

**Assembly Part Number(s)**

| Part Number | Description          |
|-------------|----------------------|
| 198098A-02L | NI 1722 Smart Camera |
| 198098A-01L | NI 1742 Smart Camera |
| 198098A-04L | NI 1744 Smart Camera |
| 198098A-03L | NI 1762 Smart Camera |
| 198098A-05L | NI 1764 Smart Camera |

**Manufacturer:** National Instruments

**Volatile Memory**

| Type <sup>1</sup>                | Size     | User Accessible/<br>System Accessible <sup>2</sup> | Battery<br>Backup? | Purpose                         | Method of Clearing <sup>3</sup> |
|----------------------------------|----------|--|--------------------|---------------------------------|---------------------------------|
| FPGA block RAM                   | 38.17 KB | No/Yes   | No                 | Image and Ethernet data buffers | Cycle power                     |
| DRAM                             | 128 MB   | Yes/Yes  | No                 | Processor RAM                   | Cycle power                     |
| Processor                        | 64 KB    | Yes/Yes  | No                 | Processor cache                 | Cycle power                     |
| <b>NI 1762 and NI 1764 Only:</b> |          |  |                    |                                 |                                 |
| DSP                              | 256 Kbit | Yes/Yes  | No                 | Processor cache                 | Cycle power                     |
| DSP                              | 1024 KB  | Yes/Yes  | No                 | Processor cache/RAM             | Cycle power                     |
| DRAM                             | 64 MB    | Yes/Yes  | No                 | DSP RAM                         | Cycle power                     |

**Non-Volatile Memory**

| Type         | Size   | User Accessible/<br>System Accessible | Battery<br>Backup? | Purpose  | Method of Clearing     |
|--------------|--------|---------------------------------------|--------------------|--|------------------------|
| Disk-on-chip | 128 MB | Yes/Yes                               | No                 | Primary storage for OS<br>and application software | See Clearing Notes     |
| EEPROM       | 1 Kbit | No/Yes                                | No                 | Calibration and configuration                      | None Available to User |
| Flash        | 4 MB   | No/Yes                                | No                 | Product information, boot code,<br>and firmware    | See Clearing Notes     |

**Media Storage**

| Type | Size | User Accessible/<br>System Accessible | Battery<br>Backup? | Purpose | Method of Clearing |
|------|------|---------------------------------------|--------------------|---------|--------------------|
|------|------|---------------------------------------|--------------------|---------|--------------------|

NONE

<sup>1</sup> Calibration constants that are stored in device EEPROMs include information for the device's full operating range. Calibration constants do not maintain any unique data for specific configurations at which the device is used unless otherwise specified.

<sup>2</sup> Items are designated **No** for the following reason(s):

- a) Hardware changes or a unique software tool from National Instruments are required to modify contents of the memory listed.
- b) Hardware-modifying software tools are not distributed to customers for any personal access or customization, also known as non-normal use.

<sup>3</sup> The designation *None Available to User* indicates that the ability to clear this memory is not available to the user under normal operation. The utilities required to clear the memory are not distributed by National Instruments to customers for normal use.

## Clearing Notes

**Disk-on-chip:** This memory stores the operating system and application software deployed by the user. No user data or images are stored in this memory unless requested by the user application. The disk-on-chip can be reformatted using Measurement & Automation Explorer (MAX) software by right-clicking the target in MAX and selecting **Format Disk**. This makes the data inaccessible to the user by normal means, but may not erase all data from the disk.

**Flash:** The non-volatile flash, or boot ROM, can be updated using the Measurement & Automation Explorer (MAX) software by selecting **Tools » NI Vision » IMAQ Device Firmware Updater**. This updates the boot ROM to factory settings.

## Terms and Definitions

**User Accessible:** Allows the user to directly write or modify the contents of the memory during normal instrument operation.

**System Accessible:** Does not allow the user to access or modify the memory during normal instrument operation. However, system accessible memory may be accessed or modified by background processes. This can be something that is not deliberate by the user and can be a background driver implementation, such as storing application information in RAM to increase speed of use.

**Cycle Power:** The process of completely removing power from the device and its components. 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.

**Non-Volatile:** Retains its contents when power is removed. This type of memory typically contains calibration or chip configuration information, such as power up states.