

# Function Generators



4040A



4017A

## Specifications

models

	4040A	4017A
Frequency Characteristics		
Waveforms	Sine, Square, Triangle, $\pm$ Pulse, $\pm$ Ramp	
Range	0.2 Hz to 20 MHz in 8 ranges	0.1 Hz to 10 MHz in 8 ranges
Resolution	5 digits	5 digits
Tuning Range	10:1	10:1
Fine	$\pm 5\%$ of coarse setting	$\pm 5\%$ of coarse setting
Variable Duty Cycle	15:85:15 cont variable	15:85:15 cont variable
Operating Modes	Normal, sweep, VCG, AM, FM, burst	Normal, sweep, VCG
Output Characteristics		
Impedance	50 $\Omega$ $\pm 10\%$	
Level	20 V p-p Open circuit, 10V p-p into 50 $\Omega$	
Amplitude	Variable, 20 dB range typical	
Attenuation	-20 dB $\pm 1$ 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	$\pm 5\% \pm (.45 \text{ dB})$ 0.1 Hz to 8 MHz	
	$\pm 20\% \pm (2.0 \text{ dB})$ 8 MHz to 20 MHz (10MHz 4017A) @3Vp-p	
Square wave		
Symmetry	0.2 Hz to 100 kHz $< 2\%$	0.1 Hz to 100 kHz $< 2\%$
Rise time	$\leq 30$ ns	
Triangle Wave	Linearity: $\geq 98\%$ to 100 kHz	
TTL Output		
Level	0.8V to 2.4V	
Rise time	$\leq 20$ nS	
Duty Cycle	50% typical	
CMOS Output		
Max. Frequency	2 MHz	
Level	4V to 14V $\pm 0.5$ p-p cont. variable	
Rise Time	$\leq 120$ nS	
VCG (Voltage controlled generator)		
Input Voltage	0-10V $\pm 1$ V causes a 100:1 frequency change	
Impedance	10k $\Omega$ $\pm 5\%$	
Sweep Operation		
Mode	LIN/LOG	
Width	100:1 continuously variable	
Rate	20 ms to 2 s cont variable	0.5 s to 30 s cont variable
Sweep Output	0 to 2V	0 to 10V
Start/Stop Frequencies	Adjustable	NA
Frequency Counter		
Accuracy	Time base accuracy $\pm 1$ count	
Time Base Accuracy	$\pm 10$ ppm ( $23^\circ \pm 5^\circ\text{C}$ )	
Display	5 digit LED	
Mode	INT or EXT	NA
External Input		
Frequency	5 Hz to 30 MHz	Does not apply
Resolution	0.1, 1, 10, 100, 1 kHz	
Sensitivity	25Vrms	
Power Source	120/230 VAC $\pm 10\%$ 50/60 Hz, internal jumper selectable	
Dimensions	5.5 x 11.75 x 10.575" (140 x 298 x 264mm)	4.5 x 11.75 x 10.575" (114 x 298 x 264mm)
Weight	4.5 lbs. (2 kg)	4 lbs. (1.8 kg)

## Accessories

Two Year Warranty

SUPPLIED: Output Cable with BNC to Alligator Clips, Instruction Manual  
Carrying Case (not included): LC-40

## Model 4040A

20 MHz Sweep/Function Generator with Frequency Counter

- 0.2 Hz to 20 MHz
- AM & FM modulation
- Burst operation
- External frequency counter to 30 MHz
- 5 digit LED display
- All features of Model 4017A

## Model 4017A

10 MHz Sweep/Function Generator with Digital Display

- 0.1 Hz to 10 MHz
- Linear and log sweep
- 5 digit LED display
- All features of Model 4011A

## Specifications

model

	4040A
AM MODULATION CHARACTERISTICS	
Source	Internal, External
Modulation Ratio	0 to 100%
Int modulation	1 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	1 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
Repetition 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