# **RIGOL**

# **Declassification Guide**

**Function/Arbitrary Waveform Generator** 

May 2012

RIGOL Technologies, Inc.

## **DG4000 Series**

DG4000 series function/arbitrary waveform generator consists of DG4162, DG4102 and DG4062.

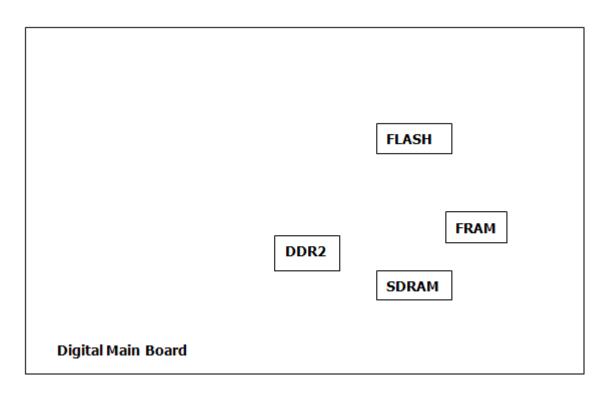
## **Instrument Memory**

This section contains information on the types of memory available in your instrument. It explains the size of memory, how it is used, its location, volatility and the clearing procedure.

Memory	Writable	Data	Purpose/	Data	Location in	Sanitization
type and size	during normal operation	retained when powered off	contents	input method	instrument and remarks	procedure
FRAM 2kB Main Memory (SDRAM) 4MB	Yes	Yes	System setting Program	Operating system Operating system	Main board in CPU area Main Board in CPU area	Default all settings Cycle power
Data Memory (SDRAM) 28MB	Yes	No	System data	System	Main board in CPU area	Cycle power
Main Code (Nor Flash) 3MB	No	Yes	System firmware	Firmware upgrade	Main board in CPU area	No user data is stored
FPGA Firmware (Nor Flash) 1MB	No	Yes	FPGA firmware loaded into the FPGA by boot loader	Firmware upgrade	Main board in CPU area	No user data is stored
System Data (Nor Flash) 11MB	No	Yes	Image\ Font\ Message\ Inner wave data	Firmware upgrade	Main board in CPU area	No user data is stored

Instrument memory (continue)

Memory	Writable	Data	Purpose/	Data	Location in	Sanitization
type and	during	retained	contents	input	instrument	procedure
size	normal	when		method	and	
	operation	powered			remarks	
		off				
Calibration	No	Yes	Calibration	Calibration	Main board	
Data			data		in CPU area	
(Nor Flash)						
512kB						
User Data	Yes	Yes	State file	Storage	Main board	Clear the user
(Nor Flash)			\Arb Wave		in CPU area	data
512kB						
DDR2	Yes	No	FPGA	System	Main board	Cycle power
64MB			Code\		in CPU area	
			GUI			
			Display			
			caches			



## **DG5000 Series**

DG5000 series function/arbitrary waveform generator consists of DG5352, DG5351, DG5252, DG5251, DG5102, DG5101, DG5072 and DG5071.

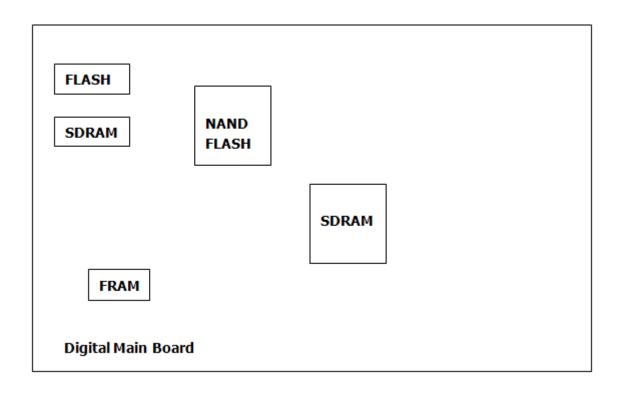
# **Instrument Memory**

This section contains information on the types of memory available in your instrument. It explains the size of memory, how it is used, its location, volatility and the clearing procedure.

Memory	Writable	Data	Purpose/	Data	Location in	Sanitization
type and size	during normal operation	retained when powered	contents	input method	instrument and remarks	procedure
		off				
FRAM	Yes	Yes	System	Operating	Main board	Default all
2kB			setting	System	in CPU area	settings
Main	Yes	No	Program	Operating	Main board	Cycle power
Memory				System	in CPU area	
(SDRAM)						
3MB	.,					
Data	Yes	No	System	System	Main board	Cycle power
Memory			data		in CPU area	
(SDRAM)						
13MB Main Code	No	Yes	Cuctom	Firmware	Main board	No user data
(Nor Flash)	INO	162	System firmware	upgrade	in CPU area	is stored
3MB			Tilliwale	upgraue	III CFU alea	is stored
FPGA	No	Yes	FPGA	Firmware	Main board	No user data
Firmware			firmware	upgrade	in CPU area	is stored
(Nor Flash)			loaded into	1 3		
1.5MB			the FPGA			
			by boot			
			loader			
System	No	Yes	Image\	Firmware	Main board	No user data
Data			Font\	upgrade	in CPU area	is stored
(Nor Flash)			Message\			
11MB			Inner wave			
			data			

Instrument memory (continue)

Memory	Writable	Data	Purpose/	Data input	Location in	Sanitization
type and	during	retained	contents	method	instrument	procedure
size	normal	when			and	
	operation	powered			remarks	
		off				
Calibration	No	Yes	Calibration	Calibration	Main board	
Data			data		in CPU area	
(Nor Flash)						
512kB						
Nand Flash	Yes	Yes	Public fat	System	Main board	Secure erase
1GB			disk		in CPU area	
					(Back)	
DDR2	Yes	No	Arbitrary	System	Analog	Cycle power
64MB			wave		Board FPGA	
			caches		area	
SDRAM	Yes	No	GUI display	System	Main board	Cycle power
16MB			caches		in CPU area	



	DDR2
	DDR2
	DDR2
	DDR2
Analog Board	

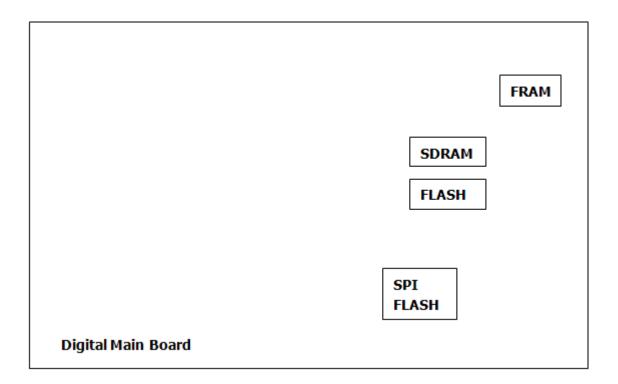
## **DG1000 Series**

DG1000 series function/arbitrary waveform generator consists of DG1022 and DG1022A.

# **Instrument Memory**

This section contains information on the types of memory available in your instrument. It explains the size of memory, how it is used, its location, volatility and the clearing procedure.

Memory	Writable	Data	Purpose/	Data	Location in	Sanitization
type and	during	retained	contents	input	instrument	procedure
size	normal	when		method	and	
	operation	powered			remarks	
		off				
FRAM	Yes	Yes			Main board	
2kB					in CPU area	
Main	Yes	No	Program	Operating	Main board	Cycle power
Memory				system	in CPU area	
(SDRAM)						
2MB						
Data	Yes	No	System	System	Main board	Cycle power
Memory			data\LCD		in CPU area	
(SDRAM)			caches			
14MB						
Main Code	No	Yes	System	Firmware	Main board	No user data
(Nor Flash)			firmware	upgrade	in CPU area	is stored
1.5MB						
System	Yes	Yes	Image\	Firmware	Main board	No user data
Data			Font\	upgrade\	in CPU area	is stored
(Nor Flash)			Message\	Calibration		
2MB			Inner wave			
			data\			
			Calibration			
User Data	Yes	Yes	State file\	Storage	Main board	Clear the user
(Nor Flash)			Arb wave		in CPU area	data
512kB						
SPIFLASH	No	Yes	FPGA	Firmware	Main board	No user data
256kB			firmware	upgrade	in FPGA area	is stored



## **DG2000 Series**

DG2000 series function/arbitrary waveform generator consists of DG2041A.

## **Instrument Memory**

This section contains information on the types of memory available in your instrument. It explains the size of memory, how it is used, its location, volatility and the clearing procedure.

Memory	Writable	Data	Purpose/	Data	Location in	Sanitization
type and	during	retained	contents	input	instrument	procedure
size	normal	when		method	and	
	operation	powered			remarks	
		off				
FRAM	Yes	Yes			Main board	
2kB					in CPU area	
Main	Yes	No	Program	Operating	Main board	Cycle power
Memory				system	in CPU area	
(SDRAM)						
2MB						
Data	Yes	No	System	System	Main board	Cycle power
Memory			data\LCD		in CPU area	
(SDRAM)			caches			
14MB						
Main Code	No	Yes	System	Firmware	Main board	No user data
(Nor Flash)			firmware	upgrade	in CPU area	is stored
1.5MB						
System	Yes	Yes	Image\	Firmware	Main board	No user data
Data			Font\	upgrade\	in CPU area	is stored
(Nor Flash)			Message\	Calibration		
2MB			Inner wave			
			data\			
			Calibration			
User Data	Yes	Yes	State file\	Storage	Main board	Clear the user
(Nor Flash)			Arb wave		in CPU area	data
512kB						
SPI FLASH	No	Yes	FPGA	Firmware	Main board	No user data
256kB			firmware	upgrade	in FPGA area	is stored

