

# Function Generators



4040A



4017A

## 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

models

	4040A	4017A
Frequency Characteristics		
Waveforms	Sine, Square, Triangle, ±Pulse, ±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	±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, AM, FM, burst	Normal, sweep, VCG
Output Characteristics		
Impedance	50Ω ±10%	
Level	20 V p-p Open circuit, 10V p-p into 50Ω	
Amplitude	Variable, 20 dB range typical	
Attenuation	-20 dB ±1dB	
DC Offset	Preset ±0.1 V typ Variable: ±10V open-circuit ±5 into 50Ω	
SINE Wave		
Distortion	≤3% typical at 1 kHz	
Flatness	±5%±(.45 dB) 0.1 Hz to 8 MHz ±20%±(2.0 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	≤ 30 ns	
Triangle Wave	Linearity: ≥ 98% to 100 kHz	
TTL Output		
Level	0.8V to 2.4V	
Rise time	≤ 20 nS	
Duty Cycle	50% typical	
CMOS Output		
Max. Frequency	2 MHz	
Level	4V to 14V ±0.5 p-p cont. variable	
Rise Time	≤ 120 nS	
VCG (Voltage controlled generator)		
Input Voltage	0-10V ±1V causes a 100:1 frequency change	
Impedance	10kΩ ±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 ±1 count	
Time Base Accuracy	±10 ppm (23° ±5°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 ±10% 50/60 Hz, internal jumper selectable	
Dimensions	5.5 x 11.75 x 10.575" (140 x 298 x 264mm)	4.5x 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

### 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