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E8305A, E8311A & E8312A

The Agilent **E8305A, E8311A and E8312A Pulse Pattern Generators** combine the 81110A's versatility and performance in the modular and flexible VXI form factor (C-size, 1 slot). The specifications of the E8311A and E8312A match those of the 81110A with 81111A and 81112A output channels. All VXI Pulse Pattern Generators have identical programming syntax and pattern capabilities - enabling a quick and easy transition from lab to production.

Key Features E8305A, E8311A, E8312A			
	E8305A	E8311A	E8312A
Frequency range	1 mHz to 250 MHz	1 mHz to 165 MHz	1 mHz to 330 MHz
No. of channels	2 channels	2 channels	2 channels
Data pattern	16kbit/channel user defined; PRBS 2 ⁿ -1, n=7,8,...14 RZ, NRZ	16kbit/channel user defined; PRBS 2 ⁿ -1, n=7,8,...14 RZ, NRZ, DNRZ	
Variable delay range	0.00 ns to 999.5 s	0.00 ns to 999.5 s	
Period RMS-jitter	0.001 % + 15 ps	0.001 % + 15 ps	
Amplitude range	100 mV to 5 V	100 mV to 20.0 V	100 mV to 3.8 V
Transition time range (10/90)	1,3 ns to 200 ps programmable	2.00 ns to 200 ms programmable	800 ps or 1.6 ns selectable



PRBS



Data



Pattern



Pulse



E8305A, E8311A & E8312A Pulse Pattern Generators

Pulse Pattern and Data Generators

Key Applications at a Glance

Application	8114A	81101A	81104A 81105A	81111A	81110A 81112A	81131A	81130A 81132A	E8305A	VXI E8311A	E8312A	81133A	81134A	81141A 81142A	81200A
Clock Generation		*	*	*	*	*	*	*	*	*	*	*	*	
System Trigger Source		*	*	*	*	*	*	*	*	*	*	*	*	
Diodes - LEDs	*	*	*	*					*					
Laser or IR Diodes	*													
Radar Test				*	*			*	*	*				
Mixed Signal Devices			*	*	*			*	*	*				
Flash Chip Test			*	*				*	*					
EEPROMs	*													
High Power Semiconductors	*													
PRBS Generation			*	*	*	*	*	*	*	*	*	*	*	*(PRWS)
Data Generation < 56 kBit			*	*	*	*	*	*	*	*	*	*	*	*
Data Generation > 56 kBit											*	*	*	*
Data Looping						*	*							*
Serial Bus Test < 1 GBit/s			*	*	*	*	*				*	*	*	*
High Speed Serial Bus Test > 1 GBit/s							*				*	*	*	*
Signal Integrity Test											*	*	*	
Jitter (Stress) Test											*	*	*	

Product Specifications at a Glance

Specification	8114A	81101A	81104A	81110A			81130A	VXI			81133A	81134A	81200A	81141A
			81105A	81111A	81112A	81131A	81132A	E8305A	E8311A	E8312A				81142A
Frequency Range	1 Hz - 15 MHz	1 mHz - 50 MHz	1 mHz - 80 MHz	1 mHz - 165 MHz	1 mHz - 330 MHz	1 kHz - 400 MHz	1 kHz - 660 MHz	1 mHz - 250 MHz	1 mHz - 165 MHz	1 mHz - 330 MHz	15 MHz - 3.35 GHz	15 MHz - 3.35 GHz	1 kHz - 2.7 GBit/s	150 mHz - 13.5 GHz ⁽³⁾
Number of Channels	1	1	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	2 ⁽¹⁾	2 ⁽¹⁾	2 ⁽¹⁾	1	2	2 - 132	1
Optional 2nd Channel (retrofitable)			*	*	*	*	*						max 132	
Amplitude Range	1 V - 100 V	100 mV - 20 V	100 mV - 20 V	100 mV - 20 V	100 mV - 3.8 V	100 mV - 3.8 V	100 mV - 2.5 V	100 mV - 5 V	100 mV - 20 V	100 mV - 3.8 V	50 mV - 2 V	50 mV - 2 V	50 mV - 1.8 V	0.1 V - 1.8 V
Differential Outputs				*	*	*	*			*	*	*	*	*
LDVS Levels											*	*	*	*
Triggerable	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Gate Mode	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Remotely Programmable	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Pulse Generation	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Pattern & Data Generation			*	*	*	*	*	*	*	*	*	*	*	*
PRBS Generation			*	*	*	*	*	*	*	*	*	*	*	*
Bursts	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Data Bursts			*	*	*	*	*	*	*	*	*	*	*	*
Pattern Memory			16 kBit / channel	16 kBit / channel	16 kBit / channel	64 kBit / channel	64 kBit / channel	16 kBit / channel	16 kBit / channel	16 kBit / channel	12 MBit / channel	12 MBit / channel	8 MBit / channel	32 MBit / channel
PRBS Variations (2n-1)			n = 7,8,...14	n = 7,8,...14	n = 7,8,...14	n = 7,8,...15	n = 7,8,...15	n = 7,8,...14	n = 7,8,...14	n = 7,8,...14	n = 5,6,...32	n = 5,6,...32	n = 7,8,...31 (PRWS)	n = 5,...32
Segment Looping						4 segments, 1 looping level	4 segments, 1 looping level						Multiple segments; up to 5 looping levels	4 segments, 1 loop level
Controlled Jitter Injection											*	*		*
Variable Width	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Variable Delay	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Glitch-Free Timing Changes (patented)		*	*	*	*	*	*	*	*	*	*(2)	*(2)		
Analogue Channel Add			*	*					*					
Digital Channel Add						*	*							(*)
Multi-Level Signals			*	*					*					(*)

- (1) - VXI modules with 2 channels per module - multiple modules can be combined in one VXI-frame for multi-channel applications
- (2) - Glitch-free frequency changes only in "direct" clock mode with external clock source
- (3) - RZ, R1 only up to 7 GHz



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