Security Guide
Keysight E3640A – E3645A DC Power Supplies

Memory information and procedures

Product: E3640A, E3641A, E3642A, E3643A, E3644A, and E3645A
Date: 4 October 2018

NOTE	For serial numbers below MY53176001, refer to Memory Information for Serial Numbers below MY53176001.
	For serial numbers MY53176001 and above, refer to Memory Information for Serial Numbers MY53176001 and above.

Memory Information for Serial Numbers below MY53176001

Memory Type: ROM (Digital Board)	Memory Size: 2 Mbits
Memory Function: Digital microcontroller execution code storage	
User Modifiable (Y/N): N	Volatile (Y/N): N
Memory Erase Processes: Not applicable, contains no application-specific information.	

Memory Type: RAM (Digital Board)	Memory Size: 256 kbit
Memory Function: Digital microcontroller temporary execution data	
User Modifiable (Y/N): N	Volatile (Y/N): Y
Memory Erase Processes: On power cycle.	

Memory Type: ROM (Digital Board)	Memory Size: 4 kbit
Memory Function: Product model, versions, calibration data, calibration count, memory-store data, IO configuration, register configuration and states, calibration secure state, calibration secure code, and calibration message	
User Modifiable (Y/N): Y	Volatile (Y/N): N
Memory Erase Processes: Same as the memory erase processes for serial numbers MY53176001 and above.	

Memory Type: ROM (Main board)	**Memory Size**: 126 kByte
Memory Function: Main board microcontroller execution code storage	
User Modifiable (Y/N): N	**Volatile** (Y/N): N
Memory Erase Processes: Not applicable, contains no application-specific information.	

Memory Type: RAM (Main board)	**Memory Size**: 16 kByte
Memory Function: Main board microcontroller temporary execution data	
User Modifiable (Y/N): N	**Volatile** (Y/N): Y
Memory Erase Processes: On power cycle	

Memory Type: ROM (Front panel)	**Memory Size**: 16 kByte
Memory Function: Front panel microcontroller execution code storage	
User Modifiable (Y/N): N	**Volatile** (Y/N): N
Memory Erase Processes: Not applicable, contains no application-specific information.	

Memory Type: RAM (Front panel)	**Memory Size**: 4 kByte
Memory Function: Front panel microcontroller temporary execution data	
User Modifiable (Y/N): N	**Volatile** (Y/N): Y
Memory Erase Processes: On power cycle	

Memory Type: ROM (IO controller)	**Memory Size**: 12 kByte
Memory Function: IO controller microcontroller execution code storage	
User Modifiable (Y/N): N	**Volatile** (Y/N): N
Memory Erase Processes: Not applicable, contains no application-specific information.	

Memory Type: RAM (IO controller)	**Memory Size**: 256 Byte
Memory Function: IO controller microcontroller temporary execution data	
User Modifiable (Y/N): N	**Volatile** (Y/N): Y
Memory Erase Processes: On power cycle	

Memory Type: Data Flash (Main board)	**Memory Size**: 2 kByte
Memory Function: Product model, versions, calibration data, calibration count, memory-store data, IO configuration, register configuration and states, calibration secure state, calibration secure code, and calibration message	
User Modifiable (Y/N): Y	**Volatile** (Y/N): N

Memory Erase Processes: Product model, versions, calibration data, calibration count contains no application-specific information. Memory-stored data, IO configuration, register configuration and states, calibration secure state, calibration secure code, calibration message are user-saved data. See below for memory erase processes.

Memory-stored data
NOTE: Make sure the instrument is not in the calibration mode.
On the front panel:
1. Press **STORE** > **NAME STATE** > **1: XXXXXX** > **1:STATE1** > **DONE/NO CHANGE**.
2. Press **STORE** > **NAME STATE** > **2: XXXXXX** > **2:STATE2** > **DONE/NO CHANGE**.
3. Press **STORE** > **NAME STATE** > **3: XXXXXX** > **3:STATE3** > **DONE/NO CHANGE**.
4. Press **STORE** > **NAME STATE** > **4: XXXXXX** > **4:STATE4** > **DONE/NO CHANGE**.
5. Press **STORE** > **NAME STATE** > **5: XXXXXX** > **5:STATE5** > **DONE/NO CHANGE**.
6. Power cycle the unit.
7. Press **STORE** > **STORE STATE** > **1: STATE1** > **DONE**.
8. Press **STORE** > **STORE STATE** > **2: STATE2** > **DONE**.
9. Press **STORE** > **STORE STATE** > **3: STATE3** > **DONE**.
10. Press **STORE** > **STORE STATE** > **4: STATE4** > **DONE**.
11. Press **STORE** > **STORE STATE** > **5: STATE5** > **DONE**.

From the remote interface, send the following command in sequence:
1. MEMory:STATe:NAME 1, "STATE1"
2. MEMory:STATe:NAME 2, "STATE2"
3. MEMory:STATe:NAME 3, "STATE3"
4. MEMory:STATe:NAME 4, "STATE4"
5. MEMory:STATe:NAME 5, "STATE5"
6. *RST
7. *SAV 1
8. *SAV 2
9. *SAV 3
10. *SAV 4
11. *SAV 5

IO configuration
On the front panel:
1. Press **I/O Config** > **RS-232** > **9600 BAUD** > **NONE 8 BITS** > **CHANGE SAVED/NO CHANGE**.
2. Press **I/O Config** > **GPIB / 488** > **ADDR 05** > **SAVED/NO CHANGE**.

Register configuration and state
From the remote interface, send *PSC 1, then power cycle the unit.

Calibration secure state, calibration secure code and calibration message
From the remote interface, send the following command in sequence:
- CALibration:SECure:STATe OFF, <code>
  NOTE: <code> refers to "003640" for model E3640A, "003641" for model E3641A, "003642" for model E3642A, "003643" for model E3643A, "003644" for model E3644A, and "003645" for model E3645A. Applicable only if user has not changed the model number from the default value.

- CALibration:SECure:CODE <new code>
  NOTE: <new_code> must be "003640" for model E3640A, "003641" for model E3641A, "003642" for model E3642A, "003643" for model E3643A, "003644" for model E3644A, and "003645" for model E3645A.

- CALibration:STRing ""
  NOTE: This resets the calibration message to an empty string.

- CALibration:SECure:STATe ON, <code>
  NOTE: <code> must be "003640" for model E3640A, "003641" for model E3641A, "003642" for model E3642A, "003643" for model E3643A, "003644" for model E3644A, and "003645" for model E3645A.

Select one of the following:

- ☑ Sanitization process is documented above
- ☐ Sanitization process could be available with engineering resources
- ☐ Sanitization process is not possible (i.e. sanitize the product by destruction)

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