

FREQUENCY SOURCE MODEL 40A

- **DIRECT FREQUENCY OUTPUT**
40 Precise steps 0.5 Hz to 60 KHz
- **TUNING FORK CRYSTAL**
0.0008% accuracy
- **LABORATORY STABILITY**
 $\pm 0.001\%$ per deg C
- **ZERO BASED AND ZERO CENTER**
Switch selected outputs
- **POCKET SIZED**
1 Year battery life



GENERAL DESCRIPTION

ALTEK Model 40A Frequency Sources provide 40 precise frequencies from 0.5 to 60,000 Hertz. Output is a square wave* of 15 volt peak-to-peak amplitude which can be set to any lower value with a built-in attenuator. Switch selects zero based or zero center outputs for standard or zero crossing inputs.

The ALTEK Model 40A checks and calibrates the electronics of turbine meters, vortex shedding meters, positive displacement meters, oscilloscopes, electronic counters, tachometers and many other frequency input devices. LED flashes to calibrate optical and fiber optic devices.

Frequency Accuracy is ± 8 parts per million. Long term stability is ± 3 parts per million per year.

Instant turn-on allows long life from the two 9 volt alkaline batteries (200 hours continuous). Frequency is adjusted with

the 8 position frequency selector switch and a 5 position range multiplier switch.

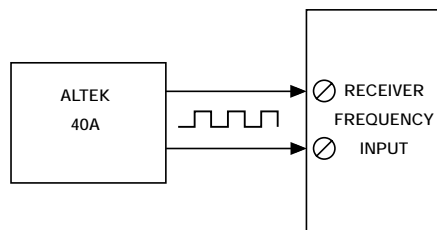
The low cost ALTEK Model 40A is a complete, compact source for checkout and calibration of all frequency instruments in the field, shop, lab and control room.

OPERATING INSTRUCTIONS

Connect the ALTEK Model 40A to the frequency input of the device to be checked or calibrated. Select the frequency and multiplier for the initial frequency desired. Turn the power switch "on" and observe the glow in the light emitting diode (LED).

If the diode glows, the battery is at a sufficient level to provide proper operation. At low frequencies, the LED flashes in synchronism with the selected frequency. Adjust the attenuator for proper level. Check at all desired frequencies, turn off and disconnect the Model 40A.

*20KHz = 1:3 Ratio
12KHz = 2:5 Ratio



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SPECIFICATIONS

(unless otherwise indicated, specifications are at 23°C)

ACCURACY: $\pm 0.0008\%$ (8 parts per million)
 FREQUENCIES: 5, 6, 10, 12, 15, 20, 30 and 60 Hz times multiplier
 MULTIPLIER: 0.1, 1, 10, 100 and 1000 times frequency scale
 OUTPUT: Nominal 15V peak-to-peak square wave (1:3 ratio 20KHz, 2:5 ratio 12KHz)
 OUTPUT MODES: Switch selected; zero based or zero crossing
 ATTENUATOR: Sliding potentiometer, logarithmic taper
 OUTPUT IMPEDANCE: 2500 ohms maximum
 OUTPUT CURRENT DRIVE: 6mA at max output voltage
 RISE TIME: 1 microsecond nominal into resistive load

OPERATING AMBIENT TEMPERATURE: 14 to 158° F (-10 to +70°C)
 STORAGE TEMPERATURE: -22 to +185° F (-30 to +85°C)
 AMBIENT TEMPERATURE EFFECT: $\pm 0.001\%/^{\circ}\text{C}$
 BATTERY: 2 x 9-volt Alkaline
 BATTERY LIFE: Nominal 200 hours of operation. Batteries should be removed when storing the unit for >3 months.
 BATTERY INDICATION: LED flashes with frequency if batteries OK
 SIZE: 2-1/8 x 4 x 2-1/4 inches (54x102x55mm)
 WEIGHT: 7 oz. (0.2 kg)
 OPTIONAL CARRYING CASE: Zippered with belt loop

Specifications are subject to change without notice

SWITCH POSITION MULTIPLIER	DESIRED FREQUENCY IN Hz							
0.1	0.5	0.6	1	1.2	1.5	2	3	6
1	5	6	10	12	15	20	30	60
10	50	60	100	120	150	200	300	600
100	500	600	1K	1.2K	1.5K	2K	3K	6K
1000	5K	6K	10K	12K	15K	20K	30K	60K
	5	6	10	12	15	20	30	60
	SWITCH POSITION Hz X MULTIPLIER							

ORDERING INFORMATION:

MODEL 40A: 40A-0560
 Optional Carrying Case 09-3781

WARRANTY

Our equipment is guaranteed against defective material and workmanship (excluding batteries) for a period of three years from date of shipment. Claims under guarantee can be made by returning the equipment prepaid to our factory. The equipment will be replaced, repaired or adjusted at our option. The liability of Altek is restricted to that given under our guarantee. No responsibility is accepted for damage, loss or other expense incurred through sale or use of our equipment. Under no condition shall Altek be liable for any special, incidental or consequential damage.

OTHER PRODUCTS

Altek designs and manufactures fast, accurate instruments for measurement, generation and simulation of virtually every process control signal. Consult our factory directly or contact your local stocking representative to order precise, low cost Milliamp Calibrators, Voltage Sources, Direct Thermocouple Sources, RTD Simulators and Frequency Sources. Altek also produces calibrators for custom ranges and unique applications. Additional models and ranges are frequently added to the Altek instrument family to meet all of your critical calibration requirements. Altek products are made in the USA.

AVAILABLE FROM: