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A comparison between Atola TaskForce-1 Unit and MediaClone SuperImager Plus Line of Products

The main unit's hardware and performance

Atola TaskForce summary:

Its server-class hardware enables the launching and managing 12+ parallel imaging sessions.

- 15 TB/hour cumulative speed of imaging
- 2 x 10Gb Ethernet ports
- Source/target switch on all ports
- Hardware write protection in *Source* mode on all ports
- Imaging up to 5 targets
- Express mode, in which imaging sessions start the moment a device is connected
- Automation via Web API
- Physical imaging to E01, AFF4, and RAW files
- Logical imaging to L01 file

The Atola Task Force ports include:

- 6 SATA
- 6 SATA/SAS
- 4 USB
- IDE
- Extension slot (for Atola Thunderbolt, Apple PCIe SSD and M.2 NVMe/PCIe/SATA SSD extension modules).

CPU

Atola TaskForce Unit uses Xeon Processors, **series 3, 4 Cores, 8 Threads, and up to 3.7 GHz**

The SuperImager Plus units use two models of Intel CPU, depending on the product.

1. i9-10900X Desktop Processor **10 Cores, 20 Threads, and up to 4.7GHz** – we use this CPU in desktop products with support for imaging from 8 to 40 SAS/SATA drives.
2. i7-12700K Desktop Processor **12 Cores, 20 Threads, and up to 5.0 GHz** – we use this CPU in portable products for field operation.

Display

Atola Taskforce uses a tablet to control the unit, while some SuperImager Plus units use 15.6" display that enables the user to run a full investigation utilizing the unit. In addition, external monitors can be connected to most SuperImager Plus units to have larger/multiple screens for extra convenience.

15 TB/hour cumulative speed of imaging in 12 parallel imaging sessions:

Atola TaskForce claims a max imaging speed of 15 TB/h accumulative speed of imaging of 12 drives (assuming that they are all SATA SSD), meaning that the max speed per session is 20 GB/min. In contrast, the SuperImager Plus unit can run imaging close to 31 GB/min per session for SATA SSD drives and 180 GB/min for NVMe SSD, which is a big difference.

Two 10 GbE ports:

Atola TaskForce has 2 ports.

SuperImager Desktop Supreme has two built-in 2 10GbE ports.

SuperImager Desktop XL 4 NVMe 4 SAS/SATA has two built-in 2 10 GbE ports.

SuperImager 15.6" Complete Portable lab has one built-in 10 GbE port with the ability for two additional 10 GbE ports via Thunderbolt adapters.

Drive Connection and Insertions:

For Forensic imaging of many drives, we recommend using products where the hard drives are organized in drive slots and with easy insertions and connection. Here are some of our units:

Desktop units

1. SuperImager Plus Supreme Desktop Forensic Lab with 16 SAS/SATA, 4 U.2/M.2 NVMe, two 10GbE ports, and multiple USB 3.2 ports.

<https://www.media-clone.net/SuperImager-Desktop-Supreme-Forensic-Lab-16-port-p/sil-0011-00a.htm>



2. SuperImager Plus XL Desktop Forensic Lab with 4 SAS/SATA, 4 U.2/M.2 NVMe, two 10GbE ports, and multiple USB 3.2 ports:

<https://www.media-clone.net/SuperImager-Desktop-XL-NVMe-SAS-SATA-10GbE-p/sil-0010-00a.htm>



3. SuperImager Plus XLE Desktop Forensic Lab with 40 SAS/SATA, and multiple USB 3.2 ports:

<https://www.media-clone.net/SuperImager-Desktop-XLE-40-Drives-Forensic-Lab-p/sil-0008-00a.htm>



Portable units

1. SuperImager Plus Complete Portable Rugged Forensic Lab with 4 SAS/SATA, 4 U.2/M.2 NVMe, one 10GbE port, two Thunderbolt 4.0, and many USB 3.2 ports:

<https://www.media-clone.net/SuperImager-Plus-Portable-Rugged-Forensic-Lab-p/sir-0050-00a.htm>



With Atola TaskForce unit, the 12 drives are laid down around the unit in a very messy way.



Thunderbolt port

Some of the portable SuperImager Plus portable units have a native Thunderbolt 4.0 port with a full bandwidth of 40Gb/s.

The Atola TaskForce unit supports Thunderbolt 3.0 ports only with an additional adapter plugged into the expansion port. This means that when the user plugs a Thunderbolt device, the expansion port cannot be used to connect to other devices like NVMe SSD.

NVMe ports

The SuperImager Plus unit is built with multiple native U.2 NVMe ports that can support U.2, M.2, and PCIe NVMe SSD, and the user can image from one U.2 to other U.2 ports. It also includes power management to avoid hot-plugging NVMe SSDs to avoid damage.

Atola TaskForce unit supports only one M.2 NVMe SSD without power management and with an expansion port and external adapter. Again, the expansion port can be used to plug one adapter at a time, so no imaging from NVMe to NVMe is possible.

e-SATA/SATA/SAS cables, connectors that been used by the systems:

The SuperImager Plus unit uses secure cables with a locking mechanism of thumbscrews or use cable-less slots. For SAS/SATA ports, the unit is built-in with power management to avoid hot-plugging drives to avoid damage to the unit and drives.

Atola TaskForce unit uses e-SATA connectors and cables to connect the 12 drives to the main unit, but with time and heavy usage, those e-SATA connectors can become loose.

Power Consumption

Atola TaskForce unit is built with a 240W power supply. In order to support 12 **hard disk drives** with a power consumption of 40W per drive + 150 watts for motherboard and CPU, the minimum power needed should be 630 watts! The 240 watts might be sufficient for 12 SATA SSD but not for 12 hard disk drives. The SuperImager Plus Desktop units use 750W to support power for 8 SAS/SATA hard disk drives in addition to unit's hardware. The SuperImager Plus 15.6" Complete Rugged Portable Forensic Lab uses a 500W power supply.

Ports

The Atola Task Force ports include:

- 6 SATA
- 6 SATA/SAS
- 4 USB
- IDE
- Extension slot (for Atola Thunderbolt, Apple PCIe SSD, and M.2 NVMe/PCIe/SATA SSD extension modules).

The SuperImager Plus Supreme Desktop 16 drives unit includes:

- 16 SATA/SAS
- eSATA
- 4 U.2/M.2 NVMe
- 8 USB3.2 and 2 USB 2.0
- IDE (with supplied SATA to IDE Adapter)

Software Application

Source/target switch on all ports

SuperImager Plus application allows the user to change the role of any target port to be source in order to use it in multi sessions mode.

Hardware writes protection in *Source* mode on all ports

It's supported by all SuperImager Plus units and applications

Imaging up to 5 targets and limitation on the # of Sessions

Atola TaskForce unit: Limit to max of 5 target drives

The SuperImager Plus application has **no limitation** on the number of sessions or the number of target drives.

Handling Bad/Damage drives

Atola's slogan says that they can "image" bad drives. Still, that process can take an enormous amount of time, especially when time is, in essence, like in a covert operation when the total time for capturing and imaging is crucial.

Also, a "true recovery" of bad drives required a clean room and removing the magnetized hard disk drive plates.

Imaging bad drive is part of the past and the usage of it is very slim.

The MediaClone SuperImager application allows users to save time and skip bad sectors and blocks; otherwise, trying to save every bit from those areas can take forever.

RAID imaging and reconstruction

The Atola TaskForce application supports automatic RAID detection and reconstruction. It is a nice feature.

The SuperImager Plus application can image RAID raw drives like any other hard disk drive and use Linux or Win10 free utilities to reconstruct the RAID. In addition, the SuperImager application can detect RAID drives (if the RAID drives are not dependent on a specific RAID controller) and rebuild the image.

Express Mode

Atola TaskForce Unit: "To tackle cases that involve many drives faster, TaskForce forensic imager is enhanced with Express mode for self-launching imaging. When the mode is activated, every imaging session starts automatically upon plugging source drives into TaskForce".

We think that is a very dangerous implementation, especially where there is multiple imaging sessions running simultaneously; a confusion about which destination drives are related to which source drive. Also, those ports are hot powered, which might damage the unit and the drive.

Using the SuperImager Plus application, with just a few clicks, the user can image a drive.

Automation via Web API

The SuperImager application does use powerful WEB API to operate the unit from remote, include running multi session and upload multiple images to the network.

Physical imaging to E01, AFF4, and RAW files

The SuperImager Plus application supports imaging formats: E01/Ex01 with compression, DD, Mix of E01 & DD, and AFF4.

Logical imaging to L01 file

The SuperImager Plus application does support L01.

SuperImager Plus Parallel Span Mode

The SuperImager Plus application supports parallel span mode in DD/E01/Ex01 sessions where one source drive is imaged into multiple target drives

simultaneously. As an example, at the end of the session, the first target drive will end up with image chunks 1-100 and the second target drive will have image chunks 100-200. This feature is especially useful when imaging a faster source drive like NVMe that has higher read speeds to save time.

SuperImager Plus unit is more than just an imaging device

SuperImager Plus units are configured with dual open OS of Linux and Windows, which allows the user to install and use various third-party applications and packages. One of the main uses is running a full analysis on the captured data, like Axiom Encase, Nuix, or running cellphone data extraction using Cellebrite MSAB, Oxygen with the unit's multiple fast USB ports.