menu.

The Setup Menu provides access to the following options:

<a href="#">SET COPY</a> <sup>[23]</sup>	Allows the user to enable or disable the Mobile Clone to perform the <a href="#">Copy</a> <sup>[7]</sup> process.
<a href="#">SET COMPARE</a> <sup>[24]</sup>	Allows the user to enable or disable the Mobile Clone to perform the <a href="#">Compare</a> <sup>[7]</sup> process.
<a href="#">BTN. SOUND</a> <sup>[25]</sup>	Allows the user to enable or disable the button sound on the Mobile Clone.
<a href="#">FILE SYSTEM</a> <sup>[26]</sup>	Allows the user to select the file system that the Mobile Clone attempts to detect when using the <a href="#">Storage Center</a> <sup>[10]</sup> .
<a href="#">SEL IMG FILE</a> <sup>[27]</sup>	Allows the user to select the stored IMG that the Mobile Clone will use in a duplication process when using the Storage Center.
<a href="#">DEL IMG FILE</a> <sup>[28]</sup>	Allows the user to delete the stored IMG the Mobile Clone Storage Center.
<a href="#">Format Source</a> <sup>[29]</sup>	Allows the user to format the drive connected to the Source port on the Mobile Clone.
<a href="#">Advanced Setup Menu</a> <sup>[30]</sup>	Provides additional options and operations for advanced users.

## SET COPY

The SET COPY option allows you to enable or disable the [Copy](#)<sup>[7]</sup> operation. Tap the **RUN** button to change this option's setting.



Disabled	<a href="#">Full</a> <sup>[17]</sup> , <a href="#">Brief</a> <sup>[15]</sup> , or <a href="#">Resize</a> <sup>[16]</sup> modes will not perform a Copy operation.
Enabled	Full, Brief, or Resize modes will perform a Copy operation <i>Note: This is the Default setting.</i>

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

## SET COMPARE

The SET COMPARE option allows you to enable or disable the [Compare](#)<sup>7</sup> operation. Tap the **RUN** button to change this option's setting. The Compare operation is not supported by [Resize](#)<sup>16</sup>.



Disabled	<a href="#">Full</a> <sup>17</sup> and <a href="#">Brief</a> <sup>15</sup> modes will not perform a Compare operation. <i>Note: This is the Default setting.</i>
Enabled	Full and Brief modes will perform a Compare operation.

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

## BTN. 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.

Disabled	No audible tones will sound when you tap or hold a button.
Enabled	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. <i>Note: This is the Default setting.</i>

## File System

File System is used for selecting the file system that the [Storage Center](#) is in when utilizing the Storage Center feature. **Note:** *If your Storage Center was created on a Mobile Clone used firmware 2.34 or older, you will need to change the File System type to GFAT.*

GFAT	Mobile Clone firmware versions older than 2.34 utilized this file system format on the Storage Center.
GPT	Mobile Clone firmware version 2.56 or newer utilized this file system format on the Storage Center. <b>Note:</b> <i>This is the default setting.</i>

## SEL IMG FILE

SEL IMG FILE is used for selecting an image file that has been saved to a [Storage Center](#)<sup>10</sup>.



To select an image file:

1. From the [Setup Menu](#)<sup>22</sup>, 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.

## DEL IMG FILE

DEL IMG FILE is used for deleting an image file that has been saved to a [Storage Center](#)<sup>10</sup>.



To delete an image file:

1. From the [Setup Menu](#)<sup>22</sup>, 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.*



## Format Source

The Format Source operation allows you to format a hard drive as a [Storage Center](#)<sup>[10]</sup>. Storage Centers can be used to store hard drive images for convenient access to your most commonly used Source files.

To format a hard drive as a Storage Center:

1. Connect the hard drive you want to format as a Storage Center to the side of the duplicator labeled **SOURCE**.
2. In the [Setup Menu](#)<sup>[22]</sup>, 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 hard drive will erase any data stored on the hard drive.**

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

The Advanced Setup menu provides you with extra options and operations for the advanced user. The Advanced Setup can be accessed through the [Setup Menu](#)<sup>22</sup>. 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.

Once you have entered the Advanced Setup menu:

- Tap the **SET** button to navigate the different menu options.
- Tap the **RUN** button to change an option's setting.
- Hold the **SET** button to return to the Setup Menu.

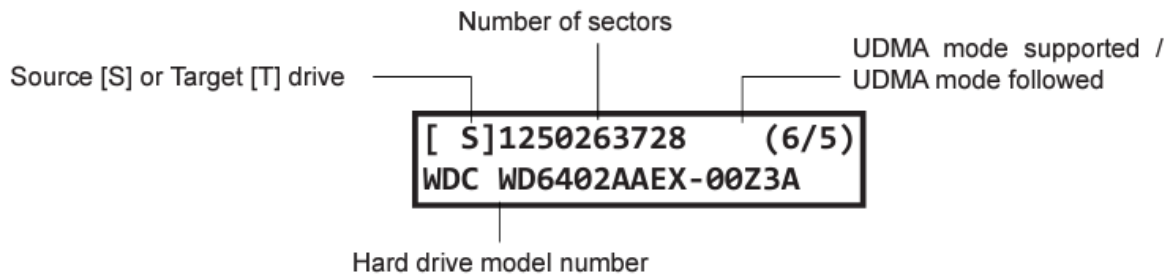
The Advanced Setup provides access to the following options:

<a href="#">Device Info</a> <sup>31</sup>	Displays information about the drives that are connected to the Mobile Clone.
<a href="#">System Info</a> <sup>32</sup>	Displays the version of Firmware that is on the Mobile Clone
<a href="#">Set to Default</a> <sup>33</sup>	Reverts all settings to the firmware default settings.
<a href="#">HPA Check</a> <sup>34</sup>	Allows the user to enable or disable the Mobile Clone checking for HPA partitions.
<a href="#">DCO Check</a> <sup>35</sup>	Allows the user to enable or disable the Mobile Clone checking for DCO partitions.
<a href="#">No Capacity Check</a> <sup>36</sup>	Allows the user to enable or disable the Mobile Clone checking the capacity of the target drive compared to the source drive to confirm there is enough capacity for a duplication to occur.
<a href="#">Max UDMA Mode</a> <sup>37</sup>	Allows the user the ability to alter the UDMA mode the Mobile Clone should use for the duplication.
<a href="#">Skip Read Error</a> <sup>38</sup>	Allows the user enable or disable the Mobile Clone from attempting to skip any read errors occurring on the source drive.
<a href="#">Load Full Image</a> <sup>39</sup>	Allows the user to select whether any images being loaded onto the <a href="#">Storage Center</a> <sup>10</sup> are Full images or Brief images.
<a href="#">Total Copy Count</a> <sup>40</sup>	Displays the total number of results from duplication processes on the Mobile Clone.
<a href="#">Update Firmware</a> <sup>41</sup>	Provides the ability to update the firmware on the Mobile Clone.

## 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](#)<sup>30</sup>, 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.

## 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](#)<sup>30</sup>, tap the **SET** button to navigate to the **System Info** function.
2. Tap the **RUN** button to begin viewing the system's information:



3. Tap the **SET** button to exit back to the Advanced Setup Menu.

## 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](#)<sup>30</sup>, 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.



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.

## 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.

Disabled	The system will not check for HPA partitions.
Enabled	When HPA CHECK is enabled the duplicator will support Host Protection Areas. When you duplicate a Source 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. <i>Note: This is the Default setting.</i>

## DCO Check

A Device Configuration Overlay (DCO), is a partition on the hard drive that is not normally visible to an operating system. The DCO can report to the system that supported features are nonexistent or that the drive is smaller in capacity than it actually is. Tap the **RUN** button to change this option's setting.

Disabled	The system will not check for DCO partitions. <i>Note: This is the Default setting.</i>
Enabled	When DCO Check is enabled the duplicator will support Device Configuration Overlay configurations. When you duplicate a Source drive that contains a DCO partition, detect the DCO partition, unlock it, copy the area and then re-lock the area once duplication is complete.

## No Capacity Check

The Mobile Clone has a built-in capacity check function which will check the capacity of the Source hard drive and the Target hard drive(s) during [Full](#)<sup>17</sup> or [Brief](#)<sup>15</sup> copy processes and determine whether the drives' capacities are the same.

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

Disabled	When a Full or Brief copy process is executed, the system will check the capacity between the Source and Target hard drive(s) to determine whether the capacity is the same. If the capacity is different the copy process will be cancelled.
Enabled	When a Full or Brief copy process is executed, the system will not check the capacity between the Source and Target hard drive and start the copy process as normal. <i>Note: This is the Default setting.</i>



## 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 – 5. *Note: The default setting is 5.*

## Skip Read Error

The Skip Read Error option allows you to enable or disable error skipping during [Full](#)<sup>17</sup>, [Brief](#)<sup>15</sup>, and [Resize](#)<sup>16</sup> modes. Tap the **RUN** button to change this option.

Disabled	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. <i>Note: This is the Default setting.</i>

## 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. Tap the **RUN** button to change this option.

Disabled	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. <i>Note: This is the Default setting.</i>
Enabled	When executing a Load process, the system will not analyze the Source's file system and will automatically build a Full sector by sector image.

## 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.

## Update Firmware

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

To update your firmware:

1. Contact Kanguru Technical Support or navigate to the [Mobile Clone Firmware Update page](#) on the Kanguru Support site 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](#)<sup>30</sup>, 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.

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.

## Tech Support

If you experience any problems installing 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](http://www.Kanguru.com)

<a href="#">Error Code List</a>  43	Provides the list of common errors on the Kanguru Mobile Clone.
<a href="#">FAQ</a>  44	Common questions regarding the Kanguru Mobile Clone.
<a href="#">Troubleshooting</a>  45	Steps on how to troubleshoot common issues with the Kanguru Mobile Clone.
<a href="#">RMA Procedure</a>  46	The process to have the Kanguru Mobile Clone sent to Kanguru for an examination and repair.

## Error Code List

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

<b>Error Code</b>	<b>Problem</b>
S	Source read error
R	Target read error
W	Target write error
D	Timeout error
C	Compare error
F	Skip read error
WRT0	Unable to write zero's to the drive.
WRT1	Unable to write one's to the drive.
WRTR	Unable to write the random sequence of zero's and one's to the drive.
RVEY	Read verify has failed on the drive.

## FAQ

Question	Answer
Do Target hard drives have to be the same capacity as the Source? Same Brand?	If you select <a href="#">Full</a> <sup>17</sup> copy or <a href="#">Brief</a> <sup>15</sup> copy, the Target hard drive should be the same capacity as the Source hard drive. The hard drive brand is not important but capacity must be identical.
Can I clone a smaller capacity Source drive to larger capacity Target drives?	Yes, use the <a href="#">Resize</a> <sup>16</sup> operation to clone a smaller capacity Source to larger capacity Targets.
Can drives with different RPM speeds be cloned together?	Yes, the machine will adjust to hard drives with different RPMs.
How does the duplicator handle multiple partitions on the Source drive?	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.
How does the duplicator handle multiple partitions of varying formats on the Source drive?	The machine will analyze the File System of the Source drive before it begins cloning.
Can the duplicator clone operating systems such as UNIX and OS/2?	Yes, use the <a href="#">Full</a> <sup>17</sup> copy operation to copy any operating system.
Can the duplicator defragment a partition?	No, this must be done directly by the operating system of your PC.
Can the Duplicator copy Encrypted HDD's?	The Mobile Clone is able to copy a limited number of encrypted HDD types through Full copy.



## Troubleshooting

The Mobile Clone will not start or there is no display on the LCD screen.	The power cable is damaged or not connected securely. The voltage of the outlet the Mobile Clone is plugged into does not match the Mobile Clone.	Make sure that the power cable is not damaged and is not loose. Make sure that the voltage of the outlet matches the voltage of the Mobile Clone.
	The hard drive is not connected or was not detected by the Mobile Clone.	Make sure that all connected hard drives have been successfully detected by the Mobile Clone.
	The cables connecting the hard drive are not connected securely.	Make sure that no hard drive connection cables are loose.
The Mobile Clone cannot make copies of a Source hard drive.	The hard drive jumpers are not set in the correct position. The hard drive may be faulty.	Make sure that all the hard drive jumpers are set to the Source or Cable Select position. Make sure that the Source hard drive is not broken and does not have errors.
	The hard drive's format is not supported by <a href="#">Brief</a> <sup>15</sup> or <a href="#">Resize</a> <sup>16</sup> Copy.	When executing a Brief Copy or Resize Copy, make sure that the format of the Source hard drive is supported.
	The hard drive contains a Host Protected Area.	Enable the <a href="#">HPA CHECK</a> <sup>34</sup> option under the <a href="#">Advanced Setup Menu</a> <sup>30</sup> .
	The data cables from the Mobile Clone to the hard drives are not connected securely.	Make sure that none of the data or power cables are loose.
The Mobile Clone is unstable or operates very slowly.	A hard drive may have an error that is affecting the other hard drives, causing slow operation.	Try to identify the faulty hard drive and replace as needed.
	The cables do not meet the UDMA standards.	Only use the cables provided by Kanguru Solutions with the Mobile Clone.

## RMA Procedure

### **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 year of purchase. After 1 year 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#