

# GUZIK PRODUCT BULLETIN

## RWA-5000 Digital



- **5Gbit/sec data rate**
- **More than 5GHz analog bandwidth (typical)**
- **Open architecture**
- **Possibility to implement custom designed algorithms**
- **Modular Compact PCI structure**
- **Convenient front panel interconnection**
- **Arbitrary Waveform Generator to simulate disk drive signals (optional)**
- **All digital parametric measurements and all types of PRML measurements such as PR-4, EPR-4, E<sup>2</sup>PR-4, perpendicular recording, Variable Target Viterbi detector**



The RWA-5000 Digital is the next generation of Guzik Read-Write Analyzers. This new tester performs all measurements digitally. The advantages of digital approach to the measurements are well known:

- *The digital systems demonstrate exceptional flexibility. Any new processing algorithms can be implemented by the loading of a new FPGA program.*
- *Outstanding test results repeatability due to higher stability of a digital circuitry compare to the analog one.*
- *Possibility for implementation of the complex processing algorithms such as Variable Target Viterbi detector for PRML channels, decoding algorithm for perpendicular recording, measurements by average pulse profile etc.*
- *Possibility for integration of the additional test modules such as an Eye Diagram package or a Jitter Analysis package.*

Guzik High Speed Digital Data Processor with data processing speed up to **1 Gs/sec** significantly increases the speed of digital measurements. As a result, the RWA-5000 Digital executes such complicated algorithms as PRML decoding **100 times faster** than available now digital scopes. The RWA-5000 open architecture provides the possibility to use multiple processors in order to get a proportional increase in the processing speed.

Guzik RWA-5000 Digital has a modular structure built on Compact PCI platform. This structure allows customers to optimize the system for their specific needs.



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## RWA-5000 Structure

The Guzik RWA-5000 Digital incorporates the following blocks and modules:

1. **5Gbit/sec** pattern generator and reference clock generator
2. **10Gs/sec** data acquisition module (Two modules will provide 20Gs/sec sampling rate.)
3. Up to **4Gbyte** memory module
4. **1Gs/sec** data processing module with possibility to use multiple modules to increase processing speed
5. DC to **3GHz** Spectrum/Signal Analyzer
6. PRML Chip Adapter Interface with a plug-in chip adapter
7. Signal Distributor with programmable low-pass filters
8. Universal preamplifier/spinstand interface (back entry module)
9. Arbitrary Waveform Generator (optional)

## RWA-5000 Digital Channel Structure

The Guzik RWA-5000 Digital can use for the data acquisition a single ADC module with sampling rate **10 Gs/sec** or a multiple ADC modules (see Figures below).

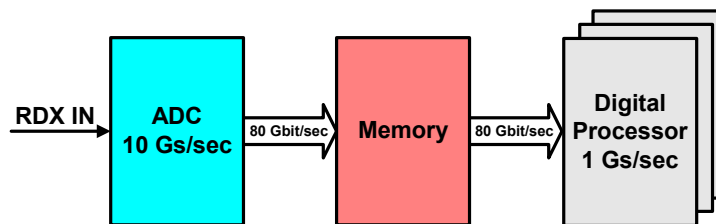


Figure 1: Configuration with One ADC Module (Sampling Rate 10 Gs/sec)

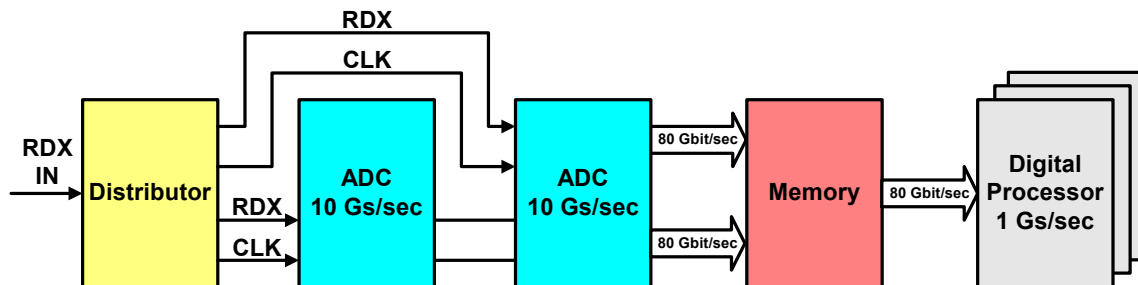


Figure 2: Configuration with Two ADC Modules (Sampling Rate 20Gs/sec)