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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

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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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