Memory Information and Procedures

Product: 33250A 80 MHz Function/Arbitrary Waveform Generator
Date: January 29, 2015

Memory Type: SRAM (4 devices)	**Memory Size**: 4 MBit (ea)
Memory Function: Program Execution and Instructions	
User Modifiable (Y/N): Yes – reflects current state of instrument	**Volatile** (Y/N): Y
Memory Erase Processes: Power cycle of the product erases all volatile memory contents	

Memory Type: SRAM	**Memory Size**: 1 MBit
Memory Function: Pixel Information (Display)	
User Modifiable (Y/N): Yes - reflects current instrument settings	**Volatile** (Y/N): Yes
Memory Erase Processes: Power cycle of the product erases all volatile memory contents	

Memory Type: SRAM	**Memory Size**: 1 MBit
Memory Function: System RAM contains instructions and current operating conditions	
User Modifiable (Y/N): Yes - reflects current instrument settings	**Volatile** (Y/N): Yes
Memory Erase Processes: Power cycle of the product erases all volatile memory contents	

Memory Type: SRAM (2 devices)	**Memory Size**: 1 MBit (each)
Memory Function: Waveform RAM	
User Modifiable (Y/N): Contains current waveform values	**Volatile** (Y/N): Yes
Memory Erase Processes: Power cycle of the product erases all volatile memory contents	

Memory Type: Program ROM Flash (2 devices)	**Memory Size**: 4 Mbit (ea)
Memory Function: Operating Instructions and Data	
User Modifiable (Y/N): Yes – firmware update	**Volatile** (Y/N): No
Memory Erase Processes: None – operating instructions contains no application-specific information.	

Memory Type: Program ROM Flash (2 devices)	**Memory Size**: 4 Mbit (ea)
Memory Function: Arbitrary Waveform Storage	
User Modifiable (Y/N): Yes	**Volatile** (Y/N): No
Memory Erase Processes:	

- Delete the user-defined arbitrary waveforms from memory. DATA:DELete:ALL from the bus or deleting the waveforms from the front panel will remove the arbitrary waveform.
- Arbitrary waveform names are stored in FRAM and are disassociated with the waveform memory when the waveform is deleted. For more security, the waveforms may be renamed to ARB_1, ARB_2, etc, from the front panel or download arbs with these names before deleting.

Memory Type: FRAM	**Memory Size**: 64KBit
Memory Function: Calibration coefficients, State storage, I/O settings	
User Modifiable (Y/N): Yes	**Volatile** (Y/N): No

Memory Erase Processes:

- Instrument State Storage Memory (4 different instrument states with associated names): Delete the stored states from the front panel by deleting each state one at a time. From the bus, use the command MEMory:STATe:DELete {1|2|3|4} to delete the specified storage location as well as the assigned name. An error will be generated if you attempt to recall a deleted or non-existent state.
- Instrument Power-off state memory (this information is used by the instrument to power-up in this state if the power-down mode is enabled): Reset the instrument to the factory default conditions before turning off the instrument by selecting the "Set to Defaults" from the front panel or sending the *RST command before turning off the instrument.
- Calibration Constant Storage: Altered during the adjustment process; this information is instrument specific and is used to shift the operating point of the instrument such that the output is within specification. There is no application specific information stored in this memory
- Calibration Security Code (up to 12 alphameric characters; this code is used to control access to the instrument adjustments): The current code can be over-written by another code either from the front panel or the command CALibration:SECure:CODE ⟨*new code*⟩
- Calibration Count (tracks the number of adjustment groupings that have been completed since the instrument was manufactured): Increments upward when each block of adjustments is completed; maximum count of 65,535. There is no application specific information stored in this memory.
- Calibration Message (room for a 40 character message; used to record calibration information such as dates, serial number and etc.): This message can be over-written by another message only from the remote-interface command CALibration:STRing ⟨*quoted string*⟩
- I/O Configuration (GPIB address, baud rate, parity/data bits, and handshake): This information is used to configure the interface for programming and contains no other application specific information. If there is concern regarding this information being known, set the parameters to the factory settings using the front-panel interface:
  - GPIB Address: 10
  - RS-232 Baud Rate: 57600
  - RS-232 Parity/Data Bits: None/8 data bits
  - RS-232 Handshake: DTR/DSR

Memory Type: EPROM	**Memory Size**: 8K bytes ROM
Memory Function: IO Program instructions and data	
User Modifiable (Y/N): No	**Volatile** (Y/N): No
Memory Erase Processes: None -- operating instructions contains no application-specific information.	

Memory Type: SRAM	**Memory Size**: 256 bytes
Memory Function: IO Processing	
User Modifiable (Y/N): Yes – reflects current state of the instrument	**Volatile** (Y/N): Yes
Memory Erase Processes: Power cycle of the product erases all volatile memory contents	

Memory Type: EPROM	**Memory Size**: 4440 kbit
Memory Function: Program Configuration Data for PLD	
User Modifiable (Y/N): No	**Volatile** (Y/N): No
Memory Erase Processes: Contains no user-specific information. Do Not Erase.	

Memory Type: SRAM	**Memory Size**: 6144 RAM bits
Memory Function: CPU address decoding, bus handshaking, DSP and Waveform RAM bus interface, timers, DSP serial communications, QSPI scanned serial bus support, Synthesis Gate Array serial interface, System DAC control	
User Modifiable (Y/N): Yes – reflects current state of instrument	**Volatile** (Y/N): Yes
Memory Erase Processes: Cycle power of instrument. Gate array is blank after power cycle of instrument and is programmed by EPROM.	

Memory Type: SRAM	**Memory Size**: 24576 bits RAM
Memory Function: Logic for Waveform Generation	
User Modifiable (Y/N): Yes – reflects current state of instrument	**Volatile** (Y/N): Yes
Memory Erase Processes: Power cycle of the product erases all volatile memory contents	