## Data sheet

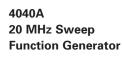
## **Function Generators** Models 4017A & 4040A



These analog function generators offer familiar controls, stable output, and reliable operation at budget-saving price points.

## 4017A 10 MHz Sweep Function Generator

- 0.1 Hz to 10 MHz
- Sine, Souare, Triangle,
  Pulse, & Ramp output
- Coarse and Fine tuning
- 5 digit LED display
- Linear and log sweep
- Variable duty cycle
- Variable DC offset
- cUL certified



- 0.2 Hz to 20 MHz
- Sine, Square, Triangle,
  Pulse, & Ramp output
- Coarse and Fine tuning
- AM & FM modulation
- Burst operation
- External frequency
- counter to 30 MHz Linear and log sweep
- Variable duty cycle
- Variable DC offset
- cUL certified

## Model 4040A

AM Modulation Characteristics			
Source	Internal, External		
Modulation Ratio	0 to 100%		
Int modulation	l kHz		
Ext Modulation	DC to 500 kHz		
Ext Sensitivity	Less than 10V p-p for 100% modulation		
FM Modulation Characteristics			
Source	Internal, External		
Modulation Ratio	0 to 100%		
Deviation	0 to 5%		
INT Modulation	I kHz		
Ext Modulation	DC to 500 kHz		
Ext Sensitivity	Less than 10V p-p for 100% modulation		
Burst Characteristic			
Source	Internal, External		
Burst Width	Cont. variable from 5% to 90% of internal gating frequency		
Repition Rate	0.5 Hz to 50 Hz, internal		
	DC to 500 kHz external		
External Level	TTL levels		
Burst Frequency	Determined by main generator frequency setting		

Specifications	4017A	4040A	
Frequency Charact	eristics		
Waveforms	Sine, Square, Triangle, ±Pulse, ±Ramp		
Range	0.1 Hz to 10 MHz in 8 ranges  0.2 Hz to 20 MHz in 8 ranges		
Resolution	5 digits	5 digits	
Tuning Range	10:1	10:1	
Fine	±5% of coarse setting	±5% of coarse setting	
Variable Duty Cycle	15:85:15 cont variable	15:85:15 cont variable	
Operating Modes	Normal, sweep, VCG	Normal,sweep, VCG, AM, FM,burst	
		Normal, sweep, ved, vwi, rivi, burst	
Output Characteristics        Impedance      50Ω ± 10%			
Level	$20 \text{ V p-p Open circuit, 10V p-p into 50}\Omega$		
	Variable, 20 dB range typical		
Amplitude			
Attenuation	$-20 \text{ dB} \pm 1 \text{ dB}$		
DC Offset	Preset $\pm 0.1$ V typ Variable: $\pm 10$ V open-circuit $\pm 5$ into $50\Omega$		
Sine Wave			
Distortion	$\leq$ 3% typical at 1 kHz		
Flatness	±5% (.45 dB) 0.1 Hz to 8 MHz ±20% (2.0 dB) 8 MHz to 10 MHz	±5% (.45 dB) 10 Hz to 8 MHz ±20% (2.0 dB) 8 MHz to 20 MHz	
Square wave			
Symmetry	0.1 Hz to 100 kHz <2%	0.2 Hz to 100 kHz <2%	
Rise time	≤ 30	0 ns	
Triangle Wave	Linearity: $\geq$ 98% to 100 kHz		
TTL Output			
Level	0.8V to 2.4V		
Rise time	≤ 20 nS		
Duty Cycle	50% typical		
CMOS Output	51		
Max. Frequency	2 MHz		
Level	4V to 14V $\pm 0.5$ p-p cont. variable		
Rise Time	≤ 120 nS		
VCG (Voltage controlled generator)			
Input Voltage	$0-10V \pm 1V$ causes a 100:1 frequency change		
Impedance	$10k\Omega \pm 5\%$		
Sweep Operation			
Mode	LIN/LOG		
Width	100:1 continuously variable		
Rate	0.5 s to 30 s cont variable	20 ms to 2 s cont variable	
	0.5 \$ to 50 \$ cont variable	0 to 2 V	
Sweep Output			
Start/Stop Frequencies	NA	Adjustable	
Frequency Counter			
Accuracy	Time base accuracy $\pm 1$ count		
Time Base Accuracy	±10 ppm (23° ±5°C)		
Display	5 digit LED		
Mode	NA	INT or EXT	
External Input			
Frequency	Does not apply	5 Hz to 30 MHz	
Resolution	Does not apply	0.1, 1, 10, 100, 1 kHz	
Sensitivity	Does not apply	25 mVrms	
General			
AC Input	$120/230$ VAC $\pm 10\%$ , 50/60	Hz, internal jumper selectable	
Dimensions	4.5 x 11.75 x 10.575" (140 x 298 x 264mm)	5.5 x 11.75 x 10.575" (114 x 298 x 264mm)	
Weight	4 lbs. (1.8 kg)	4.5 lbs. (2 kg)	
weight	1 ibs. (1.0 kg)	e	
	Two-Year Warranty		
Included Accessories	Output Cable with BNC to Alligator Clips, Instruction Manual Carrying Case (not included): LC-40		

