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Manufacturer: National Instruments

Board Assembly Part Numbers (Refer to Procedure 1 for identification procedure)**:**

Part Number	Description
158561A-01L or later	IC-3173, 8 GB RAM, 4 GB SSD, Real-Time OS
158561A-02L or later	IC-3172, 4 GB RAM, 4 GB SSD, Real-Time OS
158561A-03L or later	IC-3171, 4 GB RAM, 4 GB SSD, Real-Time OS
158561A-04L or later	IC-3173, 8 GB RAM, 32 GB SSD, Windows OS
158561A-06L or later	IC-3171, 4 GB RAM, 32 GB SSD, Windows OS
158561A-07L or later	IC-3173, 8 GB RAM, 32 GB SSD, Real-Time OS
158561A-13L or later	IC-3173, 8 GB RAM, 64 GB SSD, Windows OS
146541A-01L or later	P+G IC-3173,4GB SSD,REAL TIME
143703A-01L or later	IP67 IC-3173, 8 GB RAM, 4 GB SSD, Real-Time OS

Volatile Memory

Target Data	*Type*	*Size*	*Battery Backup*	*User[1] Accessible*	*System Accessible*	*Sanitization Procedure*
CPU L1/L2 Data Cache	Processor	4/3/2 MB[2]	No	No	Yes	Cycle Power
System RAM	DDR3L SDRAM	8/4 GB[3]	No	No	Yes	Cycle Power
FPGA User DRAM	DDR3L SDRAM	2GB	No	Yes	Yes	Cycle Power
FPGA User SRAM	QDR-II SRAM	4 MB	No	Yes	Yes	Cycle Power
FPGA Bitstream Buffer	SDR SDRAM	16 MB	No	No	Yes	Cycle Power
UART Data FIFOs	UART FIFOs	32 B	No	Yes	Yes	Cycle Power
Data buffer	FPGA BRAM	11.43 Mb	No	Yes	Yes	Cycle Power
Data buffer	CPLD BRAM	74 Kb	No	No	Yes	Cycle Power
Data buffer	CPLD BRAM	64 Kb	No	No	Yes	Cycle Power

[1] Refer to *Terms and Definitions* section for clarification of *User* and *System Accessible* None available to user
[2] The processor cache is 2, 3, or 4 MB, depending on the product variant.
[3] The system memory is 4 or 8 GB, depending on the product variant.

Non-Volatile Memory (*incl. Media Storage*)

Target Data	*Type*	*Size*	*Battery Backup*	*User Accessible*	*System Accessible*	*Sanitization Procedure*
BIOS	Flash	128 Mb	No	No	Yes	None available to user
Unused	Flash	128 Mb	No	No	Yes	None available to user
UART/WDT/LEDs/Power Ctrl	CPLD Config	0.47 Mb	No	No	Yes	None available to user
Unused	CPLD UFM	80 Kb	No	No	Yes	None available to user
FPGA Configuration Management	CPLD Config	0.33 Mb	No	No	Yes	None available to user
Unused	CPLD UFM	64 Kb	No	No	Yes	None available to user
FPGA Bitstream	Flash	128 Mb	No	No	Yes	Procedure 1
Ethernet Port 1-4 Configuration	Flash	4 MB	No	No	Yes	None available to user
RTC, PCH CMOS	CMOS RAM	256 B	Yes	No	Yes	None available to user
Disk Drive	SSD	4/32/64 GB[4]				Procedure 2
• Firmware (RT Only)			No	No	Yes	
• OS/User Disk			No	Yes	Yes	

[4] The disk capacity is 4, 32, or 64 GB, depending on the product variant.

Procedures

Procedure 1 – FPGA Bitstream Flash:
You can effectively erase an existing bitstream stored on the flash by saving a new bitstream, thus overwriting the old one. This is only necessary if a custom bitstream has been programmed to the flash. The new bitstream file size must be at least as large as the one to be overwritten.

Procedure 2 – Primary Storage SSD (OS/User Disk):
The solid-state drive contains the safemode firmware (real-time systems only), the operating system, the user code, and the user data, if applicable. The method to erase the disk depends on the operating system.

- **Real-Time**: The OS/User Disk contents can be erased by reformatting the target using the Measurement & Automation Explorer (MAX) software. The format operation is a "quick format" that re-initializes the file table, thereby making the existing files inaccessible.
    1. Right-click the target in MAX.
    2. Select Format Disk.
- **Windows**: The OS/User Disk contents can be erased by using a commercially available utility for overwriting solid state disk drives.

Terms and Definitions

Cycle Power:
The process of completely removing power from the device and its components and allowing for adequate discharge. This process includes a complete shutdown of the PC and/or chassis containing the device; a reboot is not sufficient for the completion of this process.

Volatile Memory:
Requires power to maintain the stored information. When power is removed from this memory, its contents are lost. This type of memory typically contains application specific data such as capture waveforms.

Non-Volatile Memory:
Power is not required to maintain the stored information. Device retains its contents when power is removed. This type of memory typically contains information necessary to boot, configure, or calibrate the product or may include device power up states.

User Accessible:
The component is read and/or write addressable such that a user can store arbitrary information to the component from the host using a publicly distributed NI tool, such as a Driver API, the System Configuration API, or MAX.

System Accessible:
The component is read and/or write addressable from the host without the need to physically alter the product.

Clearing:
Per *NIST Special Publication 800-88 Revision 1*, "clearing" is a logical technique to sanitize data in all User Accessible storage locations for protection against simple non-invasive data recovery techniques using the same interface available to the user; typically applied through the standard read and write commands to the storage device.

Sanitization:
Per *NIST Special Publication 800-88 Revision 1*, "sanitization" is a process to render access to "Target Data" on the media infeasible for a given level of effort. In this document, clearing is the degree of sanitization described.