

# Function Generators



4011A



4010A

## Model 4011A 5 MHz Function Generator with Digital Display

- 0.5 Hz to 5 MHz
- Sine, Square, Triangle, Pulse, & Ramp output
- Coarse and Fine tuning
- 4 digit LED display
- Variable duty cycle
- Variable DC offset

## Model 4010A 2 MHz Function Generator

- 0.2 Hz to 2 MHz
- Sine, Square, Triangle, Pulse, & Ramp output
- Variable duty cycle
- Variable DC offset

## Specifications

models  
4011A 4010A

|                                  | 4011A   | 4010A  |
|----------------------------------|---|--|
| <b>Frequency Characteristics</b> |   |  |
| Waveforms                        | Sine, Square, Triangle, $\pm$ Pulse, $\pm$ Ramp                                     |  |
| Range                            | 0.5 Hz to 5 MHz   | 0.2 Hz to 2 MHz  |
|                                  | in 7 ranges   |  |
| Resolution                       | 4 digits  | NA   |
| Dial Accuracy                    | NA  | $\pm$ 5% typical   |
| Tuning Range                     | Coarse, 10:1  | 10:1   |
|                                  | Fine $\pm$ 5% of coarse setting   |  |
| Variable Duty Cycle              | 15:85:15 Cont variable  | 15:85:15 cont variable                                       |
| Operating Modes                  | Normal, VCG   | Normal, VCG  |
| <b>Output Characteristics</b>    |   |  |
| 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 $\pm$ 1dB  |  |
| DC Offset                        | Preset $\pm$ 0.1 V typ<br>Variable: $\pm$ 10V open-circuit $\pm$ 5 into 50 $\Omega$ |  |
| SINE Wave                        | Distortion: $\leq$ 3% @ 1 kHz<br>Flatness: $\pm$ 5% (.45 dB)                        | Distortion: $\leq$ 4% @ 1 kHz<br>Flatness: $\pm$ 5% (.45 dB) |
| Square Wave                      | Symmetry: 0.5 Hz to 100 KHz $\leq$ 2% Risettime: $\leq$ 120 nS                      |  |
| Triangle Wave                    | Linearity: $\geq$ 98% to 100 KHz, $\geq$ 95% to 2 MHz                               |  |
| <b>TTL Output</b>                |   |  |
| Level                            | 0.8V to 2.4V  |  |
| Rise time                        | $\leq$ 20 nS (4011A), $\leq$ 50 nS (4010A)  |  |
| Duty Cycle                       | 50% typical   |  |
| <b>CMOS Output</b>               |   |  |
| Max. Frequency                   | 2 MHz   | 2 MHz  |
| Level                            | 4V to 14V $\pm$ 0.5 p-p cont. variable  |  |
| Rise Time                        | $\leq$ 120 nS   |  |
| <b>Input</b>                     |   |  |
| Input Voltage                    | 0-10V $\pm$ 1V causes a 100:1 frequency change                                      |  |
| Impedance                        | 10K $\Omega$ $\pm$ 5%   |  |
| <b>Frequency Counter</b>         |   |  |
| Accuracy                         | Time Base Accy $\pm$ 1 count  | NA   |
| Time Base Accuracy               | $\pm$ 10 PPM (23°C $\pm$ 5°C)   | NA   |
| Display                          | 4 digit LED   | NA   |
| Power Source                     | 120/230 VAC $\pm$ 10%, 50/60 Hz, internal jumper selectable                         |  |
| Dimensions (H x W x D)           | 4.5 x 11.75 x 10.375" (114 x 298 x 264 mm)  |  |
| Weight                           | 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