

Agilent

The N2102A Pulse Pattern Generator is a single slot PXI instrument capable of generating a number of low jitter patterns at rates up to 8.5 Gb/s using an externally supplied clock. ActiveX drivers provide an easy to use software interface and a Graphical User Interface is provided for manual operation of the module.

The N2099A Synthesizer is a high quality microwave source capable of 2 GHz tuning range, and available factory-set at one of a number of available center frequencies in the range 4 to 11 GHz. It is perfectly suited to provide a clock source for the N2102A PPG.

Both instruments form part of the N2100 range of PXI modules. Other modules available include a DCA and BERT.

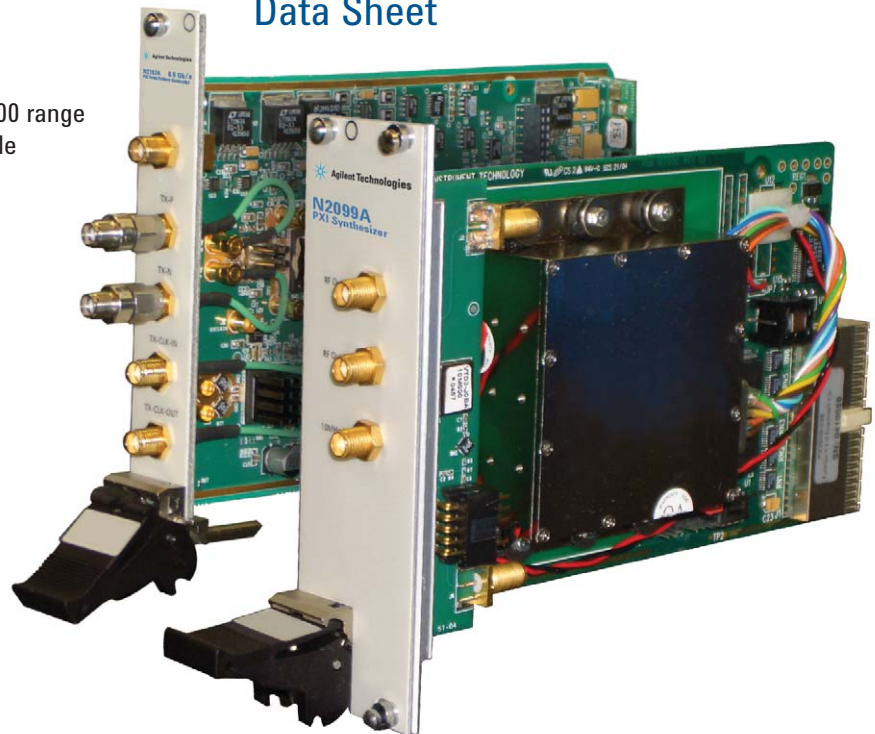
- **PXI 8.5Gb/s Pulse Pattern Generator**

N2102A (PXIT Model PX2000-337)

- **PXI Synthesizer**

N2099A (PXIT Model PX2000-338)

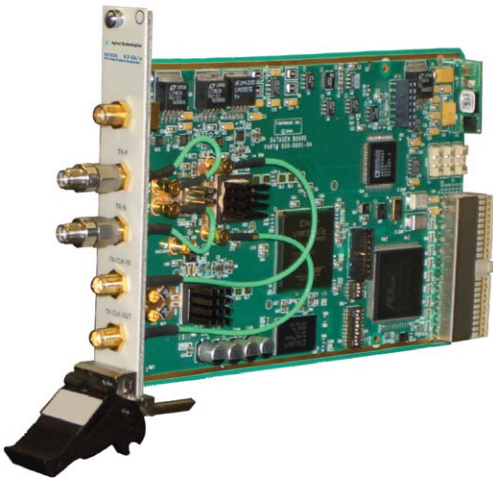
Data Sheet



Agilent Technologies

PXI 8.5Gb/s Pulse Pattern Generator

N2102A (PXIT Model PX2000-337)

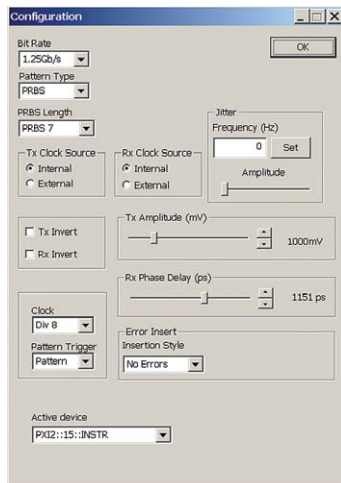


Features

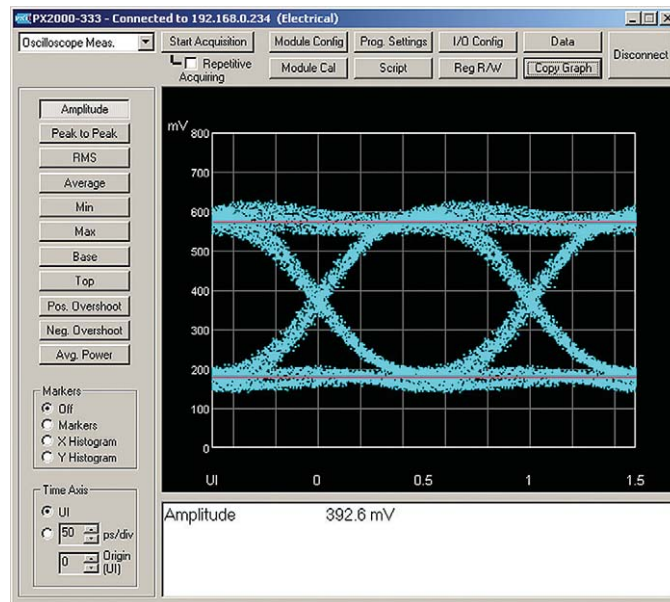
- PRBS Generations $2^N - 1$, (N=7,9,15,23,31)
- User selectable data patterns: K28.5, K28.7, CRPAT, user loadable 2 Kbits
- Single error and error rate injection
- Differential Data Output
- SMA Trigger Output (Clock / 128, Pattern, user defined burst enable)
- SMA Clock Input and Output
- Requires external clock

Specifications

Parameter	Specification
Bit Rate Operation	Bands between 1.0 and 8.5 Gb/s See figure on Page 4.
Output Rise / Fall Time (20% - 80%)	35 ps typical
Output Intrinsic Jitter	2 ps RMS
Output Voltage Range	25 mV – 1.6 V p-p
Output Voltage Resolution	5mV
Output Clock Level	+10 dBm @ 8.5 GHz
Front Panel Connectors	SMA
Maximum Input Clock Level	+3 dBm @ 8.5 GHz



The easy user interface



Output eye measured on the N2100A DCA

PXI Synthesizer N2099A (PXIT Model PX2000-338)



The N2099A Synthesizer is a two slot PXI instrument. This permanent magnet YIG (PMYTO) based synthesizer can be tuned over a 2 GHz frequency range. Phase noise is typically -87 dBc/Hz @ 10 kHz offset.

ActiveX drivers provide an easy to use software interface and a Graphical User Interface is provided for manual operation of the module.

Features

- Several frequency ranges available between 3 and 12 GHz – see figure on Page 4
- 2GHz tuning range
- 2 outputs
- 10 MHz reference output
- Excellent phase noise performance
- Non-volatile storage of set frequency – unit powers up at previously set frequency
- 2 slot PXI module

Specifications

Parameter	Specification
Output Frequency (center)	4, 5, 6, 7, 8, 9, 10, 11 GHz See figure on page 4.
Tuning Range	± 1.0 GHz
Output Power Min.	+9dBm (4, 5 and 6 GHz) +7dBm (7, 8, 9, 10 and 11GHz)
Power Variation over Temp/Freq	± 2 dB
Step Size Min	1 kHz
Switching speed, 100MHz step	100 ms typ
Output Impedance	50 Ohms
Load VSWR	2.0:1
External Ref. Osc. Output Freq (TCXO)	10 MHz

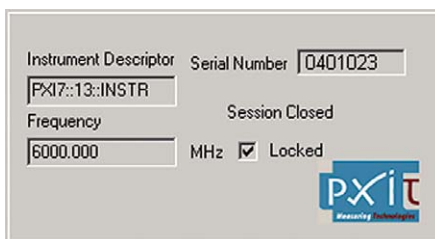
Software

Both instruments and accompanying software fully comply with PXI specifications. To achieve this a Windows® application is provided through which the user can control either without any user development.

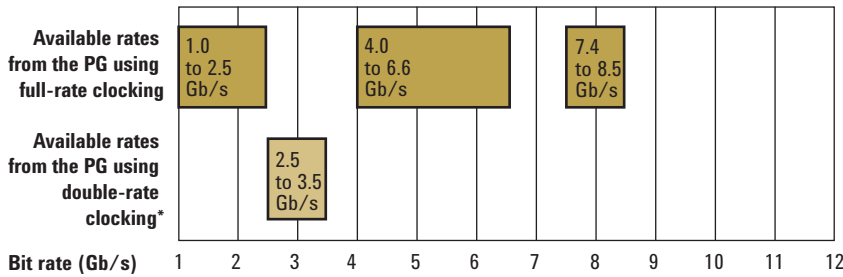
To ease program development and compatibility, an ActiveX Control is supplied allowing program development in any ActiveX compliant programming environment. These include Visual C++, Visual Basic, C#, Excel®, LabVIEW™ and many other environments.

Software features include:

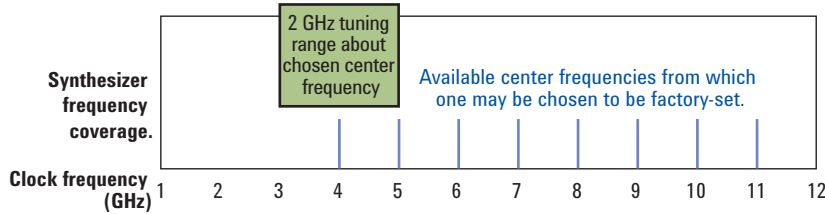
- Simple programming through the ActiveX interface.
- A Windows Application Control Panel.
- Requires VISA distribution software (from National Instruments).



Frequency and Bit Rate Coverage for PG and Synthesizer Instruments



* Rates available by using a clock between 5.0 to 7.0 GHz, and setting the PG instrument to the clock frequency divided by two – it automatically takes the double-rate into account.



Ordering

N2099A-H10-n Replace n with the center frequency required:
 n = 4, 5, 6, 7, 8, 9, 10 or 11 (GHz)

N2102A-H10 8.5 Gb/s Pattern Generator

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