UltraFast
72 GS/s Arbitrary Waveform Generator

The Micram Instruments AWG6020 enables researchers and engineers to generate high order complex modulation formats, such as 32-QAM, 64-QAM, OFDM and advanced 4D formats, at ultrafast performance levels never previously available in a fully integrated AWG. With dual output channels, fully automatic channel synchronization, world record sampling performance, very high analog bandwidth and a fully integrated MATLAB programming interface, the AWG6020 sets new standards of speed, flexibility and control in complex signal generation.

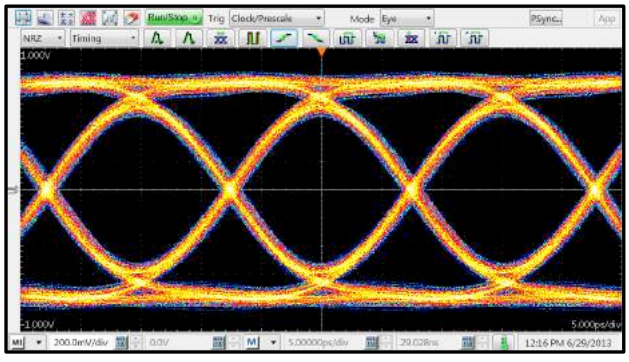
AWG6020 Dual Channel AWG

Extraordinary Output Performance

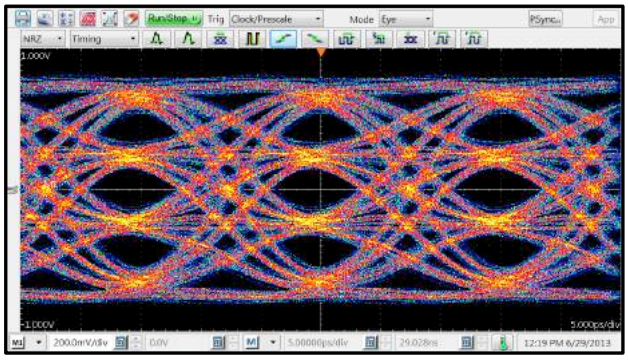
- 72 GS/s maximum sample rate per channel (non-interleaved DACs)
- 24 GHz analog bandwidth (typical)
- Very fast (<10 ps) rise/fall time
- Very low (<350 fs) intrinsic RMS jitter
- 1.6 V maximum differential output voltage
- 0.7 V max single-ended output voltage
- Pristine signal integrity

Powerful System Features

- Dual analog output channels
- Internal, fully automatic channel to channel synchronization
- Integrated half-rate clock synthesizer
- Built-in high speed clock divider
- Automatic synchronization of up to four instruments (8 output channels)
- Powerful, flexible system software with full MATLAB integration



PRBS9 Signal



4-PAM Signal

Micram Instruments

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Primary Applications

- 4-PAM, 8-PAM
- 16-QAM, 32-QAM, 64-QAM
- OFDM
- Advanced 4D modulation
- High speed serial data
- Wideband (RF/MW)

In a single box, the Micram Instruments AWG6020 delivers:

- ✓ *Two 72 GS/s analog output channels*
- ✓ *Fully automatic channel synchronization*
- ✓ *Half-rate clock synthesizer*
- ✓ *Complete programming control via full integration with MATLAB*
- ✓ *Automatic multi-instrument synchronization*
- ✓ *World record sampling rate and bandwidth performance!*

Key System Specifications

Channel configuration:	Dual Micram VEGA DAC3 (non-interleaved)
Maximum sample rate:	72 GS/s (per channel)
Analog bandwidth:	24 GHz (typical)
Channel to channel synchronization:	Internal, fully automatic
Physical resolution:	6 bits
ENoB:	>4.5 @ 20 GHz
Memory size:	10M samples
Internal clock synthesizer:	½ rate clock, 20 GHz to 36 GHz
RF connector type:	Planar Crown 2.92 mm, 1.85 mm or 2.4 mm
PC connection:	10/100 Ethernet, USB

Data Output Specifications

Output type:	Single-ended* or differential
Impedance:	50 Ω
RMS jitter:	<350 fs
Rise/fall time:	<10 ps (20% to 80%)
Vertical (time) resolution:	10.94 mV @ 0.7 V_{p-p} (single-ended)
Max differential output voltage:	>1.6 V_{p-p}
Max single-ended output voltage:	>0.7 V_{p-p}

*Unused output must be terminated 50 Ω to GND

System Software Specifications

Built-in pattern library:	PRBS binary (7, 9,11,15) and multi-level (4, 8,16), sine, triangle/sawtooth, square, DC and noise
Predefined operations:	Addition, subtraction, multiplication, division, filter and modulation, built-in pre-emphasis
User waveforms import:	Via MATLAB programming interface
Programming transfer rate:	1 Mpts/sec (from PC to AWG via MATLAB)
Optional graphical interface:	Making Waves™ GUI provides drag-and-drop waveform creation/modification
PC interface support:	All current mainstream browsers (IE, Firefox, Chrome, Safari and Opera)
PC operating system:	Windows 7 (32/64 bit) or later Windows OS