

## Model 4017B

10MHz DDS Sweep Function Generator

## **Data Sheet**

## Models 4017B

10MHz DDS Sweep Function Generator Up to 10MHz available on Sine, Square & Ramp waveforms

The 4017B is the latest addition to B&K Precision's 4000 series of Function Generators. It is the first true Function Generator in its line to offer DDS (Direct Digital Synthesis) technology allowing the 4017B to generate very precise and accurate waveforms with little distortion.

• Multi-function LCD displays all output parameters: o Frequency o Level o Offset o Duty Cycle

- <u>Up to 10MHz available on Sine,</u> <u>Square & Ramp waveforms</u>
- Frequency resolution down to
- 0.01Hz
- RS-232 Interface
- 0 to 100% duty cycle
- Variable DC offset

Image: server remains remains

The B&K Precision Model 4017B Sweep/Function Generator is the newest 4000 family member. The 4017B enhances the performance achieved by its successful predecessor, BK Precision Model 4017A Sweep/Function Generator. These performances are achieved by using direct digital waveform synthesis (DDS) techniques for generating high accuracy and precise frequencies. A high performance Digital Signal Processor (DSP) controls every aspect of the DDS system, and is used for precise generation and processing of waveforms. The 4017B has a vast number of applications in both analog and digital electronics, in the engineering, manufacturing, servicing, educational and hobbyist fields. This versatile signal source is capable of generating waveform (such as sine, triangle and square), pulse generation (through variable symmetry) and frequency sweep. Additionally, the instrument provides a built-in frequency counter.

Specifications	Model
	4017B
Frequency Chai	racteristics
Frequency	0.01Hz to 10MHz
Display	LCD Display (5-digit frequency, 4-digit Level)
Main Output	
Output Level	0.1V - 10Vp-p into 50 $\Omega$ , 0.2V - 20Vp-p into open circuit
Interface	RS-232 using a DB-9 female connector, fix baud rate set at 9600 BPS



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Specifications	4017B
Frequency Characteristics	
Frequency	0.01Hz to 10MHz
Display	LCD Display (5-digit frequency, 4-digit Level)
Variable Duty Cycle	0:100:1 continuously variable, 3-digit resolution
Operating Modes	External VCG, internal sweep and frequency counter
Main Output	
Impedance	50Ω ± 10%
Output Level	0.1V - 10Vp-p into 50 $\Omega$ , 0.2V - 20Vp-p into open circuit
Attenuation	-20dB ± 1dB
DC Offset	
Preset	±0.1V Typical
Variable	±10V into open-circuit
Resolution (DC Offset)	4-Digits
Sine Wave	
Distortion	1% typical at IKHz
Flatness	±5% (.45dB)
Square Wave	
Symmetry	0.1Hz to 100KHz ≤ 2%
Rise Time	≤20ns
Triangle Wave	
Linearity	≥98% to 100 KHz
TTL Output	
Level	0.8V to 4V
Rise Time	≤20ns
Duty Cycle	50% typical
CMOS Output	
Level	4V to 14V ±0.5 Vp-p, Continuously
Max Frequency	IOMHz
Rise Time	≤I20ns
Sweep Operation	
Mode	Linear/Logarithmic
Width	100:1, continuously variable, 3-digit resolution
Rate	0.01 sec to 30 sec, continuously variable, 4 digits resolution
Sweep Output	0.1 - 10Vp-p into 50Ω
Voltage Controlled Generator (VCG	)
Input Voltage	0-10 ± 1V causes a 100:1 frequency change
Impedance	ΙΟΚΩ ±5%
Frequency Counter	
Accuracy	Time base Accuracy ± 1 count
Time Base Accuracy	±10PPM (23°C ± 5°C)
Display	9 digits
Interface	
	RS-232 using a DB-9 female connector, fix baud rate set at 9600 BPS
* All Specifications are subject to change without notice.	