



# LAB MANUAL ON TRUE IMAGER 4.0



ESTABLISHMENT OF ADVANCED LABORATORY FOR CYBER SECURITY TRAINING  
TO TECHNICAL TEACHERS  
DEPARTMENT OF INFORMATION MANAGEMENT AND EMERGING  
ENGINEERING  
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY GOVERNMENT  
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# Chapter 1: Introduction

## TrueImager4.0

TI4.0 is the latest and the fastest version of TrueImager, the handheld imaging hardware tool developed by Centre for Development of Advanced Computing (C-DAC). The unit provides latest features and facilities needed for computer forensic industry:

- User friendly UI with colourful touch LCD display
- Battery backup
- High Speed Hashing
- High Speed Imaging
- Write Verification for acquisition operation
- Multi-tasking
- Multiple Destination ports
- Wide source disk interface support
- Ethernet port support
- Multi-session imaging
- Image & Report files under single folder
- Optional file system for destination disk
- Soft keypad for data entry
- Report file preview
- Auto Power-off

## Features & Specifications

- Portable & handheld with a 7" capacitive touch LCD
- Provides Hash, Hash & Image and Clone operations of source media
- Provide Wipe and Format operations for destination disk
- Support storage media with interfaces IDE, SATA, micro-SATA mini-SATA, US8 and memory cards as source media
- Supports US8 & SATA disks as destination media
- Provides built-in write protection for suspect disks
- Supports SHAI, SHA2 and MDS hashing algorithm Supports two modes of data capture: Linux DD and CDAC's TrueBack format
- Formats destination media with file systems exFAT, EXT4, NTFS I Generates report file for every operation and maintains that of last 4 operations
- Provides write verification for Hash & Acquire operation
- Support imaging multiple source disk to single destination disk
- Capable of performing up to 4 tasks concurrently
- Have auto probing and auto shut down facility
- Provides disk S.M.A.R.T. data of HDDS, SSDS
- Have built-in battery backup support
- External Power Adapter: 100-230V[Input), 19V 3.42A(Output)
- Dimensions (W x D x H): 29.7x18x7.3cms
- Net weight: 1.8Kg

# Chapter 2: User Interface

Truemager4.0 unit have 7" capacitive touch LCD for displaying screens and to give user inputs, the unit provides user friendly screens with minimal screen navigation. This section introduces TI4.0 UI screens.



## 2.1 Menu Screen

Once the unit is powered on, after it gets booted up Menu screen will be displayed. This screen includes the following buttons for initiating forensic applications.

- Hash, Image, Clone, Wipe, Format, Case Entry, Reports, Explore Disk, Contact, Upgrade
- Power off button - to switch of the unit
- Digital Clock - to display time and date



## 2.2 Process Screen

A click on various buttons in the Menu screen displays the respective Process screen.

### 2.2.1 Hash Process Screen

Hash process screen have the following controls.

- Source disk SATA & USB Combo box - for selecting source disk for hash operation.
- Report disk SATA & USB buttons for selecting report disk for hash operation.
- Settings button- for selecting hash type and hash mode for hash operation.
- Start Button - to start the hash operation
- Cancel button - to cancel the operation



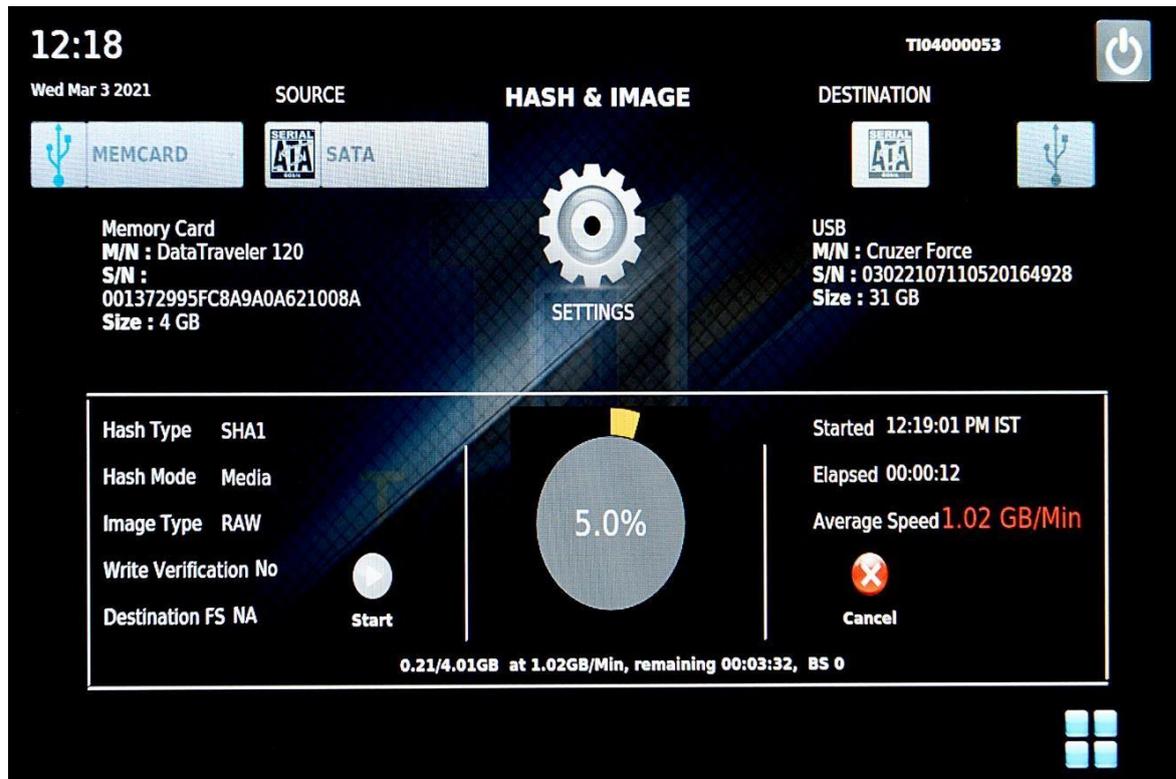
- OK button - This button will be displayed once the operation finishes.
- Progress bar/Labels - to display the status of process execution
- Menu button - to go back to the Menu screen

## 2.2.2 Hash & Image Process Screen

This screen is for performing Hash & Image operation. The screen contains following GUI controls.

- Source disk SATA & USB Combo box - for selecting source disk for H&I operation.
- Destination disk SATA & USB buttons - for selecting destination disk for H&I operation.
- Settings button - for selecting image settings for H&I operation.
- Start Button - to start the H&I operation.

- Cancel button - to cancel the operation



- OK button - This button will be displayed once the operation finishes
- Progress bar / Labels - to display the status of process execution
- Menu button - to go back to menu screen

### 2.2.3 Wipe Process Screen

When the user clicks the Wipe button in menu screen respective process screen will be displayed. This screen has the following GUI controls.

- Destination disk SATA / USB buttons - for selecting destination disk for Wipe operation.

- Settings button for selecting image settings for Hash & Image operation.
- Start Button - to start the Wipe operation
- Cancel button -to cancel the operation
- OK button - This button will be displayed once the operation finishes
- Progress bar/ Labels - to display the status of process execution
- Menu button - to go back to menu screen When the user clicks the Format button in menu screen respective process screen will be displayed. This screen has the following GUI controls
- Destination disk SATA/ USB buttons - for selecting destination disk for Format operation.
- Format button - for initiating format operation
- Settings button-for selecting settings for format operation.
- Start Button - to start the Format operation
- Cancel button- to cancel the operation
- Ok button - This button will be displayed once the operation finishes
- Progress bar / Labels - to display the status of process execution
- Menu button - to go back to menu screen

## **2.2.4 Clone Process Screen**

Clone process screen will be displayed when the user selects the Clone button in menu screen. These screens have the following GUI controls.

- Source disk SATA/ USB Combo box - for selecting source disk for Clone operation
- Destination disk Combo box - for selecting destination disk for Clone operation
- Start Button - to start the clone operation
- Cancel button - to cancel the operation
- OK button - This button will be displayed once the operation finishes
- Progress bar / Labels - to display the status of process execution
- Menu button - to go back to menu screen

## **2.3 Case Entry Screen**

Truemager4.0 provides the facility for entering and storing the details regarding the case to which each operation is performed for. This is an optional facility. The user can start an operation with or without entering case details. If the user has entered the case details, these details will be printed in report file, otherwise those fields in the report file will be shown as <not entered>.

## **2.4 Report Screen**

The report file generated for an operation can be viewed in Report screen. The screen has the following UI controls.

File Name combo box - for selecting report file to be displayed.

Menu button- to go back to menu screen

## **2.5 Contact details Screen**

About screen provides the contact address for technical queries.

## **2.6 Upgrade Screen**

The Upgrade process screen is for checking version, firmware updates and for updating the unit's firmware. The screen has the following GUI controls.

- Label to display current firmware version of the unit.
- Check for Updates button- for initiating up gradation operation.
- Label to display firmware present in USB
- Menu button -to go back to menu screen

## **2.7 Disk Explore Screen**

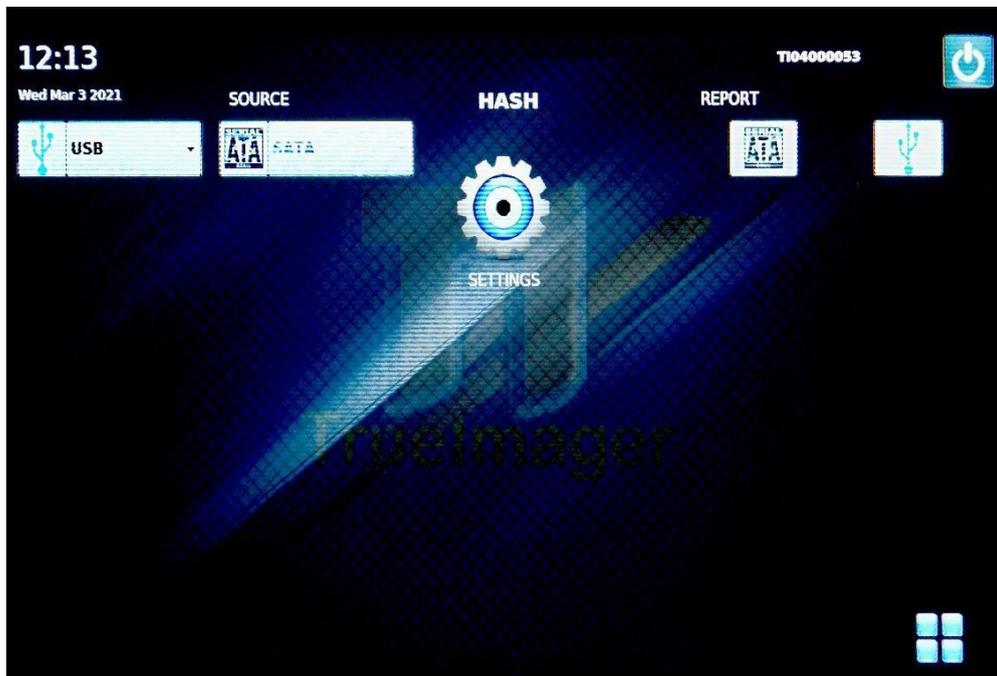
This screen is for exploring more details of hard disk like disk S.M.A.R.T information, HPA/DCO check and for browsing disk. This screen has the following GUI controls.

- Connected disks will be displayed as buttons at the top side of the screen - Press the button of the disk to be explored.
- Buttons Smart Data, Browse Disk, Blank disk Check, HPA/DCO Check - Click the appropriate button see the required data.
- Display Pane - Disk data will be displayed here
- Menu button - to go back to menu screen

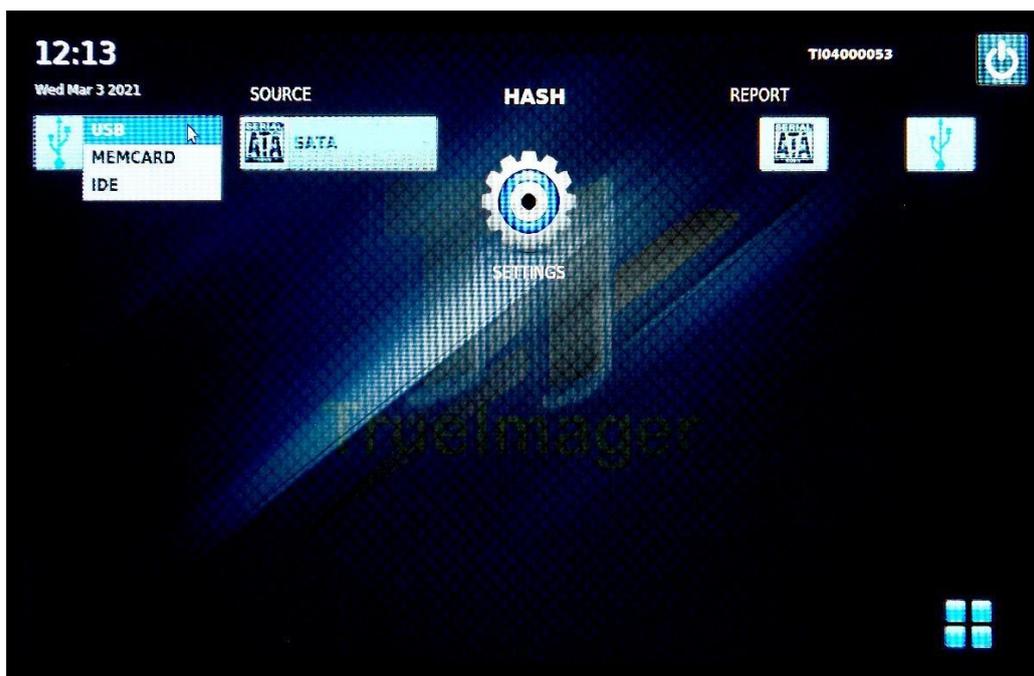
# Chapter 3 - Forensic Operations

## 3.1 Hash

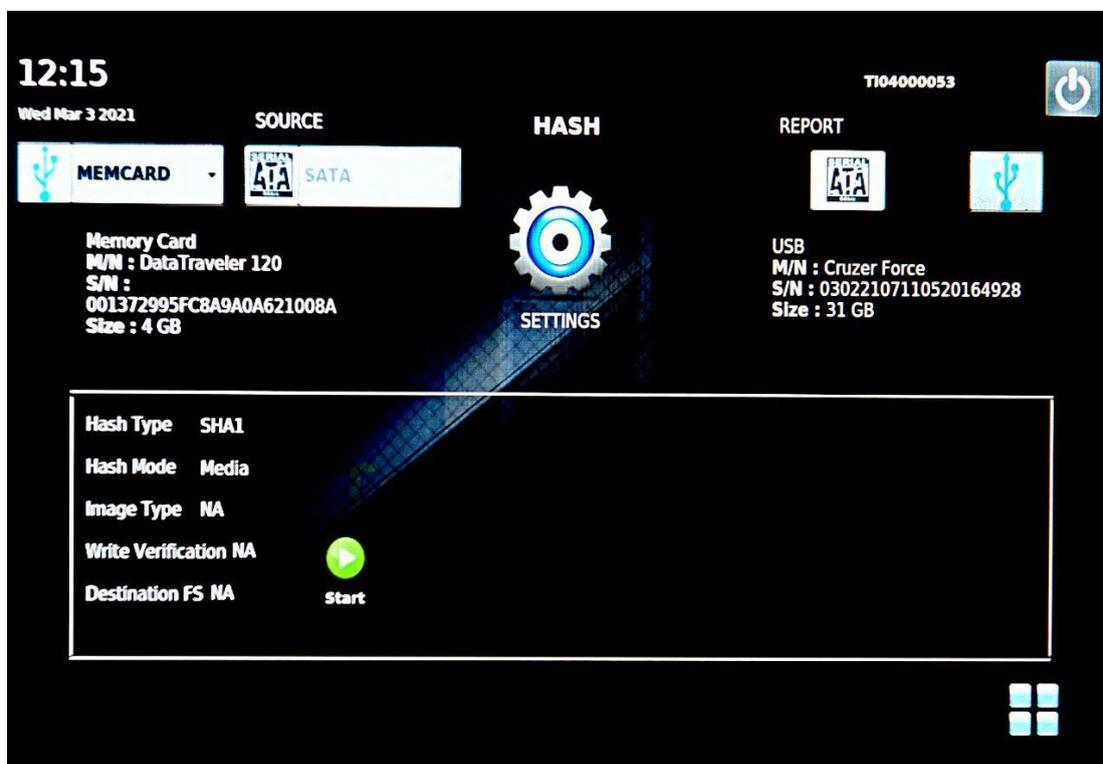
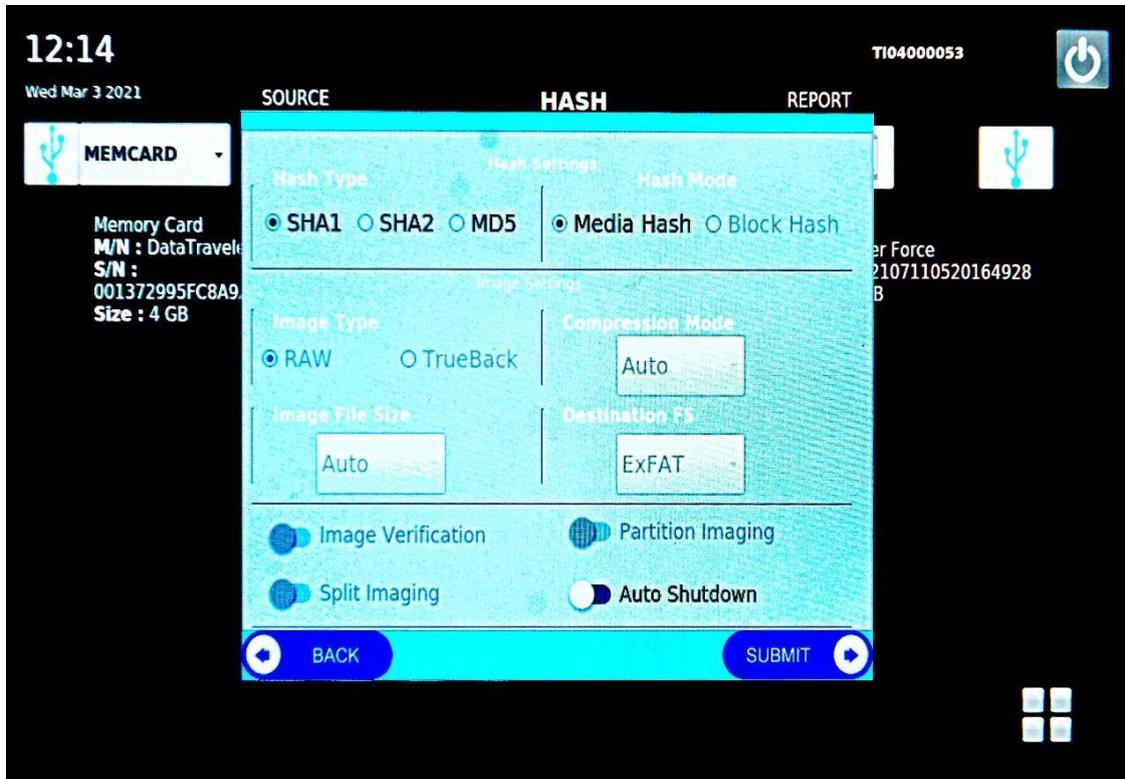
**Step 1:** Connect the suspect disk to source port.



**Step 2:** Switch on the unit. Click the Hash button in the menu screen



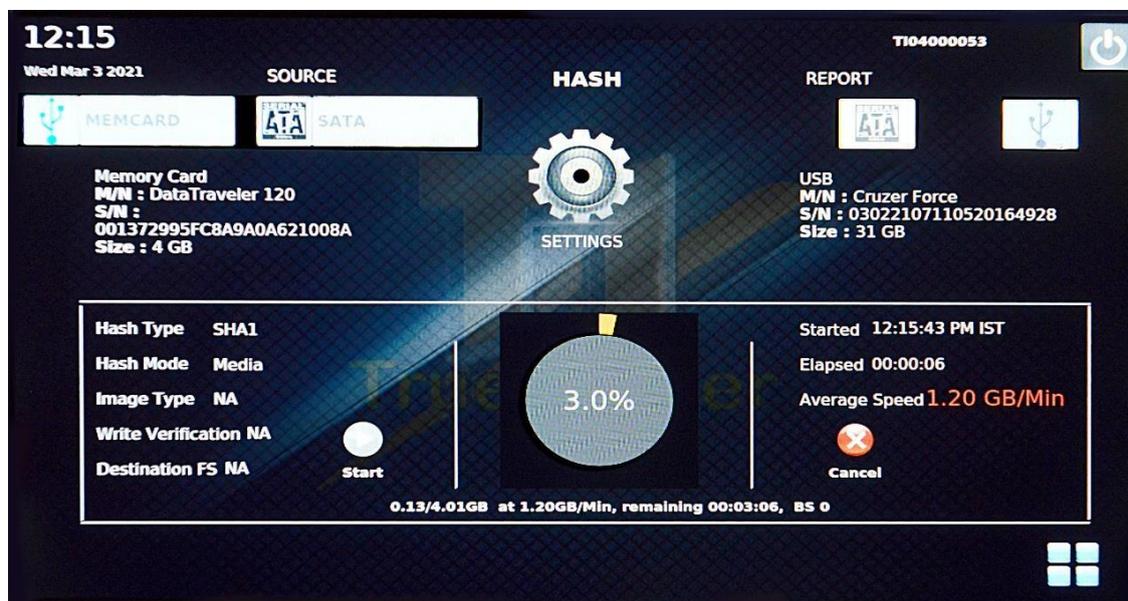
**Step 3:** Click Next button and enter all details in Case Details screen and click Save button. Then click Menu button to get back to Menu screen.



**Step 4:** Click Hash button. Now Hash process screen will be displayed. Select Source disk interface type from Source combo box.



**Step 5:** Click settings button. Now settings window will be displayed. Select the settings needed for performing hash operation.



**Step 6:** Click OK button to go back to Menu screen.

**Step 7:** Click Reports button to view report file. Click the appropriate combo box in Reports screen.

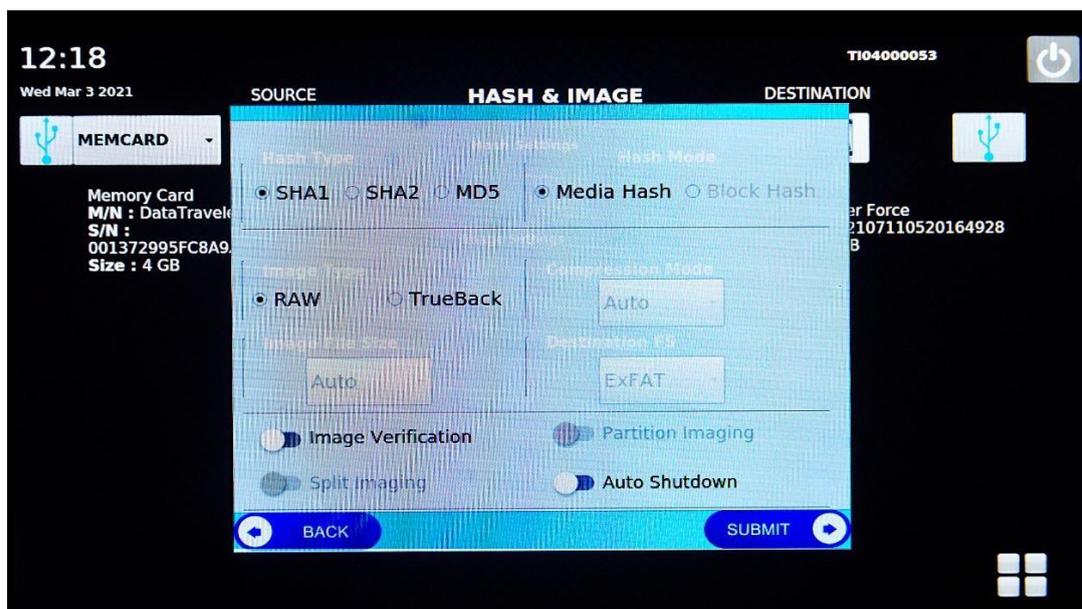
**Step 8:** Switch off the unit by clicking the Power OFF button. Check the report file in disk connected in destination port.

## 3.2 Hash & Image

**Step 1:** Connect the suspect disk to source port and destination disk in the destination port.

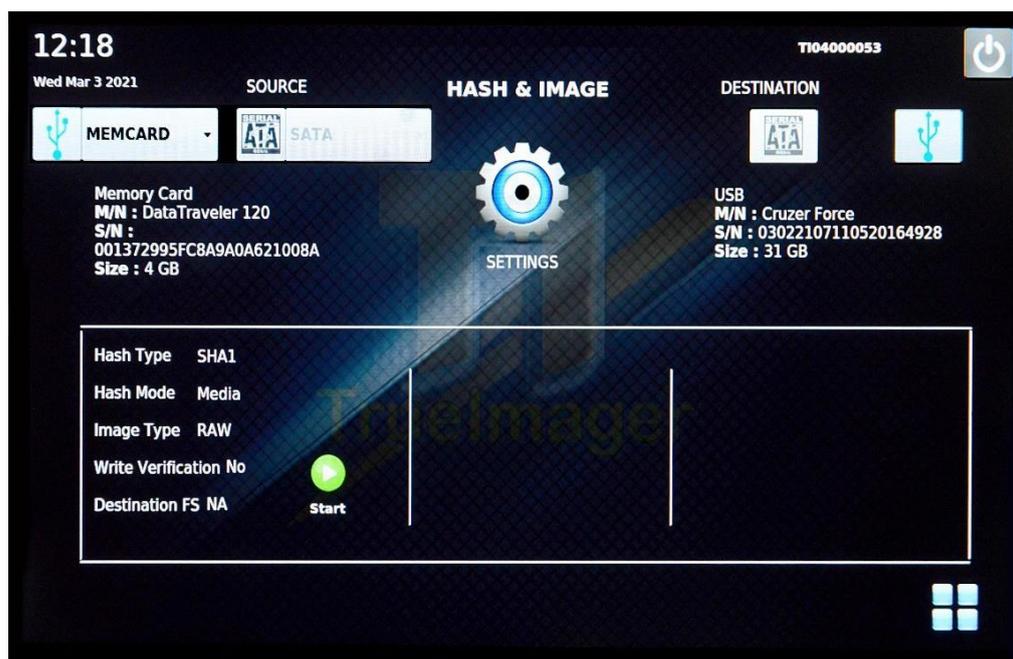


**Step 2:** Click the Image button in the menu screen



**Step 3:** Click Next button and enter all details in Case Entry screen 2 and click Save Button. Then click Menu button to get back to Menu screen.

**Step4:** Click image button. Now Hash & Image process screen will be displayed. Select Source disk interface type from Source combo box. Now source disk details will be displayed.



**Step 5:** Select Destination disk interface type from Destination combo box. Now Destination disk details will be displayed.

**Step 6:** Click settings button. Now settings window will be enabled.



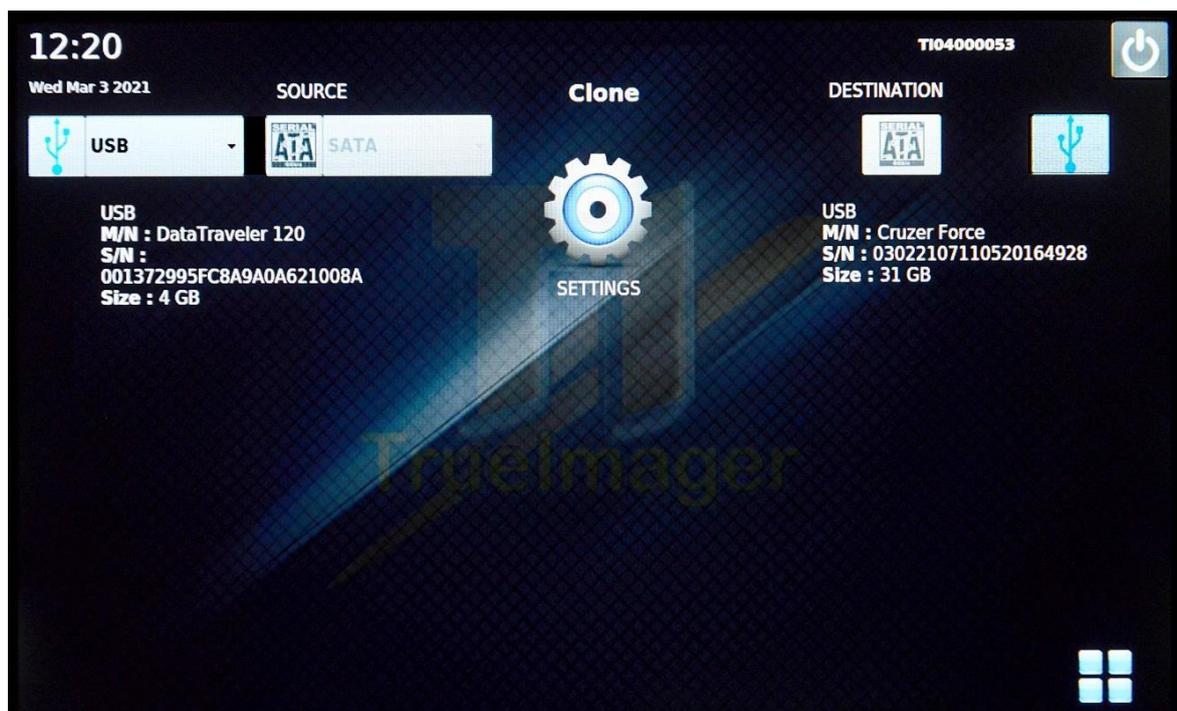
**Step 7:** Click OK button to go back to Menu screen.

**Step 8:** Click Reports button to view report file. Click the appropriate file in File combo box in Reports screen.

**Step 9:** Switch of the unit by clicking the Power OFF button. The destination disk will now have a folder with image files, and report file.

### 3.3 Clone

**Step 1:** Connect the suspect disk to source port and destination disk in destination port.

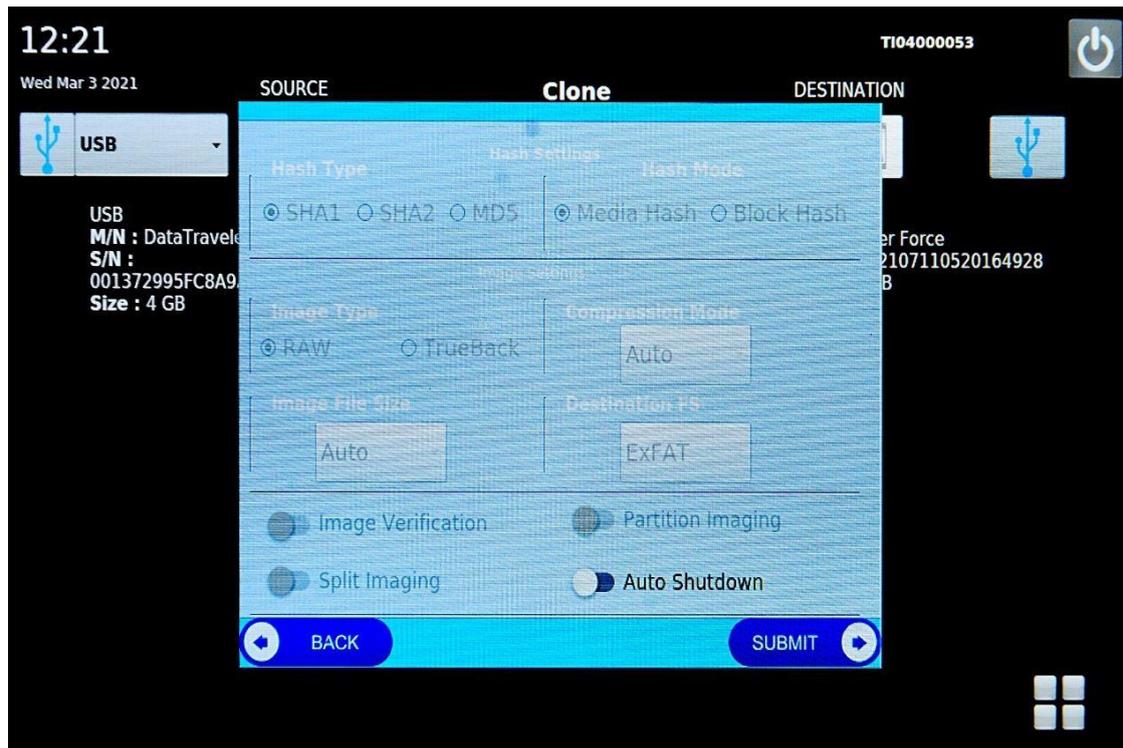


Step 2: Menu screen will be displayed when the unit is powered on.

Step 3: Click Clone button. Now Clone process screen will be displayed. Select Source disk from Source combo box. Then source disk details will be displayed.

Step 4: Select Destination from Destination combo box. Now Destination disk details will be displayed.

Step 5: Click settings button. Now settings window will be enabled. Select the settings needed for performing clone operation. Now Start button will be enabled. Click this button to start the operation.



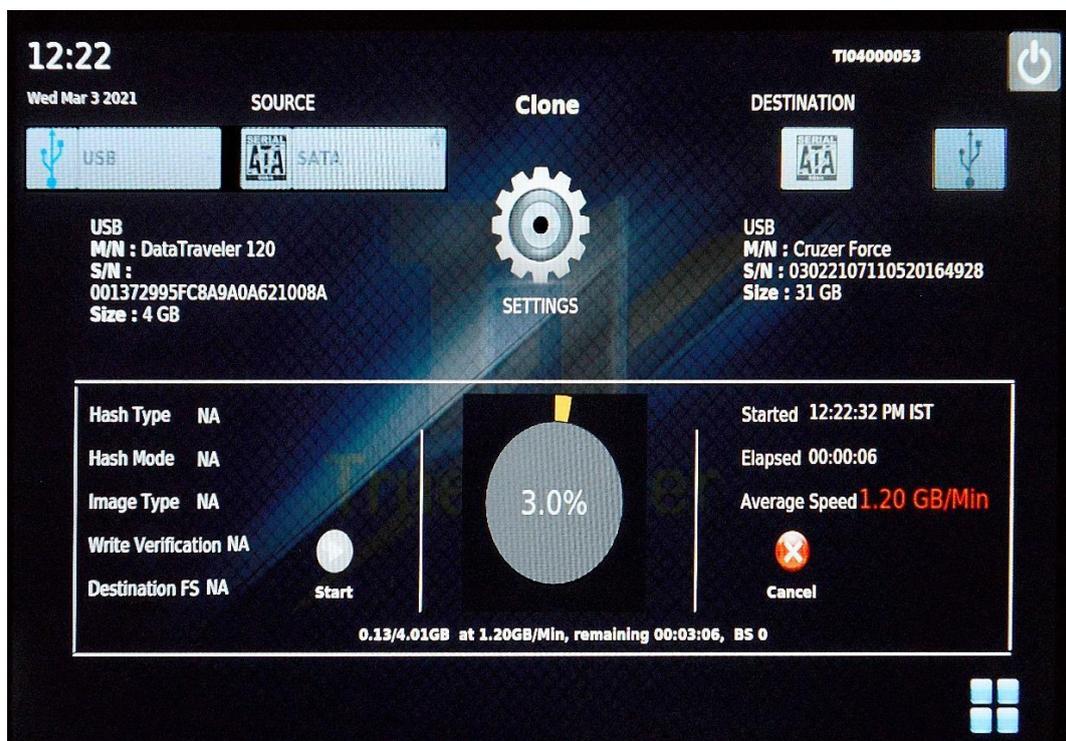
Process progress will be displayed now. Once the operation finishes Ok button will be enabled.

Step 6: Click OK button or menu button to go back to Menu screen.

Step 7: Click Reports button to view report file. Click the appropriate file in Fib combo box in Reports screen.



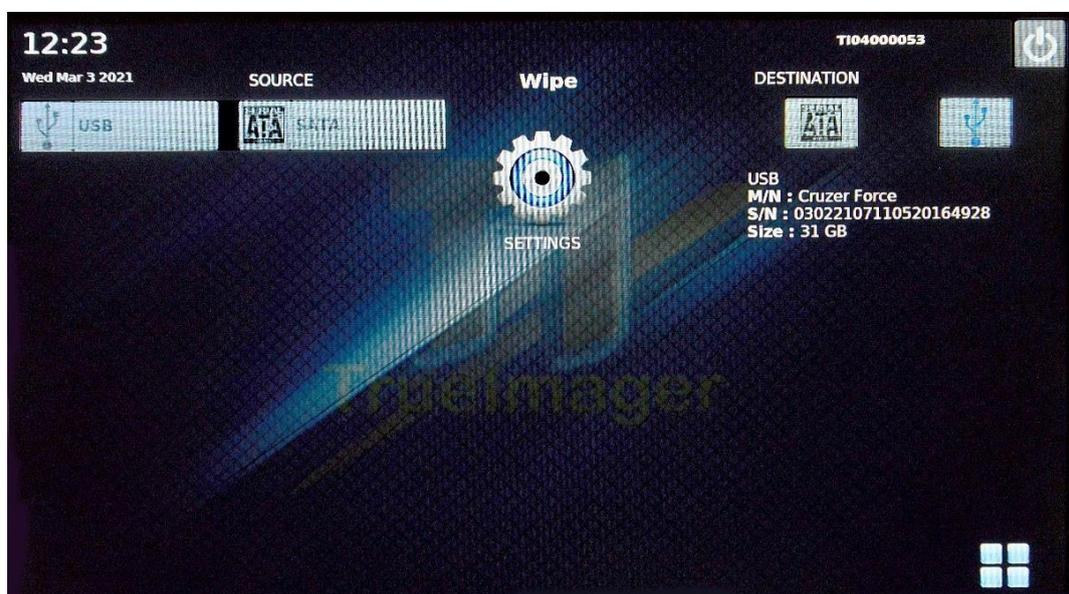
Step 8: Switch of the unit by clicking the Power OFF button. The destination disk will now have all the files as in source disk.



## 3.4 Wipe

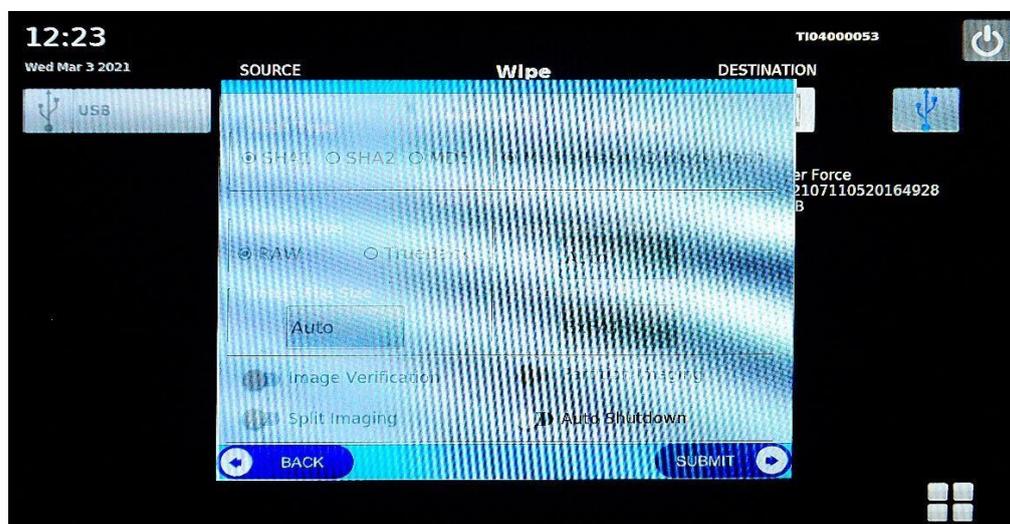
Step 1: Connect the destination disk in destination port.

Step 2: Menu screen will be displayed when the unit is powered on.



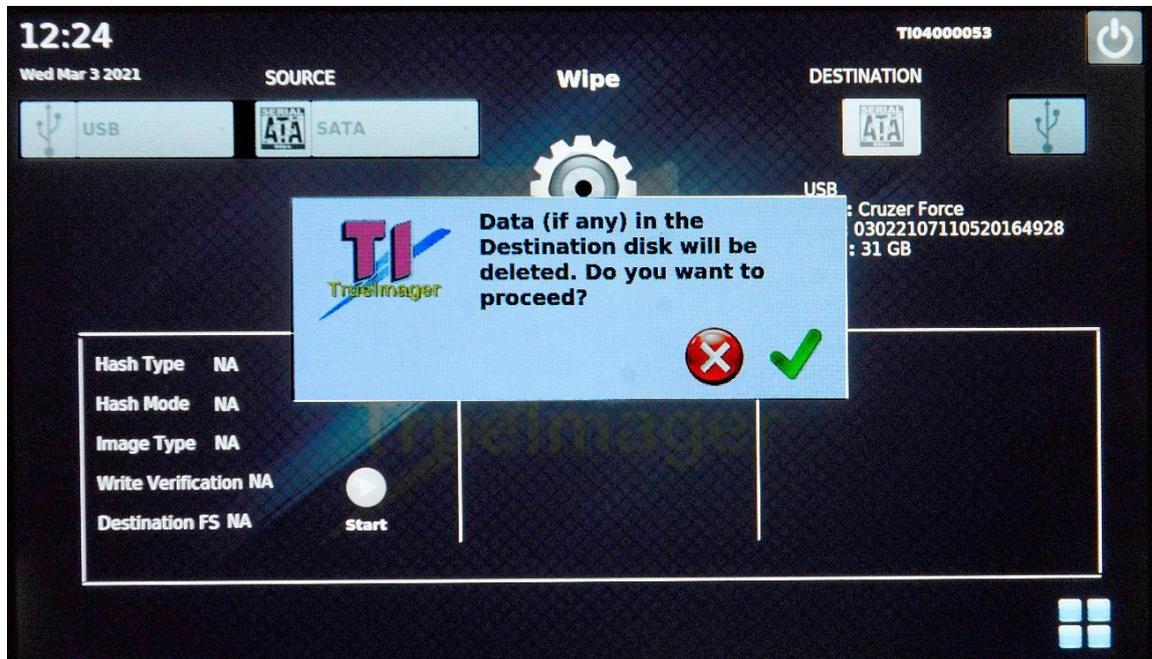
Step 3: Click Wipe button. Now Wipe process screen will be displayed. Select Destination disk interface type from Destination combo box. Now Destination disk details will be displayed.

Step 4: Click settings button. Now settings window will be displayed. Select the settings needed for performing wiping operation.



Step 5: Click OK button to go back to Menu screen.

Step 6: Click Reports button to view report file. Click the appropriate file in File Name combo box in Reports screen.



Step 7: Switch of the unit by clicking the Power OFF button.

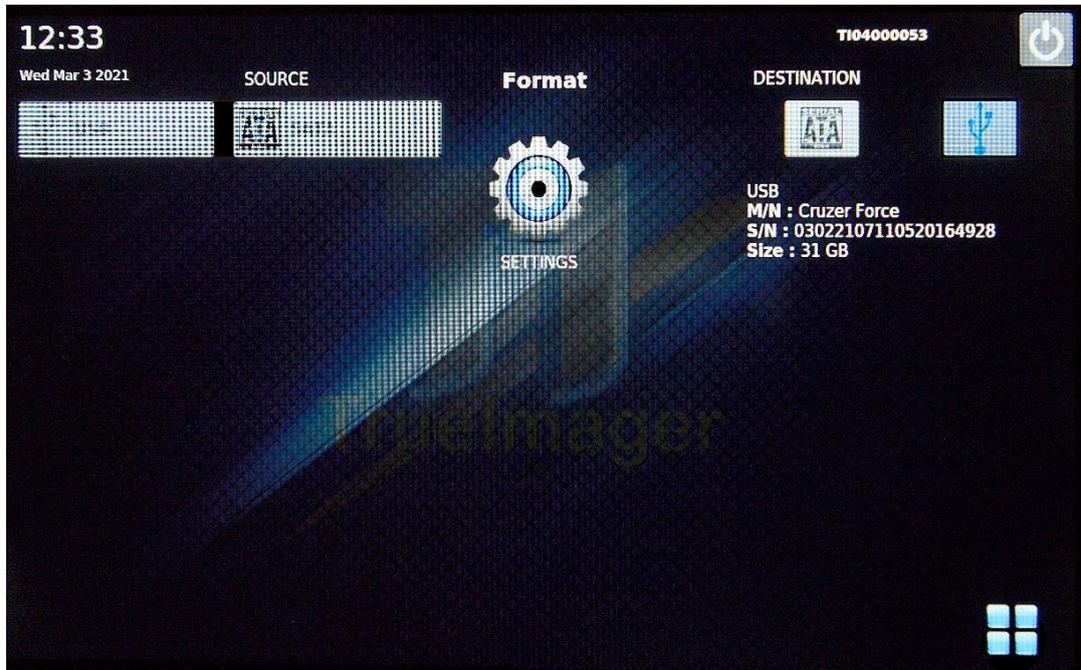
If the disk to be wiped is SATA hard disk, then connect the hard disk before powering on the device.

### 3.5 Format

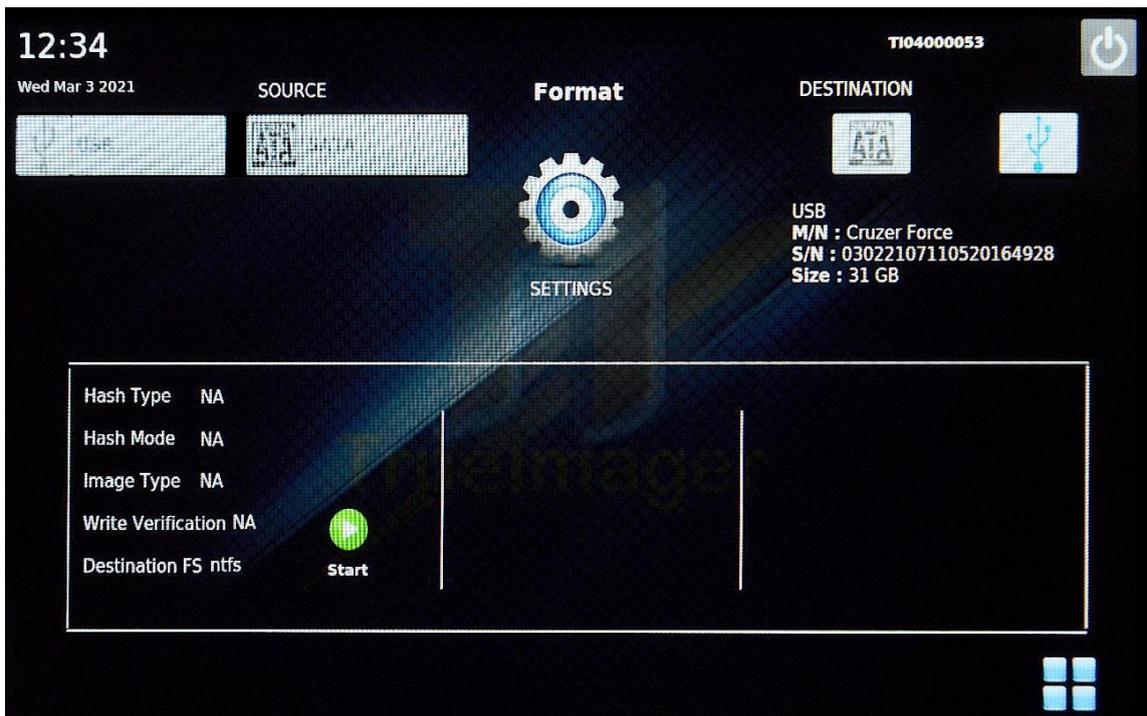
Step 1: Connect the destination disk in destination port.

Step 2: Menu screen will be displayed when the unit is powered on.

Step 3: Click Format button. Now Format process screen will be displayed. Select Destination disk interface type from Destination combo box. Now destination disk details will be displayed.



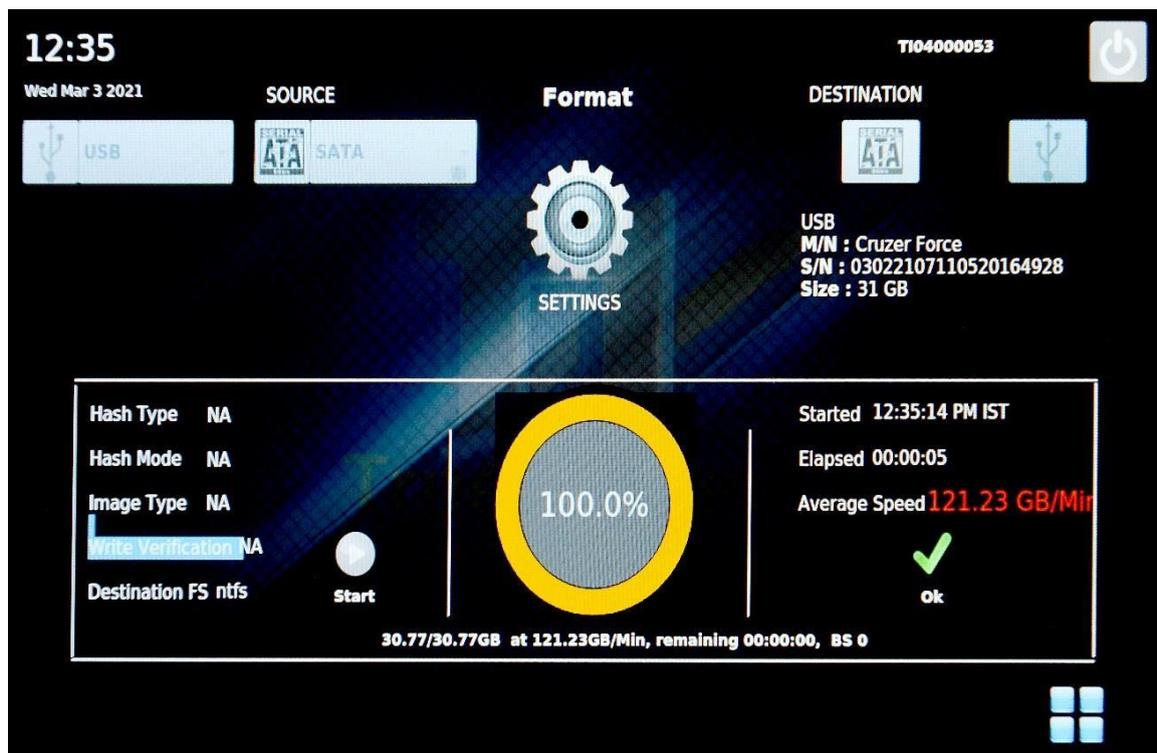
Step 4: Click settings button. Now settings window will be displayed. Once the operation finishes OK button will be enabled.



Step 5: Click OK button to go back to Menu screen.

Step 6: Click Reports button to view report file. Click the appropriate file in File Name combo box in Reports screen.

Step 7: Switch of the unit by clicking the Power OFF button. The destination disk will now be formatted with the selected File system.

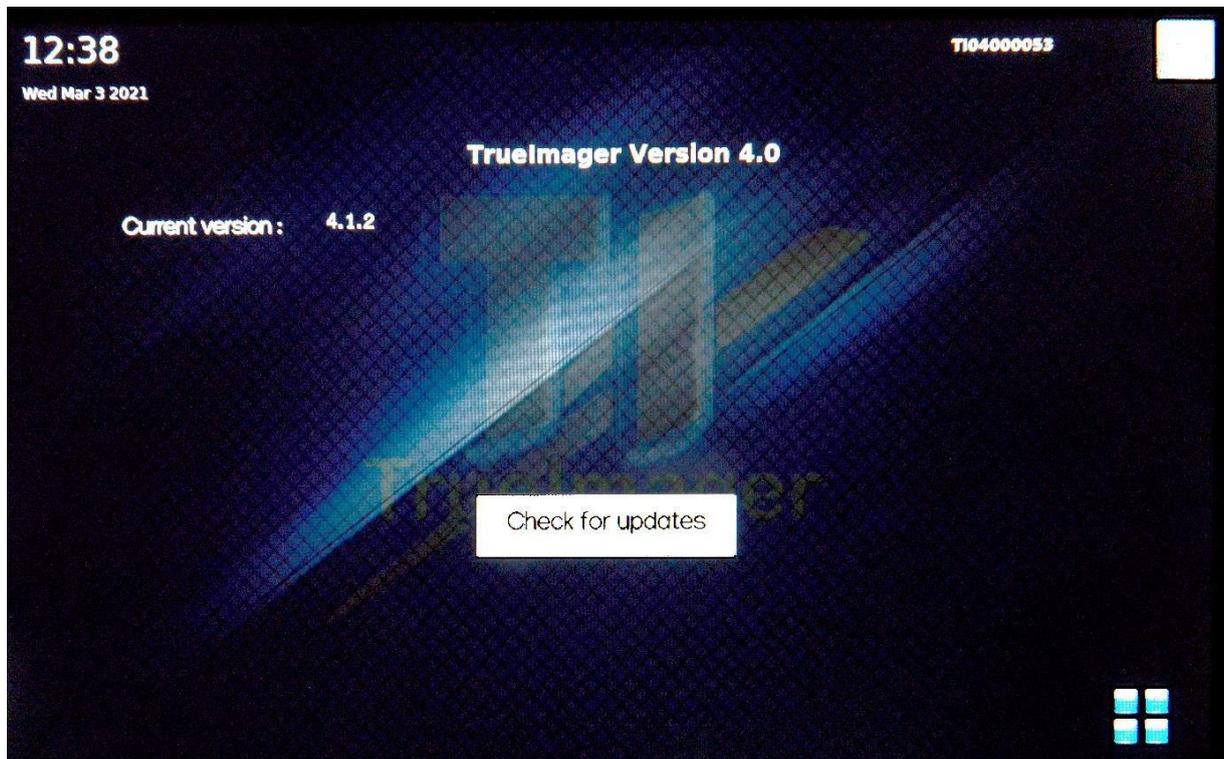


### 3.6 Firmware Upgradation

Step 1: Switch on the unit. Menu screen will be displayed when the unit is powered

Step 2: Connect the USB disk with latest firmware files in USB destination port.

Step 3: Click Upgrade button. Now Upgrade process screen will be displayed. The version of firmware present in the unit will be displayed as Current FW Version.



Step 4: Click Check for updates button. If a USB with new firmware files is connected to destination USB port New Firmware Version will be displayed and a dialogue message will be displayed

Step 5: Click YES button in dialogue message to start the firmware upgradation operation. This process will automatically shut down the unit and the unit will have the latest firmware from next boot onwards.