



Active Technologies

Product Catalog 2024

Ready for the **Next Generation**



RIDER 
Series

Discover the New Product Family



Active Technologies

Models	Analog Channels	Digital Channels	Max. Sample Rate	Analog BW	Max. Record Length	Vertical Res.	Max. Output Frequency	Max. Output Voltage (50Ω Load)
AWG-7202(D)	2 S.E./Diff.	N.A.	20GS/s	8GHz	9GS	14 bit	10GHz	5Vpp S.E. 2.5Vpp Diff.
AWG-7204(D)	4 S.E./Diff.	8/16/32			512kS/Ch			
AWG-7204(D)-S	4 S.E./Diff.	N.A.	10GS/s	4GHz	4.5GS/Ch	14 bit	5GHz	5Vpp S.E. 2.5Vpp Diff.
AWG-7102(D)	2 S.E./Diff.	N.A.						
AWG-7104(D)	4 S.E./Diff.	8/16/32						

ARB RIDER ➡➡➡ 5000 Series

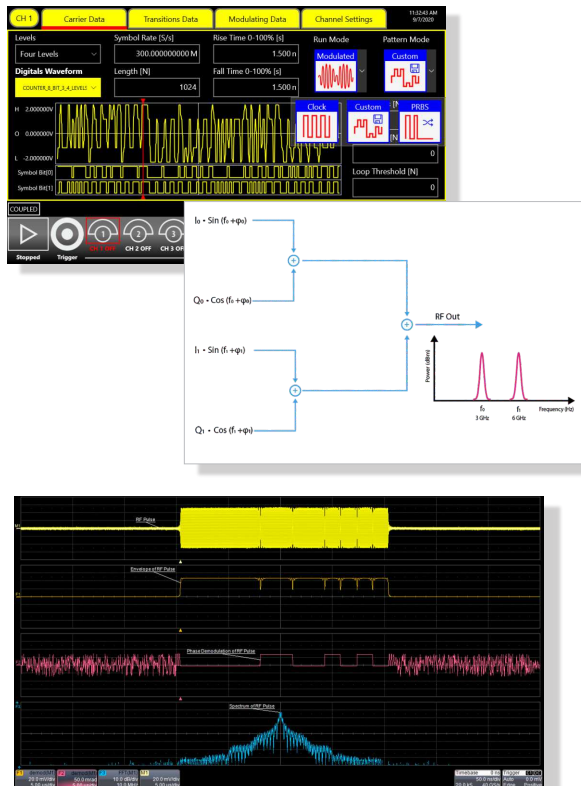


The **ARB Rider AWG-5000 Series** delivers an unmatched hardware performance, setting a new record as the fastest 16-bit AWG on the market. With a sampling rate of 6.16 GS/s and an output voltage of 5 Vpp, the AWG-5000 has one of the highest amplitude*bandwidth factors (5 Vpp*2.4 GHz) in the world.

The **ARB Rider 5000** provides up to 8 analog channels, 32 digital channels and 4 operating modes: Arbitrary Function Generator (**AFG**), Arbitrary Waveform Generator (**AWG**), Digital Pattern Generator (**DPG**) and Serial Pattern Generator (**SPG**) in 3U form factor.

Key Features

- Up to 6.16 GS/s (12.32 GS/s in RF mode)
- 16 bit Vertical Resolution
- Up to 5 Vpp into 50 Ω with 2.4 GHz Analog Bandwidth
- Minimum Edge Time ≤ 110 ps
- Up to 4 GSamples per channel
- Up to 8 Analog (S.E. or Diff.) and 32 Digital Channels
- 1.5 Gbps Multi-Level Serial data Pattern Generator
- Multi Instrument Synchronization: up to 32 Analog and 128 Digital Channels
- Four Operating Modes: AFG, AWG, DPG and



Multiple Operating Modes

Three extremely powerful and intuitive User Interfaces designed for the 7" touchscreen provide advanced AFG, AWG, DPG and SPG functionalities.

Designers can create complex waveforms, serial data patterns or standard waveforms and modulations with just few screen touches.

Highest Channel Density

Up to 4 instruments can be connected together with multi-unit Synchronization to reach up to 32 Analog and 128 Digital Channels.

Applications

Optics & Photonics, Quantum, Semiconductor tests, Big Physics and Advanced Research, Radar / Lidar design and testing, RF/Wireless.

Models	Analog Channels	Digital Channels	Max. Sample Rate	Analog Bandwidth	Max. Record Length	Vertical Resolution	Max. Output Frequency	Max. Output Voltage (50 Ω Load)
AWG-5062	2 S.E.	8	6.16GS/s	2.4GHz	4GS/Ch	16 bit	6GHz	5Vpp
AWG-5062D	2 Diff.							1.5Vpp
AWG-5064	4 S.E.	8/16	6.16GS/s	2.4GHz	4GS/Ch	16 bit	6GHz	5Vpp
AWG-5064D	4 Diff.							1.5Vpp
AWG-5068	8 S.E.	8/16/32	6.16GS/s	2.4GHz	4GS/Ch	16 bit	6GHz	5Vpp
AWG-5068D	8 Diff.							1.5Vpp
AWG-5032D	2 Diff.	8	3GS/s	1.2GHz	4GS/Ch	16 bit	1.5GHz	1.5Vpp
AWG-5034D	4 Diff.	8/16	3GS/s	1.2GHz	4GS/Ch	16 bit	1.5GHz	1.5Vpp
AWG-5038D	8 Diff.	8/16/32	3GS/s	1.2GHz	4GS/Ch	16 bit	1.5GHz	1.5Vpp

ARB RIDER >>> 4000 Series

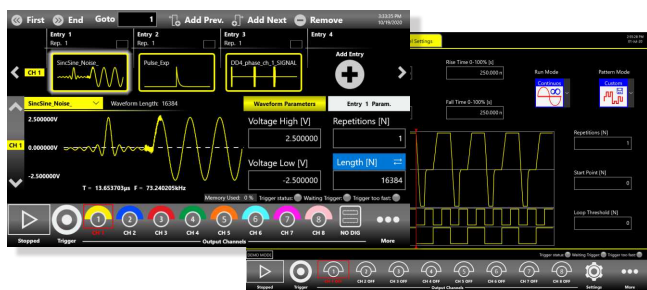


The **ARB Rider 4000 Series** offers premium signal integrity with the easiest to use touch screen display interface. The Generation of complex signals requires only a few screen touches.

Arb Rider 4000 Series is also an affordable waveform generation platform that helps stretching the specifications of your projects to the limit, offering not just analog outputs but also digital channels.

Key Features

- Up to 1.2 GS/s, 16 bit Vertical Resolution
- Minimum Edge Time $\leq 1.1\text{ns}$
- Up to 24 Vpp Output Range
- Up to 1 GSamples per Channel
- Up to 32 Digital Channels synchronous with Analog Generation
- 300Mbps Multi-Level Serial data Pattern Generator
- Multi Instrument Synchronization: up to 32 analog channels
- Four Operating Modes: AFG, AWG, DPG and



Best In Class Amplitude vs. Frequency

The ARB Rider 4000 Series can reach 12 Vpp into 50 Ω with 480 MHz of Analog Bandwidth.

Multiple Operating Modes

Three extremely powerful and intuitive User Interfaces designed for the 7" touchscreen provide advanced AFG,AWG, DPG and SPG functionalities.

Designers can create complex waveform, serial data patterns or standard waveforms and modulations with just few screen touches.

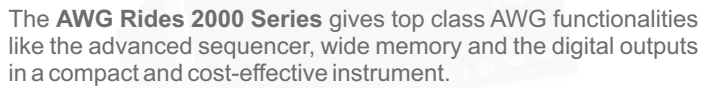
Highest Channel Density

Up to 4 instruments can be connected together with multi-unit Synchronization.

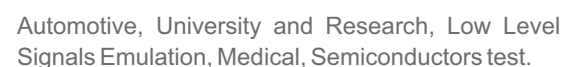
Applications

University and Research, Automotive, Big Physics,
Semiconductor and Power devices test, Pulse Pattern
Generator replacement.

Models	Analog Channels	Digital Channels	Max. Sample Rate	Analog Bandwidth	Max. Record Length	Vertical Resolution	Max. Output Frequency	Max. Output Voltage
AWG-4012	2	8	1.2GS/s	480MHz	1GS/Ch	16 bit	600MHz	12Vpp
AWG-4014	4	8/16						
AWG-4018	8	8/16/32						



- 2 or 4 Analog Channels
- 16 bit Vertical Resolution
- 600 MS/s (variable clock) or 1.2 GS/s (with x2 interpolation)
- Minimum Edge Time ≤ 2.2 ns
- Up to 24 Vpp Output Range
- Up to 512 Mpts per channel
- 8 Digital Channels synchronous with Analog Generation
- Three Operating Modes: AFG, AWG and DPG



Models	Analog Channels	Digital Channels	Max. Sample Rate	Analog Bandwidth	Max. Record Length	Vertical Resolution	Max. Output Frequency	Max. Output Voltage
AWG-2182	2	8	1.2GS/s	240MHz	512MS/Ch	16 bit	300MHz	12Vpp
AWG-2184	4							

PULSE RIDER ➡➡ 1000 Series

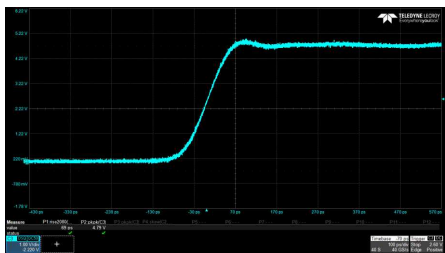


The **Pulse Rider Series** offers premium signal integrity with the easiest to use touch screen display interface (**SimpleRider™**).

Its innovative hardware architecture provides the possibility to generate multiple pulse sequences, such as **double, triple** or **quad pulses**, with fully independent timing parameters.

Key Features

- 70 ps Edge Time
- 5 Vpp Output Voltage Range
- Minimum Pulse Width less than 300ps
- Dual and Quad Channels Systems
- SimpleRider™ touch User Interface



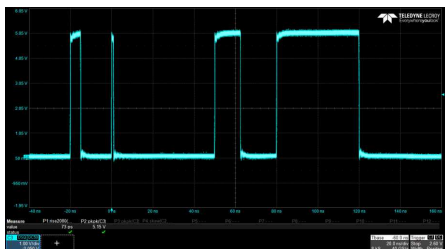
Rider Fast Edge

First to market low cost Analog Edge Converter with the ability to reach less than 70 ps edge (20-80%) at 5 V into 50 Ω , with fully adjustable Output Voltage and Baseline Offset.



SimpleRider UI

SimpleRider UI is designed for touch to drive simplicity in operating with a pulse generator.



Multiple Pulse Mode

Double, triple or quad pulses, with fully independent timing parameters and up to 800 MHz output frequency.

Applications

Big Physics & Advanced Research, Semiconductor tests, Optics & Photonics, Radar design and testing.

Model	Output Channels	Amplitude pk-pk	Baseline Offset	Rise/Fall Time (20-80%) typ.	Maximum Frequency	Period Range and Resolution	Width Range and Resolution
PG-1072	2	10mVpp to 5Vpp Adj.	$\pm 2.5V$ Adj.	<70ps fixed	800MHz (quad pulse mode)	8ns to 8s (10ps res.)	300ps to (period-300ps) (10ps res.)
PG-1074	4						

PULSE RIDER 1500 Series

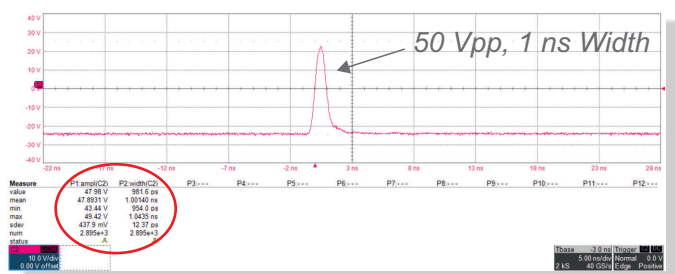


In the **Pulse Rider 1500 Series** generators, the output voltage can be adjusted up to 50 V_{pp} in a window of ± 25 V with 400 ps edge rate (based on RiderEdge™ technology).

Its innovative hardware architecture provides the possibility to generate multiple pulse sequences, such as **double**, **triple** or **quad pulses**, with fully independent timing parameters.

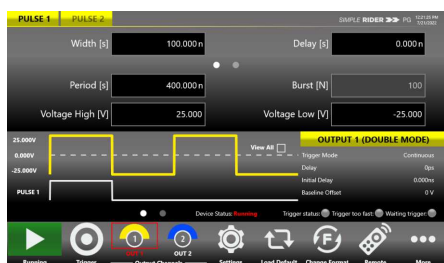
Key Features

- **400 ps** Edge Time
- Up to **50 Vpp** into $50\ \Omega$
- Minimum Pulse Width less than **1ns**
- Single and Double Channel System
- SimpleRider™ touch User Interface



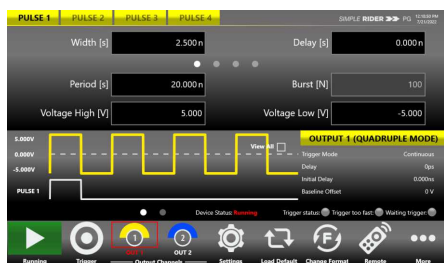
50Vpp Rider Fast Edge™

First to market low cost Analog Edge Converter with the ability to reach less than 400 ps edge (20-80%) and up to 50 Vpp into 50 Ω with fully adjustable Output Voltage and Baseline Offset.



SimpleRider UI

All important instrument controls and settings are always one touch away: swipe gesture to change the channel, pulse selection and have access to its main parameters, generate multiple pulses easily, use the touch-friendly virtual numeric keyboard to change parameter values on the fly



Applications

Semiconductor characterization, Optics & Photonics, UWB and Ground Penetrating Radar design and testing, Advanced Research & Lidar design.

Model	Output Channels	Amplitude pk-pk	Baseline Offset	Rise/Fall Time (20-80%) typ.	Maximum Frequency	Period Range and Resolution	Width Range and Resolution
PG-1501	1	100mVpp to 50Vpp Adj.	-25V to +25V (12.5V res.)	<400ps (up to 50Vpp)	400MHz (quad pulse mode)	5ns to 8s (10ps res.)	1ns to (period-1ns) (10ps res.)
PG-1502	2						

About Active Technologies

Active Technologies is an Italian company expert in Test & Measurement equipments.

The company mission is to deliver the best signal stimulus solutions as fast pulse generators, arbitrary waveform generators and data pattern generators.

The research group works in a close cooperation with physics and academic research centers, semiconductor and automotive industries, in order to deliver the state of the art signal source solutions for testing.



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