Model 2416A

ARBITRARY WAVEFORM GENERATORS

- High sample rate – 0.01S/s to 100MS/s
- 12-bit (0.025%) Resolution
- 9 Standard Waveforms
- 64k Point Waveform Memory
- Sequence Generator Included
- Direct Frequency Setting
- Standard GPIB Interface
- Options
  - WaveWorks Pro+™ Waveform Creation Software
  - Rack mount kit

High Speed AWG

Comprehensive Features

The 2416B has an independently variable sample clock that ranges from 0.01S/s to 100MS/s. It offers 12-bit vertical resolution and 68k of active waveform memory. Standard or arbitrary waveforms are created through the front panel or optional WaveWorks Pro+™ software. High-quality signal production and true arbitrary waveform generation make the 2416A an ideal solution for high sample rate, precise-signal applications.

Signal Integrity

Waveforms will always be consistent and repeatable because the 2416A is a true Arbitrary Waveform Generator. Other generators use phase accumulator-based addressing which compromises waveform integrity by skipping or repeating waveform data points.

Function Generator Simplicity

Front panel access to nine standard waveforms and their settings provides function generator simplicity for general lab use. For test applications where custom signals are required, up to 99 unique waveforms may be stored in waveform memory.

Unlike most arbs, the 2416A allows a direct frequency setting of the custom waves from the front panel. Once programmed into the 2416A's memory, all waveforms are available for direct recall and editing from the front panel or standard GPIB interface.

Extensive User Tools

The 2416A's memory capabilities are extended by use of its internal sequence generator. Each sequence program can have up to 99 steps, which can link to any of the 2416A's 99 user-defined waveforms. Each waveform may be looped up to 32,767 times per step. Up to nine unique sequence programs may be stored in the sequencer's non-volatile memory.

WaveWorks Pro+™ software (optional) is a total software solution for importing, exporting, creation and editing waveform data in up to seven formats including the common ASCII formats .CSV, and .PRN. See the WaveWorks Pro+™ data sheet for more information.

Warranty

The Model 2416A is backed by a full 1-year warranty and TEGAM's 30-day no risk trial.

Prices and specifications subject to change without notice.

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Model 2416A

HIGH SPEED AWG

Output Characteristics

Amplitude: (into 50Ω load)

Range	Resolution	Accuracy
1.00 to 9.99Vp-p	10mV	2%+20mV
100mV to 999mVp-p	1mV	3%+4mV
10mV to 99.9mVp-p	100µV	4%+2mV

Offset: (into 50Ω load)

Range	Window	Accuracy
±0V to 4.50V	±5.0V	2%+1% ampl+20mV
±0V to 450mV	±500mV	3%+1%ampl+5mV
±0V to 45.0mV	±50.0mV	4%+1%ampl+2mV

Filters:

50MHz 7-pole elliptic
25MHz 7-pole elliptic
20MHz 7-pole Gaussian

Squarewave/Pulse:

Rise/fall time: < 5ns. 10% to 90% of amplitude
Aberration: <5%

Synchronous Output:

Front panel TTL, SYNC OUT BNC

Triggering Characteristics

Trigger Input: Rear panel TTL, TRIG IN BNC
Signal: ±10V(max.), width >15ns, pos transition
Sources: Manual, internal, external or bus
Modes: Continuous, triggered, gated, burst (1 to 32,767)
Frequency: External to 10MHz, internal from 20µs to 999s

Internal Synthesizer

Resolution: 4 digits
Accuracy: ± 0.01% of reading
Stability: <100PPM

Functions

Sine: 10 µHz to 50MHz
Distortion: <0.1% below 100kHz
Harmonics: <30 dB below carrier, 100kHz to 50MHz
Flatness: 1% to 1MHz; 5% to 10MHz; 15% to 50MHz
Triangle: 10 µHz to 10MHz, adjustable phase
Square: 10 µHz to 50MHz, adjustable duty cycle
Pulse: 10 µHz to 1MHz, adjustable parameters
Ramp: 10 µHz to 1MHz, adjustable rise/fall times
Sinc (Sin x/x): 10 µHz to 1MHz, 4 to 999 cycles
Gaussian Pulse: 10 µHz to 1MHz, 1000 to 65,535 time constant
Exponential: 10 µHz to 1MHz, 0.01 to 20 time constant
DC: 1% to 100% of amplitude

Arbitrary Waveforms

Memory: 64k points
Wave Segments: 1 to 99
Vertical Resolution: 12 bits (4,096 points)

Sampling Clock

Source: Internal synthesizer, internal reference, external clock
Range: 10mHz to 100MHz
Resolution: 4 digits
Accuracy: 0.01% of reading
Stability: <100PPM

Built-in Utilities

Clear, Fill, Offset, Invert, AM

Sequenced Waveforms

Operation: Loop and Link
Sequences: 1 to 9
Steps: 1 to 99 steps
Repetitions: 0 to 32,767 loops, 99 wave segments

Sampling Clock

Source: Internal synthesizer, internal reference, external clock

Internal Synthesizer

Range: 10mHz to 100MHz
Resolution: 4 digits
Accuracy: 0.01% of reading
Stability: <100PPM

Environmental

Operating Temperature: (32°F to 104°F) 0°C to +40°C, ambient
Specified Accuracy: (68°F to 86°F) +20° to 30°C
Storage Temperature: (-40°F to 86°F)-40° to +60°C
Humidity Range: 80% R.H. non-condencing

Stored Settings

Setups: 10 instrument settings

GPIB Interface IEEE 488.2-1987, SCPI-1993

All front panel controls are accessible via GPIB interface except the power switch.

Subsets: SH1, AH1, T6, TE0, L4, LE0, SR1, RL1, PP2, DC1, DT1, C0

General

Display: 2 line, 16 characters, back-lit LCD
Power: 115/230 Vac, 50/60 Hz, 60 VA max.
Dimensions: 8.3" x 3.5" x 15.4" (21.1 X 8.89 X 39.1 cm) W x H x D
Weight: Approximately 9 lbs. (4.1 kg)

This data sheet was current when it was produced. However, products are constantly being updated and improved. Because of this some differences may occur between the descriptions herein and the current product. Prices and specifications may be changed without notice.

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