

PULSE PATTERN GENERATORS – PPG



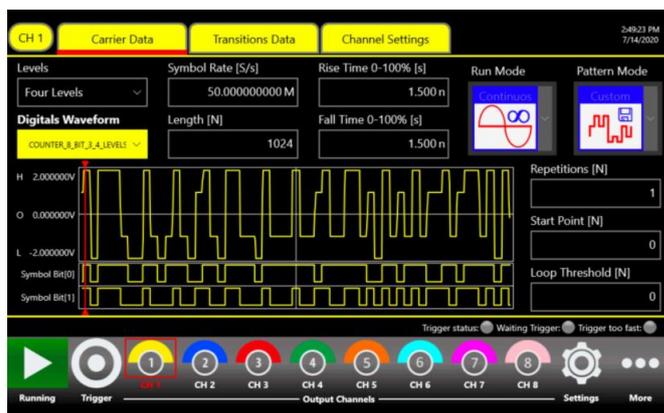
UP TO 32 CHANNEL PULSE PATTERN GENERATORS

The Pulse Pattern Generator family (PPG), also known as Serial Data Pattern Generator (SPG), is designed to generate a stream of binary information.

The binary data is generated through the instrument **analog outputs**.

With up to 8 channels of data stream per instrument, built-in **PRBS sequences**, **modulation features**, **transition shaping**, and the flexibility of a powerful analog front-end, the PPG is the perfect tool for the most challenging applications, where the digital data should be modeled with analog characteristics to perform the **parametric test** of digital I/O.

The Pulse Pattern Generator is available as an option in the Arbitrary Waveform Generator AWG-4000 and AWG-5000 Series.



Pulse Pattern Generators – Key Features

- Generate a stream of binary information
- PRBS sequences, modulation features, transition shaping
- Semiconductor test, signal integrity testing, aerospace & defense, PAM signals emulation, advanced research
- Replace discontinued Keysight's Pulse Pattern Generators

AWG-4000 AND AWG-5000 PULSE PATTERN GENERATORS

GENERATORS

Applications

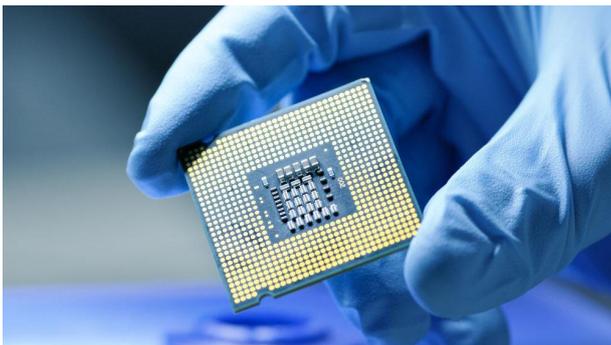
The Pulse Pattern Generators are widely used in many applications starting from semiconductor testing, aerospace & defense to signal integrity testing.



Semiconductor Test

The Pulse Pattern Generator represents a key tool for:

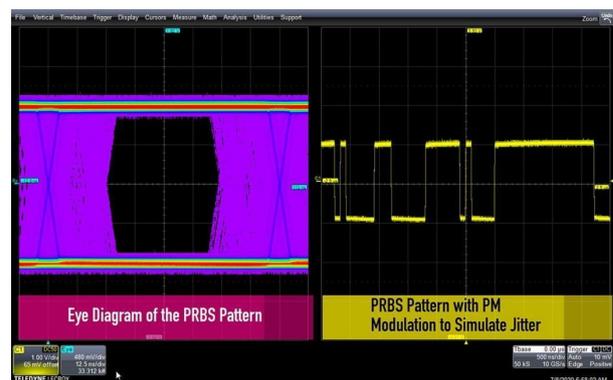
- Characterize and Test Digital Logic and Integrated Circuits
- Emulate serial protocol like I2C, SPI and High-Speed Serial Protocols
- Microprocessors and Memory Testing
- Multiple Clock Generation
- Image Sensor Testing



Signal Integrity Testing

The Pulse Pattern Generator ability to create modulated pulses allows the user to perform Jitter Stress tests and Noise Immunity tests.

Jitter emulation is commonly used for video signal testing and digital display driver circuit testing.



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The Pulse Pattern Generator has also the ability to program arbitrary pattern transitions.

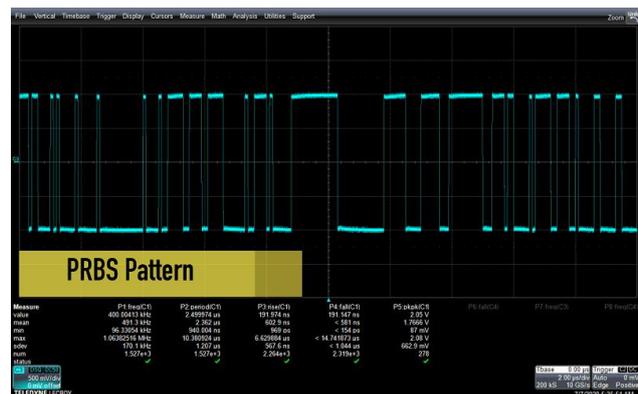
In this way, you can simulate distorted signals that can be used in signal integrity tests and crosstalk measurements



Aerospace & Defense

Pulse Pattern Generators are used in **Radar Testing** for Tower/Plane communication emulation: it's possible to use the Serial Data Pattern Generator to create custom (coded encrypted) pulse patterns.

Moreover, Receiver and Radar designers have the need to create PRBS sequences to test the robustness of their systems: the Active Technologies Pulse Pattern Generators have a **built-in PRBS pattern creation** feature that allows engineers to select not only the order of the sequence but also the bit rate, the rise and fall time and the shape of the transitions.



PAM signals emulation

Particle Image Velocimetry testing, magneto-optical disc testing, system trigger source emulation, and **multi-level PAM signals** emulation are only a few of all the other possible applications of the Pulse Pattern Generator.

EXTREMELY EASY TO USE

Active Technologies Pulse Pattern Generators are equipped with an extremely easy to use interface that takes full advantage of a 7" capacitive touch-screen display: tap, swipe and pinch to zoom gestures give you the possibility to control the instrument like a mobile phone or tablet.

All the instrument settings are just one touch away.

REPLACE DISCONTINUED PULSE PATTERN GENERATORS

Keysight (former Agilent) 81110A PPG can be replaced

Recently the most important T&M manufactures have discontinued a wide set of data generators, instrument extremely useful for digital logic & ICs characterization, functional and debugging testing, radar and receiver applications, signal integrity experiments.

The following types of equipment from Keysight:

- 81110A 8110A 8112A 8130A 81130A 8131A 8133A 81180B 81101A 81104A
- VXI multi-channel system like Keysight E8311

can be replaced by Active Technologies Pulse Pattern Generators. In particular AWG-4000 series reach up to **12V** (50Ω into 50 Ω) or **24V** (5Ω onto 50Ω).

Arb Rider AWG-4000 and AWG-5000 Series



MODEL	NO. OF CH	MAX. DATA RATE
AWG-5062	2	1.54 Gbit/s
AWG-5064	4	1.54 Gbit/s
AWG-5068	8 (32 combining 4 units)	1.54 Gbit/s
AWG-4012	2	300 Mbit/s
AWG-4014	4	300 Mbit/s
AWG-4018	8 (32 combining 4 units)	300 Mbit/s