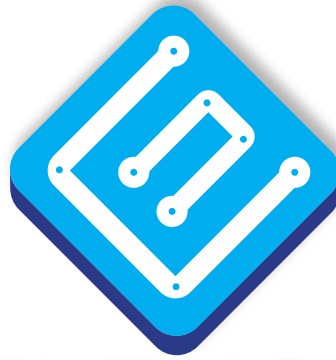# ELENCO®

TEST EQUIPMENT & ESSENTIALS CATALOG

ELENCO®
Learn by doing.®

Our mission is to provide quality, innovative toys and educational products that are fun, affordable, engaging, and designed to instill a passion for learning and creating. We're committed to inspiring imagination, invention, and exploration. We believe the best way to learn is by doing.

From its humble roots in a Chicago-area basement to a leader in the STEM movement, Elenco -- the makers of SNAP CIRCUITS® -- looks ahead to a bright future.

Wheeling, Illinois – History in STEM (Science, Technology, Engineering, Math): In 1972, Elenco's Co-founder, Gil Cecchin, began building Elenco's first product, a color bar generator for television repairmen, in his basement in the Chicago suburb of Niles, Illinois. Gil came from a poor, Italian immigrant family and worked his way up to become an electrical engineer at Motorola, with over 25 patents, and leading a team of engineers that made color TV accessible and affordable to consumers. One of Elenco's first customers was a mail-order, educational provider. Elenco grew in the '70s, '80s and '90s by supplying technical schools, colleges, and high schools across the country with educational kits and products that taught the basics of electronics and engineering. Elenco was STEM before the term "STEM" even existed. Gil wanted to share his passion for electronics and engineering and he felt the best way to learn was by doing. Thus, Elenco's trademark -- Learn by doing® – was born.

ELENCO®

47 YEARS

STEM

XK–700 DELUXE DIGITAL / ANALOG TRAINER

DELUXE COMPLETE MINI-LAB FOR BUILDING, TESTING AND PROTOTYPING ANALOG AND DIGITAL CIRCUITS

XK-700T

Elenco's advanced designed Digital/Analog Trainer is specially designed for school projects. It is built on a single PC board for maximum reliability. It includes 5 built-in power supplies, a function generator with continuously variable sine, triangular and square waveforms. All power supplies are regulated and protected against shorts. The trainer is mounted in a professional technician tool case made of reinforced metal with heavy-duty handles and locks. The removable, dual-sided tool pallet has many pockets and elastic retainers to hold a broad line of tools and devices. A special ramp in the case will hold the meter of your choice.

Inlcudes

• ET-10 IC puller
• SE-1 Solder ease kit
• SH-1 Soldering iron holder
• SP-4 Desoldering pump
• ZD-300C Deluxe soldering iron
• ST-1 Mini diagonal cutters
• ST-2 Mini long nose pliers
• LF-99 Lead-free solder tube
• ST-20 Safety goggles
• ST-30 Premium wire stripper
• ST-75 11 pc. screwdriver bit set
• SW-3 Desoldering wick
• TL-8 Precision screwdriver set

Meter, logic probe, & calculator shown are sold separately

When ordering a meter to be used with the XK-700 Trainer, specify the PSV-50 Kit. It will provide you with the needed Velcro to hold the meter in place.

• *Model XK-700 Trainer - Available fully assembled without tools.*
• *Model XK-700T Trainer - Available with tools as shown - meter, calculator, and logic probe sold separately.*
• *Model XK-700K Trainer - Available as kit without tools.*
• *Model XK-700TK - Available as a kit with tools as shown - meter, calculator, and logic probe sold separately.*

Available with Tools & Equipment of Your Choice! Call, Fax or E-mail for Quote.

Assembled in USA

Dimensions: 13" (H) x 18" (W) x 6 1/2" (D)

ZD-300C is ⒺⓉⓁ

| POWER SUPPLIES	ANALOG SECTION	DIGITAL SECTION	FAST TRACK CONSTRUCTION	POTENTIOMETERS	BREDBOARDS
• Variable Power Supply • 0V to 20VDC @ 0.5A (0V to 15VDC @ 1A) • 0V to –20VDC @ 0.5A (0V to –15VDC @ 1A) • +12VDC @ 1A • –12VDC @ 1A • +5VDC @ 1A • +30VAC center-tapped at 15VAC @ 1A	• Function Generator - Sine, Triangular, Square Wave. • Frequency adjustable in five ranges from 1 to 100kHz. • Fine frequency adjust. • Amplitude adjust. • DC offset	• Eight data switches. • Two no bounce logic switches. • Eight LED readouts, buffered. • Clock amplitude 5Vpp square wave.	Most of the components are on one PC board, eliminating all wires between the PC board, pots, regulators and switches. Makes assembly easier and faster, eliminates errors.	• 2 undedicated potentiometers 1kΩ & 100kΩ.	• 2 bredboards, each containing 830 tie points (total 1,660).

XK-150 DIGITAL / ANALOG TRAINER

DIGITAL TRAINER - FULLY ASSEMBLED

Model XK-150

A low cost, full-function digital/analog trainer that meets the needs of electronic training programs. Rugged construction, can be used as fixed lab equipment or be portable.

SPECIFICATIONS	
DIGITAL SECTION	**POWER SUPPLIES**
• Eight data switches. • Two no bounce logic switches. • Eight LED readouts, buffered. • Clock frequency 1Hz, 60Hz, 1kHz, 100kHz. • Clock amplitude 5Vpp square wave.	• Variable power supply. • +1.25V to 15VDC @ 0.25A. • −1.25V to −15VDC @ 0.25A. • +5VDC @ 0.5A. • +30VAC center-tapped at 15VAC @ 0.25A.
ANALOG SECTION	**CASE**
• Function generator - Sine, square wave. • Frequency adjustable in two ranges from 200 - 40kHz. • Amplitude Sine 4Vpp. • Square 9.5Vpp. • Output impedance 600Ω.	High impact molded case 2" (H) x 11" (W) x 11" (D). With flow-thru cooling to ventilate the power supply.
POTENTIOMETERS	**BREDBOARDS**
• 2 undedicated potentiometers 1kΩ and 100kΩ.	• 1 bredboard, 830 tie points including two bus strips.
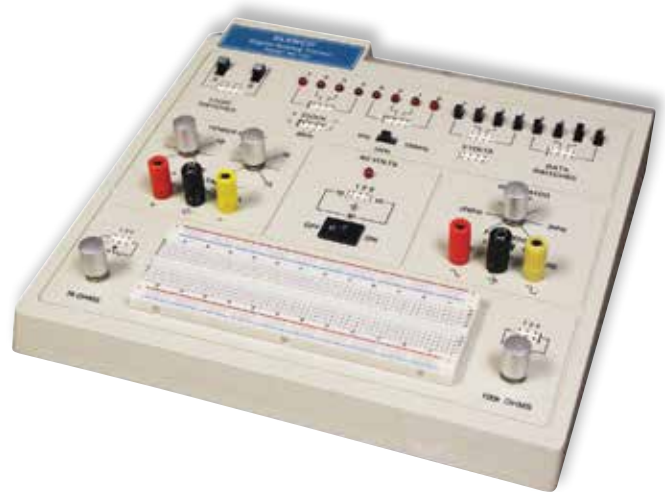
COMPUTER INTERFACE TRAINER

MICRO-MASTER® A BASIC COMPUTER TRAINING KIT TO LEARN THE FUNDAMENTALS OF COMPUTERS

Model MM-8000K

Starting from scratch, you build a complete computer system. Our Micro-Master® Trainer teaches you to write into RAMs, ROMs, and run an 8085 microprocessor. You will write the initial instructions in permanent memory in a 2816E^{2}PROM. Teaches all about input and output ports and computer timers. Complete with 128 page lesson manual, instructions, and experiments.

Features

• Starting from scratch; you build a complete computer system.
• Teaches you to write into RAMs; ROMs; and run an 8085 microprocessor.
• Write initial instructions in permanent memory in a 2816EPROM.
• Teaches all about input and output ports and computer timers.
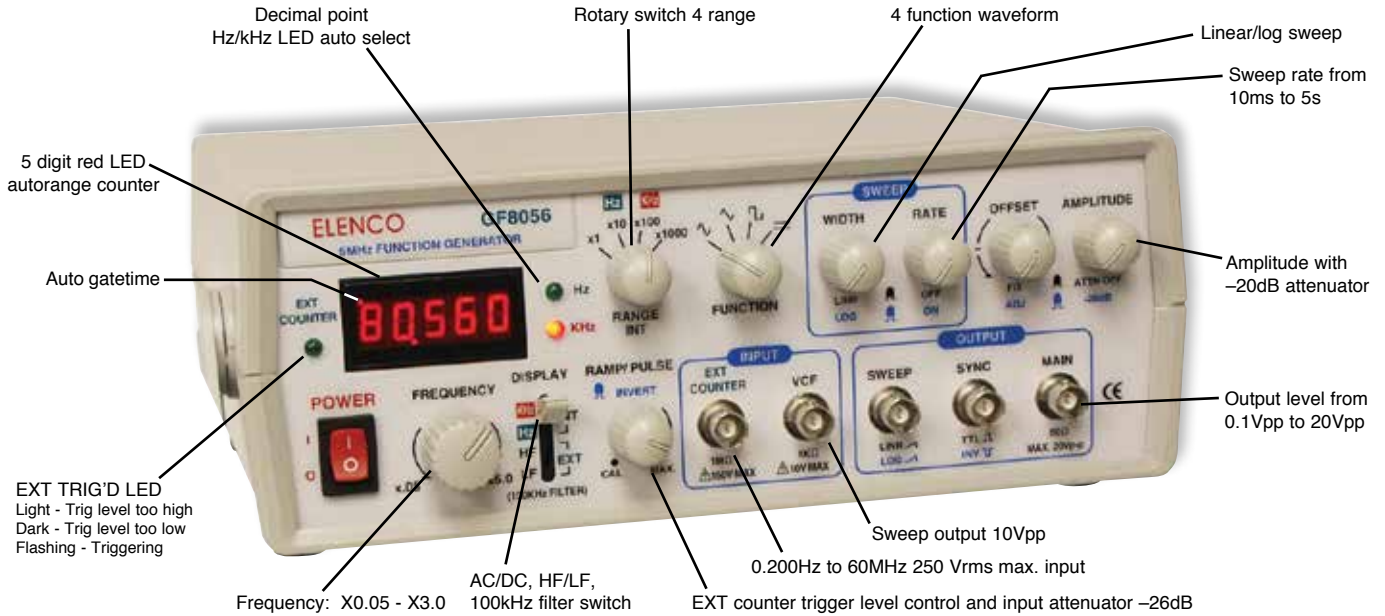• Complete with 128 page lesson manual; instructions and experiments.

Assembled in USA

5MHz SWEEP FUNCTION GENERATOR
WITH BUILT-IN 60MHZ FREQUENCY COUNTER
Model GF-8056

- Decimal point Hz/kHz LED auto select
- Rotary switch 4 range
- 4 function waveform
- Linear/log sweep
- Sweep rate from 10ms to 5s
- 5 digit red LED autorange counter
- Auto gatetime
- Amplitude with −20dB attenuator
- EXT TRIG'D LED
  - Light - Trig level too high
  - Dark - Trig level too low
  - Flashing - Triggering
- Output level from 0.1Vpp to 20Vpp
- Frequency: X0.05 - X3.0
- AC/DC, HF/LF, 100kHz filter switch
- Sweep output 10Vpp
- 0.200Hz to 60MHz 250 Vrms max. input
- EXT counter trigger level control and input attenuator −26dB

MAIN OUTPUT	
Frequency Range	0.5Hz to 5MHz in 8 ranges
Waveforms	4 waveforms (sine, square, triangle, DC)
Stability	0.1% for 15 minutes, 0.2% for 24 hours
DC Offset	Continuously variable ±10V no load
Symmetry	50% (positive and negative half)
Linearity	<1% 1Hz-100kHz for triangle wave
Distortion	<1%, 1Hz to 100kHz
Rise / Fall Time	<90ns for square wave
Output Impedance	50Ω <2% accuracy
Max. Output	20Vpp no load, 10Vpp 50Ω load
Min. Output	0.1Vpp no load, 0.05Vpp 50Ω load
Attenuator	X20: −26dB (±2% accuracy), X1: 0dB

SYNC OUTPUT	
Output Impedance	50Ω <2% accuracy
Output Level	TTL level, >3Vpp fixed amplitude
Fanout	>20
Rise Time	<60ns

VCF INPUT	
Input Voltage	0-10V
Input Frequency	DC-1kHz variance 1:1, 1:1,000

SWEEP	
Output Amplitude	10Vpp (no load) or 5Vpp (1kΩ load)
Output Frequency	Continuous adjustment 0.2Hz - 100Hz
Sweep Speed	10ms - 5s, continuously variable
Sweep Width	1:1 - 1:100 continuously variable
Output Waveform	Linear or log sweep ramp wave

COUNTER	
Display	5 digit 0.36" red LED display with autorange
Resolution	0.001Hz
Time Base	20MHz
Accuracy	<0.002%
Max. Input Voltage	250Vrms
Input Impedance	1MΩ <2%
Input Frequency	0.2Hz - 60MHz
Attenuator	0dB, −26dB
Gate time	0.25s - 10s, auto-setting
Sensitivity	<30mVrms (1MHz)

GENERAL	
Power Source	AC 115V / 230V +10%, 50/60Hz, 25W
Dimensions	10 13/16" (W) x 3 1/2" (H) x 11 13/16" (D)
Weight	5 lbs. 8 oz.
Safety Approvals	UL, CUL, GS, TUV, CE, IEC1010, EN61010

Made in Taiwan

20Hz – 150kHz Low Distortion Sine/Square Wave Audio Generator

Model GF-800/555

- Sine and square wave generator
- 20Hz to 150kHz in 46 steps
- Low distortion R-C oscillator
- Variable output control
- Low battery indicator
- Compact portable, lightweight

SPECIFICATIONS	
Frequency Range	x1 range 20Hz to 1.5kHz (23 steps), x100 range 2kHz to 150kHz (23 steps)
Accuracy	20Hz through 100kHz (+3% or less), 120kHz and 150kHz (+5% or less)
Output Control	0dB/-20dB attenuator switch and variable amplitude control
Output impedance	approximately 600Ω
SINEWAVE CHARACTERISTICS	
Output Voltage	>1.2V rms at max. setting (no load)
Output Flatness	(short term) 20Hz to 150kHz +0.5dB (reference frequency 1kHz)
Distortion	200Hz - 15kHz <0.05% 15kHz-150kHz <0.3%
SQUARE WAVE CHARACTERISTICS	
Output Voltage	>5V p-p at maximum setting
Rise & Fall time	Less than 0.5μs
Sag	Less than 5% at 20Hz (DC coupled)
Over Shoot	<2% from maximum output
Duty Ratio	50% +5%
SYNCHRONIZATION CHARACTERISTICS	
Output Voltage	>1.2 rms (no load)
Output Impedance	1kΩ +5% Other specifications same as sinewave characteristics
Power Source	9V battery

Made in Taiwan

1MHz Function Generator

Model FG-500

SPECIFICATIONS	
OUTPUT	
Waveforms	Sine, Triangle, Square
Frequency	1Hz - 1MHz
Impedance	600Ω ±10%
Amplitude	Sine/triangle 0-3V, Squarewave 8V (no load)
Frequency variable range	10:1 or more
Frequency multiplier	6 decade steps
SINE WAVE	
Distortion	Less than 1% (at 1kHz)
Flatness	+0.5 dB 1Hz-100kHz
SQUARE WAVE	
Symmetry	Less than 5% (at 1kHz)
Rise & Fall time	Less than 300ns (at 1kHz)
TRIANGLE WAVE	
Linearity	Less than 1% (up to 100kHz)
Power Source	9V Battery

Available in Kit FG-500K

Assembled in USA

Compact Multimeter
Model M-1000E

Features

- 3 1/2 digit, 2,000 count display
- Transistor test
- Audible continuity
- Diode test
- Overload protection
- Pocket-size

Available as a kit (M-1008K)

⚠️ **WARNING**: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

SPECIFICATIONS	
AC + DC volts	200mV, 2V, 20V, 200V, 600V, 200VAC, 600VAC
Accuracy	DC: 200mV ±(0.25% rdg + 2 dgts), 2V- 600V: ±(0.5% rdg + 2 dgts) AC: ±(1.2% rdg + 10 dgts) Resolution 0.1mV
Input Impedance	1MΩ
DC current	200mA, 2mA, 20mA, 200mA, 10A
Accuracy	200mA, 200mA: ±(1.0% rdg + 2 dgts), 200mA: ±(1.2% rdg + 2 dgts), 10A: ±(2.0% rdg + 2 dgts) Resolution 0.1µA
Resistance	200Ω, 2kΩ, 20kΩ, 200kΩ, 2MΩ
Accuracy	±(0.8% rdg + 2 dgts), 2MΩ: ±(1.0% rdg + 2 dgts) Resolution 0.1Ω
Accessories	Test leads, manual, 9V battery included
Dimensions / Weight	5" (H) x 2 3/4" (W) x 1" (D) / 4.5 oz.

Autoranging Digital Multimeter
Model M-2625A

Features

- 3 3/4 digit, 4,000 count display
- Frequency 5Hz to 10MHz
- Temperature to 752°F
- Rel. / reset mode
- Audible continuity / diode test
- Temperature probe included
- Capacitance to 100µF
- Holster included
- Auto power off & data hold

⚠️ **WARNING**: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

SPECIFICATIONS	
AC + DC volts	400mV, 4V, 40V, 400V, 600V
Accuracy	DC: 400mV-400V: ±(0.5% rdg + 5 dgts), 600V: ±(0.8% rdg + 5 dgts) AC: 00mV: ±(1.5% rdg + 8 dgts), 4V-400V: ±(1% rdg + 5 dgts), 600V: ±(1.5% rdg + 5 dgts) Resolution 0.1mV
AC + DC current	400mA, 4000mA, 40mA, 400mA, 4A, 10A
Accuracy	DC: 400mA, 4000mA: +(2.0% rdg + 5 dgts), 40mA, 400mA: +(1.5% rdg + 5 dgts) 4A,10A +(2.0% rdg + 5 dgts) AC: 400mA, 4000mA: +(2.5% rdg + 3 dgts), 40mA, 400mA: +(2.0% rdg + 5 dgts), 4A, 10A: +(2.5% rdg + 5 dgts) Resolution 0.1mA
Resistance	400Ω, 4kΩ, 40kΩ, 400kΩ, 4MΩ, 40MΩ
Accuracy	400Ω-4kΩ: ±(1.0 rdg + 5 dgts), 4MΩ: ,40MΩ: ±(2.0 rdg + 5 dgts) Res. 0.1Ω
Temperature	–58°F - 1292°F, probe included
Accessories	Test leads, manual, holster, and two (2) "AA" batteries included
Dimensions / Weight	6 1/2" (H) x 3 17/34" (W) x 1 1/2" (D) / 9.2 oz.

Digital Multimeter
Model M-1750

Features

- 3 3/4 digit, 4,000 count display
- Frequency to 10MHz
- Capacitance to 200µF
- Diode and transistor test
- Audible continuity
- AC/DC current to 10A
- 3-Way overload protection
- Holster included
- Relative measurement

⚠️ **WARNING**: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

SPECIFICATIONS	
AC + DC volts	400mV, 4V, 40V, 400V, 600V
Accuracy	DC: ±(0.5% rdg + 3 dgts), 600V: ±(0.8% rdg + 2 dgts) AC: 400mV, 600V: ±(1.2% rdg + 3 dgts), 4V-400V: ±(0.8% rdg + 3 dgts) Res. 100µV
AC + DC Current	400µA, 4000µA, 40mA, 400mA, 10A
Accuracy	DC: 400µA, 4,000µA: ±(1.5% rdg + 5 dgts), 40mA, 400mA: ±(2.0% rdg + 5 dgts) AC: 400µA, 4,000µA: ±(1.5% rdg + 5 dgts), 40mA, 400mA: ±(2.0% rdg + 5 dgts) Res. 0.1µA
Resistance	400Ω, 4kΩ, 40kΩ, 400kΩ, 4MΩ, 40MΩ
Accuracy	4nF: ±(5.0% rdg + 10 dgts), 40nF: ±(3.0% rdg + 10 dgts), 400nF-40mF: +(2.0% rdg + 5 dgts), 200mF: ±(4.0% rdg + 5 dgts) Resolution 10pF
Capacitance	4nF, 40nF, 400nF, 4µF, 40µF, 200µF
Accuracy	4nF: +(5.0% rdg + 10 dgts), 40nF: +(3.0% rdg + 10 dgts), 400nF-40µF: +(2.0% rdg + 5 dgts), 200µ–F: +(4.0% rdg + 5 dgts) Resolution 10pF
Frequency	10Hz - 10MHz autoranging
Accuracy	±(0.1% rdg + 2 dgts) Resolution 1Hz
Accessories	Test leads, manual, holster, and (2) two "AAA batteries included
Dimensions / Weight	6 3/8" (H) x 3" (W) x 1 3/4" (D) / 10.56 oz.

Digital Multimeter

Model M-1700

Features

- 3½ digit, 2,000 count display
- Frequency to 15MHz
- Capacitance to 20µF
- Diode and transistor test
- Audible continuity
- AC/DC current to 10A
- 3-way overload protection
- Holster included

Made in Taiwan

SPECIFICATIONS	
AC + DC volts	200mV, 2V, 20V, 200V, 600V
Accuracy	DC: ±(0.5% rdg +1dgt); AC: ±(1% rdg +4dgts) Resolution 100µV
AC + DC current	2mA, 20mA, 200mA, 10A
Accuracy	DC: mA: ±(1.0% rdg + 1 dgt),10A: ±(3.0% rdg + 1 dgt) AC: mA: ±(2.0% rdg + 4 dgts),10A: ±(3.5% rdg + 4 dgts) Res. 100µA
Resistance	200Ω, 2kΩ, 20kΩ, 200kΩ, 2MΩ, 20MΩ
Accuracy	200Ω: ±(0.8% rdg +3dgts), 2kΩ-2MΩ: ±(0.8% rdg +1dgt), 20MΩ: ±(3.0% rdg +3 dgts) Resolution 0.1Ω
Capacitance	2nF, 20nF, 200nF, 2µF, 20µF
Accuracy	±(2.0% rdg + 10 dgts) Resolution 1pF
Frequency	10Hz - 20MHz autoranging
Accuracy	±(0.1% rdg + 1 dgt) (10Hz - 15MHz) Resolution 1Hz
Options	Test leads, holster, manual, 9V battery included
Accessories	C-90 Case, C-17 Holster
Dimensions / Weight	6 1/2" (H) x 3 17/34" (W) x 1 1/2" (D) / 9.2 oz.

Digital Multimeter

Model LCM-1950

Features

- Large 1", 3 3/4 digit, 4,000 count display
- Autoranging frequency to 4MHz
- Capacitance to 400µF
- Inductance to 40H
- Resistance to 4000MΩ
- Logic test
- Diode and transistor test
- Audible continuity test
- Holster included

Made in Taiwan

SPECIFICATIONS	
AC + DC volts	4400mV, 4V, 40V, 400V, 1,000V, 750VAC
Accuracy	DC: ±(0.5% rdg + 1 dgt); AC: ±(1.0% rdg + 4 dgts) on 400mV - 400V ranges, ±(2.0% rdg + 4 dgts) on 750V range Resolution 100µV
AC + DC current	40mA, 400mA, 10A
Accuracy	DC: ±(1.0% rdg + 1 dgt) on mA range, ±(3.0% rdg + 1 dgt) on 10A range AC: ±(1.5% rdg + 4 dgts) on mA range, ±(3.5% rdg + 4 dgts) on 1A range Resolution 10µA
Resistance	400Ω, 4kΩ, 40kΩ, 400kΩ, 4MΩ, 40MΩ, 4,000MΩ
Accuracy	±(0.8% rdg + 4dgts) on 400Ω range, ±(0.8% rdg + 2dgts) on 4kΩ to 4MΩ ranges, ±(3.0% rdg + 4dgts) on 40MΩ range, ±[(5.0% rdg − 20dgts) + 10dgts] on 4,000MΩ range Resolution 0.1Ω
Capacitance	4,000pF, 40nF, 400nF, 4µF, 400µF
Accuracy	±(5.0% rdg + 10 dgts) on all ranges, +(8.0% rdg + 10 dgts) above 100µF Resolution 1pF
Inductance	4mH, 40mH, 400mH, 4H, 40H
Accuracy	±(5.0% rdg + 20 dgts) on 4mH range, ±(5.0% rdg + 10 dgts) on other ranges Resolution 1µH
Frequency	4kHz, 40kHz, 400kHz, 4MHz
Accuracy	±(0.1% rdg + 1 dgt) Resolution 1Hz
Accessories	Test leads, manual, and 9V battery included
Dimensions / Weight	7 3/4 (H) x 3 1/2" (W) x 1 1/2" (D) / 14 oz.

Digital Capacitance Meter

Model CM-1555

Features

- 3 1/2 Digit, 2,000 count LCD readout with unit indicator.
- Measures capacitors from 0.1pF to 20mF.
- Zero control for test lead compensation.
- Banana jack and special insertion jack included.
- Compact size with tilt stand and holster.

SPECIFICATIONS	
Range	200pF, 2,000pF, 20nF, 200nF 2µF, 20µF, 200µF, 2,000µF, 20mF
Resolution	D0.1pF, 1pF, 10pF, 100pF, 1nF, 10nF, 100nF, 1µF, 10µF
Accuracy	200pF: ±(0.5% rdg + 1 dgt + 0.5pF), 2,000pF - 200µF: ±(0.5% rdg + 1 dgt); 2,000µF: ±(2.0% rdg + 1 dgt); 20ΩF: +(4.0% rdg + 1 dgt)
Accessories	Test leads, manual, holster, and 9V battery included
Dimensions / Weight	6 3/8" (H) x 3" (W) x 1 3/4" (D) / 10.56 oz.

Compact VOM Analog Multimeter

Model M-105

Features

- 10,000Ω/V DC, AC
- Reads volts, amps, ohms
- 15 ranges
- Pocket size
- Battery test
- Fuse protected
- Safety test leads

SPECIFICATIONS	
DC volts	2.5, 10, 50, 250, 1000 DC volts +5% Full Scale Reading (FSR)
AC volts	10, 50, 250, 1000, AC volts +5% Full Scale Reading (FSR)
DC current	10mA, 250mA, DC +5% Full Scale Reading (FSR)
Ohmmeter	x10, x1k (3.6kΩ Mid Scale) +5% Full Scale Reading (FSR)
Battery test	1.5V (250mA), 9V (10mA)
Accessories	Test leads, manual, 1.5V "AA" battery included
Dimensions / Weight	4 1/2" (H) x 2 1/2" (W) x 1 5/16" (D) / 4.2 oz.

20k/V VOM Analog Multimeter

Model M-1250

Features

- 20,000Ω/V
- 23 ranges
- 3 1/2" meter
- Mirrored scale
- Audible continuity
- Checks transistors/diodes
- 10A DC current
- dB scale
- Battery test
- Safety test leads

Available as kit Model M-1250K

SPECIFICATIONS	
DC volts	.1, .5, 2.5, 10, 50, 250 3% Full Scale Reading (FSR) 1000, 5% Full Scale Reading (FSR)
AC volts	10, 50, 250, 1kV, 4% Full Scale Reading (FSR)
DC current	50µA, 2.5mA, 25mA, 250mA 3% Full Scale Reading (FSR) 10A 5% Full Scale Reading (FSR)
Resistance	x1, x10, x100, x1k, x10k
Transistor hFE 0-1000	ICEO 150µA, 1.5mA, 15mA, 150mA
Accessories	Test leads, manual, 9V & (2) 1.5V AA batteries included
Dimensions / Weight	6" (H) x 3 7/8" (W) x 1 1/2" (D) inches 9.9 oz.

Digital AC Clamp Meter

Model ST-1012

This meter has been designed according to IEC-1010-2-032 concerning safety requirement for handheld current clamps for electrical measurement and test.

Features

- 3½ digit display
- AC current to 1,000A
- AC voltage to 750VAC
- DC voltage to 1,000VDC
- Temperature type K
- Resistance to 2MΩ
- Audible continuity
- Data hold
- Diode test
- Zippered case included

SPECIFICATIONS	
AC Volts	200V, 750V
Accuracy	200V: ±(1.0% rdg + 5dgts); 750V: ±(1.2% rdg + 5dgts)
DC Volts	200mV, 2V, 20V, 200V, 1,000V
Accuracy	200mV: ±(0.5% rdg + 1dgt); 2V - 200V: ±(0.5% rdg + 3dgts); 1,000V: ±(0.8% rdg + 3dgts)
AC Current	20A, 200A, 1,000A
Accuracy	20A: ±(4.0% rdg + 5dgts); 200-400A: ±(2.5% rdg + 5dgts); 400-1,000A: ±(3.0% rdg + 10dgts)
Resistance	200Ω, 2kΩ, 20kΩ, 200kΩ, 20MΩ
Accuracy	200Ω: ±(1.0% rdg + 5dgts); 2kΩ-20MΩ: ±(1.0% rdg + 5dgts)
Temperature	32°F-753°F: ±(1.0%rdg + 3dgts); 754°F-1,382°F: ±(2.0%rdg + 3dgts)

Digital AC/DC Clamp Meter

Model ST-3030

This meter has been designed according to IEC-1010-2-032 concerning safety requirement for handheld current clamps for electrical measurement and test.

Features

- 3¾ digit, 4,000 count display
- AC/DC clamp-on meter
- Auto/manual range
- Capacitance
- Diode check/continuity buzzer
- Relative measurement
- Temperature type K
- Frequency
- Data hold
- Back light
- Auto power off
- Zippered case included

SPECIFICATIONS	
AC Volts	4V, 40V, 400V: ±(0.5% rdg + 2dgts) 400mV,600V ±(1.5% rdg + 3dgts)
DC Volts	400mV, 4V, 40V, 400V: ±(0.5% rdg + 2dgts) 600V ±(0.8% rdg + 3dgts)
AC Current	400A: ±(2.0% rdg + 5dgts) 1,000A: ±(2.5% rdg + 10dgts)
DC Current	400A ±(1.5% rdg + 5dgts) 1,000A: ±(2.0% rdg + 10dgts)
Resistance	400Ω, 4kΩ, 40kΩ, 400kΩ, 4MΩ: +1.0%; 40MΩ: +2.0%
Capacitance	40nF ±(3.05% rdg + 10dgts) 400nF/4µF ±(2.5% rdg + 5dgts) 40/100mF ±(5.0% rdg + 10dgts)
Frequency	10Hz - 10MHz: +1.0%
Duty cycle	0.1% - 99.9% +2.0%
Temperature	−58°F - 302°F +(5% + 2°F) 302°F - 1292°F +(3% + 2°F)

CE/LVD CAT III 600V

Halogen Leak Detector

Model WJL-6000

Features

- Detect all kinds of halogen refrigerants.
- Adjusted sensitivity
- Audible & visual leak indicators
- Inner precise IC with Ultra-Low consume circuit design, more stable, longer battery time.
- Tri-color visual display of battery voltage
- Excellent sensor, high sensitivity, longer use time
- Storage pouch included

Triple Output Power Supply

Model XP-770

The XP-770 is a triple-output regulated power supply providing two variable outputs (0-20VDC@ 2A) and one fixed (5VDC @ 3A). Four LCD displays allowing the output voltages and currents to be displayed simultaneously. The variable outputs can work independently, in series, or in parallel modes. The highest output voltage is the sum of twice the voltage value in series mode and the highest output current is the sum of twice the current value when in parallel mode.

SPECIFICATIONS	
Input Voltage	120/220VAC, 50/60Hz
Output Voltage	Dual 0-20VDC @ 2A
Output Voltage	5V @ 3A
Dimensions / Weight	6½" (H) x 10¼" (W) x 14" (D) / 12 lbs. 14 oz.

0-50VDC @ 3A Power Supply

Model XP-752

The XP-752 has an output of 50VDC @ 3A. Its features include fine and coarse controls for voltage and current, and contains two 3 digit LED Volt / Current meters.

The supply incorporates an externally controlled current cutoff circuit with an LED indicating current overload. Protected against short circuits and overloads.

SPECIFICATIONS	
Input Voltage	120/220VAC, 50/60Hz
Output Voltage	0-50VDC @ 3A
Dimensions	6½" (H) x 5 1/4" (W) x 11½ (D)
Weight	13 lbs.

0-30VDC @ 5A Power Supply

Model XP-605

The XP-605 has an output of 30VDC @ 5A. Its features include fine and coarse controls for voltage and current, and contains two analog Volt / Current meters.

The supply incorporates an externally controlled current cutoff circuit with an LED indicating current overload. Protected against short circuits and overloads.

SPECIFICATIONS	
Input Voltage	120/220VAC, 50/60Hz
Output Voltage	0-30VDC @ 5A
Dimensions	6½" (H) x 5 1/4" (W) x 11½ (D)
Weight	13 lbs.

Deluxe Battery Eliminator

Model XP-100

This power supply is an ideal bench top battery eliminator. Substitutes a wide variety of batteries including AA, AAA, C, D, and 9V types. The voltage is conveniently selected by a rotary switch. Advanced, solid-state electronics provide both LINE and LOAD regulation of the output voltage. The voltage selector switch is precision-designed so that the output voltage does not increase during adjustment between voltage ranges. Protected against short circuits and overloads.

SPECIFICATIONS	
Input Voltage	120VAC 60Hz
Output Voltage	1.5, 2.2, 3, 4.5, 5, 6, 7.2, 9, 10, 12, 13.8VDC
Output Current	1A max.
Accuracy	±5%
Dimensions / Weight	3 ¾" (H) x 8 ¼" (W) x 7" (D) / 5 lbs.

Assembled in USA

Triple Output AC/DC Power Supply

Model XP-720

The Model XP-720 has 3 fully regulated supplies; 1.25-15V @ 1A, −1.25 to −15V @ 1A, or (3-30V @ 1A) and 5V @ 3A. It also has 6.3VAC @ 1A and 12.6VAC center-tapped @ 1A.

It features short circuit protection on all supplies.

SPECIFICATIONS	
Input Voltage	120VAC 60Hz
Output Voltage	1.25VDC - 15VDC @ 1A; −1.25VDC - −15VDC @ 1A; 5VDC @ 3A Dual 6.3VAC @ 1A, 12.6VAC @ 1A (center-tapped)
Dimensions / Weight	3 ½" (H) x 8" (W) x 6 ½" (D) / 7 lbs.

Assembled in USA

Available In Kit XP-720K

Spectrum Tube Power Supply

Model STPS-1

This power supply provides safe and reliable operation for 10" spectrum tubes. The unique design supplies a voltage that prolongs the life of the spectrum tubes. Specially designed sockets eliminate electrical shock hazards. The unit operates at 120V @ 60Hz.

(Tube not included).

SPECIFICATIONS	
Input Voltage	120VAC 60Hz
Output Voltage	5,000V without spectrum tube. 1,000V @ 10mA with spectrum tube.
Operating Temperature	10ºC to 50ºC
Storage Temperature	−20ºC to 60ºC
Dimensions / Weight	13 3/4" (H) x 4 5/8" (W) x 3½" (D) / 4 lbs. 12.8 oz.

4 Fully Regulated Power Supplies in One Unit

Model XP-581A

Features

- 4 DC voltages:
- 3 Fixed: +5V @ 3A; +12V @ 1A; –12V @ 1A
- 1 Variable: 0 - 20V @ 2A

- Fully regulated and short protected
- Voltage and current meters
- Ideal for laboratory, service shops and hobbyists

- All metal case
- Low cost and high value

SPECIFICATIONS	
Input Voltage	115/230VAC +10% 50/60Hz
Output Voltage DC	+5VDC, 3A max.
Output Voltage DC	+/-12VDC, 1A max.
Output Voltage DC	0-20VD, 2A max.
Current Protection	+5,+/- 12V Thermal, 0-20V Current limit, fuse for primary AC voltage
Dimensions / Weight	3 5/8" (H) x 10 3/4" (W) x 10" (D) / 8.11lbs.

AC/DC Variable Power Supply

Model XP-625

The XP625 has a DC output (UN-regulated; UN-filtered) from 0-30 volts at up to 5 amps; and an AC output (UN-regulated; UN-filtered) of 0-40V at up to 5 amps. The voltmeter is used for both 30VDC and 40VAC output voltages. The ammeter only registers the DC output current. The outputs are fuse protected from overload or shorting.

This product is intended for applications where high voltage variance and fluctuations can be tolerated. The voltages produced by this power supply are not filtered or regulated resulting in damage to sensitive devices. The meter displays the average voltage; peak voltages are higher (60V for DC, +/- 60V [for AC)

SPECIFICATIONS	
Input Voltage	120VAC, 60Hz
Output Voltage DC	0-30VDC, 5A max.
Output Voltage AC	0-40VAC, 5A max.
Output Voltage	0-110VAC, 2.5A max.
Dimensions / Weight	5 3/8" (H) x 7 3/4" (W) x 9 1/2" (D) / 14 lbs. 14 oz.

Fixed Voltage Supply

Model XR-38

Model XR-38 is a 13.8VDC regulated power supply capable of delivering up to 3A of continuous current.

It is ideal for mobile radio, cellular phones, CB or ham radio equipment.

SPECIFICATIONS	
Input Voltage	120VAC, 60Hz
Output Voltage DC	13.8VDC
Output Current	3A continuous, 5A surge
Dimensions	4 5/16" (H) x 6" (W) x 8 3/16" (D)
Weight	5 lbs. 8 oz.

Logic Probe

Model LP-560

The LP-560 Logic Probe provides convenient and precise use in the measurement of logic circuits. It displays logic levels (high or low), pulses and voltage transients down to 25 nanoseconds. High intensity LED readouts provide instant response to the logic state.

Features

- Tests all logic families (TTL, LSI, CMOS, ECT)
- Captures pulses to 25ns (20MHz)
- Audio beeper, two tones HI & LOW

- Memory function
- Colored LED's for different functions
- Input overload protection

- Logic probe is circuit powered
- Reverse polarity protection

SPECIFICATIONS	
Working Voltage	4-18VDC
Frequency Response	20MHz
Minimum Detectable Pulse Width	25ns
Input Impedance	1MΩ
Input Overload Protection	±220VAC/DC 15s
Supply Voltage Protection	±20VDC
Pulse Indicator Flash Time	500ms
Operating Temperature	32°- 122°F (0°- 50°C)

Logic Probe & Pulser Combo

Model LP-900/625

A unique two-in-one logic probe & pulser that simplifies troubleshooting and analyzing digital circuits.

SPECIFICATIONS- LOGIC PULSER	
Sync Input Impedance	1MΩ
Pulse Repetition Rate	0.5/400Hz
Pulse Width	10μs
Output Current	
Pulser Mode @ 0.5Hz	100mA sink/source
Square Wave Mode @ 500Hz	5mA sink/source
Sync Input Impedance	1MΩ
Operating Supply Voltage	5-15V
Max. Sync Input Protection	±120VDC @ 30 s.
Output Protection	±35VDC @ 30 s.
Power Supply Protection	±20VDC @ 30 s.

SPECIFICATIONS- LOGIC PROBE	
Frequency Response	50MHz
Detectable Pulse Width	10ns
Logic Threshold	
TTL	Hi 3V, Lo 0.75V
CMOS	Hi 60% Vcc, Lo 15% Vcc
Input Impedance	120kΩ
Operating Supply Voltage	4-18V
Max. Input Protection	+70VAC/DC @ 15 s.
Power Supply Protection	+20V

Made in Taiwan

Logic Probe Kit
Model LP-525K

Digital Logic Probe in kit form provides convenient and precise use in measurement of logic circuits. It displays logic levels (high or low), pulses and voltage transients down to 25 nanoseconds and a maximum input of 20MHz. Large PC board and detailed manual for fast construction.

Assembled in USA

Tone Generator / Probe Set

Model TPG-70

The Model TPG-70 includes both TP-20 (probe) and TG-50 (generator).

Technicians and installers can quickly locate wires in applications such as **TeleCom, Networking, CATV, HVAC, Electrical, and Automotive Circuits.**

Features

· Use to locate termination point of all types of communication cables.
· Single or dual tone with adjustable volume.
· Audible continuity on telco and bare wires.
· LED signal confirmation.
· Probe works with any tone generator.
· Non-conductive plastic tip for safety.
· Low battery indicator.

Multi–Network Cable Tester

Model TCT-355

The TCT-355 Cable Tester is a convenient instrument for testing different shielded/unshielded wiring schemed communication cable with RJ11 and RJ45 connectors and coax cables with F and BNC connectors.

Features

· Tests RJ45 TIA568A/B (AT&T 258A), 10 Base-T, token ring, RJ11/RJ12, USOC and coaxial BNC cable.
· Automatically check cable for continuity, shorted, open and crossed wire pairs.
· Coaxial cable port identifies cable conditions including shorts, shield opens, and center conductor breaks.
· Main unit and remote allow one person testing.
· Terminator and carrying case included.

Requires one (1) 9V battery (part # 590009)

Made in Taiwan

Carrying Case

Cable Tester **Remote** **Terminator**

Fiber Optics Voice & Data Kit With Training Course

Model FO-30K

Learn the basics of fiber optics communications while you build this exciting kit. Transmit your voice or a 1kHz signal through the fiber optic cable to a fiber optic receiver. Comes complete with all of the necessary components, including PC boards, microphone, speaker and fiber optic cable. Transmitter and receiver on separate boards, can be located hundreds of feet apart. Use for science projects.

Requires two (2) 9V batteries (part # 590009).

P/N 810020 - Fiber Optic Cable - Sold in spools of 10 feet.

Assembled in USA

Fiber Optics Tool Kit

Model TK-5000

Features

- C-200 - Case
- ST-92 - Viewing microscope
- C-10 - Parts case
- ST-90 - Fiber continuity tester
- ST-88 - Fiber optical stripper
- ST-91 - Carbide fiber scribe
- ST-340 - Kevlar® scissors
- ST-950 - Hex-type crimping tool
- ST-86 - Polishing pad SC (37.8mm)
- ST-87 - Polishing pad ST (32.8mm)
- ST-89 - Foam swab cleaning kit

Assembled in USA

Fiber Continuity Tester

Model ST-90

Powerful Krypton light source provides long range over multimode fiber.

Requires two (2) "AA" batteries (included)   Made in Taiwan

Carbide Fiber Scribe

Model ST-91

Wide inclined carbide tip for easy cleaving. Lightweight, pen-size body clips to shirt pocket.

Made in Taiwan

Fiber Optical Stripper

Model ST-88

Strips 125 micron fiber with 250 micron buffer coating without scratching or nicking fiber.

Made in Taiwan

Bredboard – Prototype Design Aids

A broad array of bredboards that provide unlimited freedom in laying out circuits and prototyping. Bredboards are arrayed from 830 tie points up to 3,220 tie points with colored binding posts that simplify identification of voltage points. Base material heavy aluminum, black anodized.

Model 9440 *

Terminals: 3,220 tie points, 504 separate 5 point terminals, plus 14 horizontal bus lines.
Binding Posts: Four coded black, red, yellow, and green.
Dimensions: 8 1/4" W, 9 1/2" L.

Model 9438 *

Terminals: 2,390 tie points, 378 separate 5 point terminals, plus 10 horizontal bus lines of 50 test points each.
Binding Posts: Four coded black, red, yellow, and green.
Dimensions: 7" W, 9" L.

Model 9480WK

WARNING: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

9440 bredboard with a JW-350 Jumper Wire Kit.

Model 9488WK

WARNING: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

9438 bredboard with a JW-140 Jumper Wire Kit.

Model 9433 *

Terminals: 1,660 tie points, 252 separate 5 point terminals, plus 8 horizontal bus lines of 50 common tie points each.
Binding Posts: Three coded black, red, and green.
Dimensions: 5 1/4" W, 8 1/2" L.

Model 9425 *

Terminals: 830 tie points, 126 separate 5 point terminals, plus 4 horizontal bus lines of 50 tie points each.
Binding Posts: Three coded black, red, and green.
Dimensions: 7 1/4" W, 3 3/4" L.

Model 9483WK

WARNING: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

9433 bredboard with a JW-70 Jumper Wire Kit.
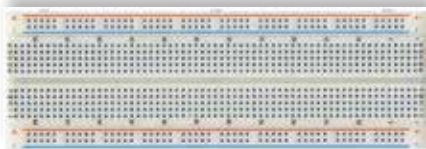
Model 9485WK

WARNING: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

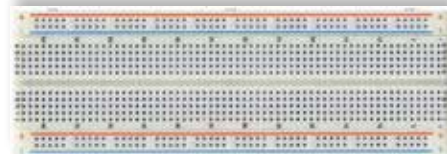9425 bredboard with a JW-70 Jumper Wire Kit.

Model 9830 *

830 tie points including four independent common bus lines for easy connections to common lines. Bredboard have interlocking features. **Dimensions:** 2 1/8" H x 6 1/2" W.

Model 9880WK *

WARNING: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

9830 bredboard (830 tie points) with a JW-70 (70 piece) jumper wire kit.

Jumper Wire Kits for Bredboarding

WARNING: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

As the primary manufacturer, we can design and manufacture Bredboards with an unlimited number of test points and special connectors. Call us for further information and cost. * Available in retail packaging - See price sheet

Model JW-350 *

350 lengths of pre-stripped, pre-formed #22 solid wire in various colors. 14 different lengths of 25 pieces ea. In a plastic case. **Dimensions:** 5" H x 10 1/2" W x 1 1/4" D.

Model JW-140 *

140 lengths of pre-stripped, pre-formed #22 solid wire in various colors. Also 14 different lengths of 10 pieces ea. In a plastic case. **Dimensions:** 2" H x 6 1/2" W x 1/2" D.

Model JW-70

70 lengths of pre-stripped, pre-formed #22 solid wire in various colors & lengths. **Dimensions:** 2" H x 6 1/2" W x 1/2" D

Model JW-30

30 pieces of reinforced, male to male jumpers - 10 pieces ea. of 2", 4", and 6". Assorted colors.

All products on this page made in Taiwan

Basic Electronic Experiments

## TRANSFORMS ANY STANDARD BREDBOARD INTO AN ELECTRONIC LEARNING CENTER

Model PK-101

The experiments in Model PK-101 require a breboard (version PK-101B) or can be done on the Elenco® XK-150, XK-550 or XK-700 Trainers. Includes 72 page manual and all parts to perform 50 experiments.
No soldering or tools required, all parts included.

Model PK-101B: Same as PK-101, but includes our 9830 Bredblox (shown on page 17 and a 9V battery).

Perform 50 Experiments

• Electronic keyboard
• Water alarm
• Finger touch lamp
• Electronic kazoo
• Battery tester
• Magnetic bridge
• Voltmeter
• Morse code
• **And a Lot More!**
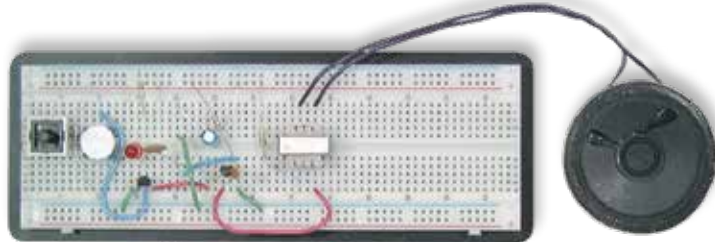
Assembled in USA


Basic Electronics with Computer Interface

Model PK-201

Computer interface turns your PC into an oscilloscope and spectrum analyzer. See visually how oscillators and amplifiers work. Analyze your own voice on the monitor.

Over 50 Experiments

• Audio amplifiers
• Oscillators
• Siren
• Space gun
• Burglar alarm
• Speaker microphone
• **And a Lot More!**

Requires one (1) 9V battery (part # 590009) or power supply.
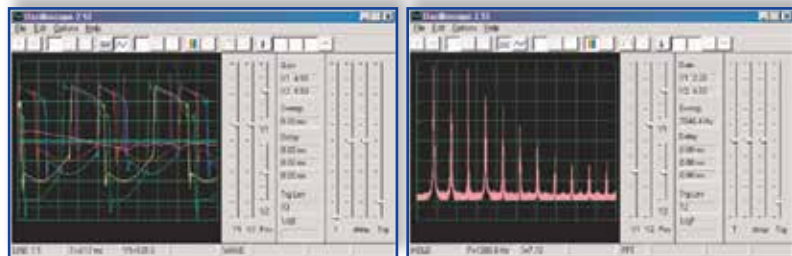
Sample Screen in Oscilloscope Mode.

Sample Screen in Spectrum Analyzer Mode.

Before You Learn Electronics, Learn About Electronic Components!

Model ECK-10

28 page manual with dozens of illustrations includes detailed descriptions of all parts, their functions in a circuit, color codes, and five self tests. Over 50 Parts included with this Course!

Assembled in USA

Resistors   Capacitors   Coils   Semiconductors   Others

TRAINING COURSES & PROTOTYPING
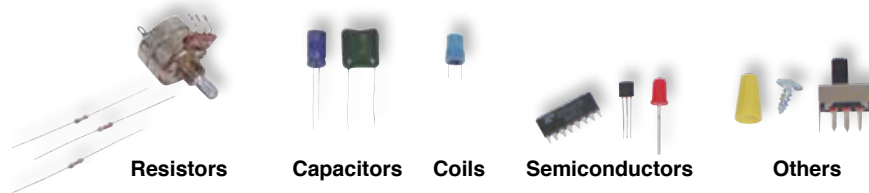
Basic Parts Kit
Model CK-1000

SPECIFICATIONS	
Plastic Parts Container	11" x 7" x 1 1/2" - 18 divisions
Resistors: 1/4W, 5%, 5 each	10Ω, 100Ω, 470Ω, 1kΩ, 2.2kΩ, 4.7kΩ, 8.2kΩ, 10kΩ, 18kΩ, 27kΩ, 47kΩ, 82kΩ, 100kΩ, 220kΩ, 330kΩ, 470kΩ 1MΩ
Electrolytic Capacitors: 50V Radial - 2 each	1μF, 4.7μF, 10μF, 47μF, 100μF, 470μF, 1000μF (35V)
Mylar Capacitors: 100V,10%, Radial DIP - 2 each	.001μF, .0047μF, .01μF, .047μF, .1μF, .33μF
Ceramic Disc Capacitors: 100V,10% - 2 each	2.2pF, 4.7pF, 10pF, 1pF, 22pF, 47pF, 100pF, 220pF, 470pF, 680pF
Inductors: 1 each	4.7μH, 10μH, 47μH, 100μH, 470μH, 1mH, 10mH, 33mH
Trimpots: Single Turn - 1 each	500Ω, 1kΩ, 5kΩ, 50kΩ, 100kΩ, 500kΩ, 1MΩ
Switches: 2 each	Push-button SPST, Slide SPDT, Slide DPDT, 8-position DIP
LEDs: Standard T1 3/4 size - 4 each	Red, green, white, yellow
Displays: 2 each	7-segment common cathode, 7-segment common anode
Integrated Circuits: 2 each	7805, 7812 regulators, 555 timer, LM386 audio amp, 358 Op-amp,358, LM386N, NE555N, CD4013,CD4017,CD4011, CD4001, CD4081, D4023, CD4070
Transistors: 2 each	PN2222, PN2907, 2N3055, 2N3904, 2N3906, 4393
Diodes: 2 each	1N4148, 1N4001, 1N34, 1N4728, 1N4733, 1N4739, 1N4743, 1N4747
Miscellaneous:	Hook-up wire 5' 22AWG (black,red,orange,yellow,green), Alligator lead sets (red and black), 5V DIP relay, Photo cell, Microphone, Speaker, Buzzer, 9V battery snap, 1.5A 100V bridge, 4A 200V SCR

Hook-Up Wire on Spools

Wire in 1,000 and 5,000 ft. spools (20, 22, and 24 gauge) solid or stranded - all colors - available upon request.

#22 Gauge Solid 25ft.
Black   Part #: 884410
Red   Part #: 884420
Yellow   Part #: 884440
Green   Part #: 884450
White   Part #: 884490

#22 Gauge Stranded 25ft.
Black   Part #: 885210
Red   Part #: 885220
Yellow   Part #: 885240
Green   Part #: 885250
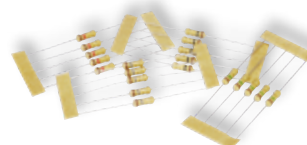**White**   Part #: 885290

Resistor Kit

365 TOTAL PIECES

Model RK-365

Contains five (5) each of 73 standard values, from 1Ω to 1MΩ - 1/2 watt, 5% tolerance, carbon film.

Combo Kit
Model RCK-465

Contains a resistor kit RK-365 with 5 each of 73 values for a total of 365 pieces and the capacitor kit CAPK100, which contains 21 varieties of capacitors for a total of 100 pieces. Altogether, this kit contains 465 pieces.

Capacitor Kit
Model CAPK100

Contains ceramic disc, mylar, and electrolytic-type capacitors. 21 varieties, 100 pieces total - 30 ceramic from 10pF to 470pF, 35 mylar from 0.001μF to 0.220μF, and 35 electrolytic from 1μF to 1000μF. Packaged in a cardboard organizer box.

1/4W Carbon Film Resistor Kit
Model RK-370

Contains five each of 74 standard values from 1Ω to 10MΩ 1/4 watt, 5% tolerance, carbon film. 370 pieces total, 74 values. Packaged in a cardboard organizer box.

Diode Kit
Model CAPK100

Contains an assortment of silicon, zener, germanium, bridge, and switching diodes. 80 pieces total, 20 types. Packaged in a cardboard organizer box.

LED Assortment Kit
Model LEDK80

Contains a variety of types & colors: small, standard, large, rectangular, bi-color, blinking, ultra bright, red, amber, green, blue, yellow & white. 80 pcs total, 18 varieties. Comes in a cardboard organizer box.

Transistor Kit
Model TRAK-100

Contains an assortment of transistors, NPN, PNP, FET's, Darlington, & Power. 100 pcs total, 15 types. Comes in a cardboard organizer box.

Hook-up Wire Kit
Model WK-103

Contains three 25 ft. spools of #22 gauge solid wire - Red, yellow, and black in a dispenser box.

Hook-up Wire Kit
Model WK-106

Contains six 25 ft. spools of #22 gauge solid wire - red, yellow, black, white, green, and blue in a dispenser box.

Electricians General Purpose Tool Kit

Model TK-8000

A heavy-duty tool pouch, designed for electricians and maintenance people, made from a heavy-duty polypropylene material. Includes an adjustable quick-release belt.

Inlcudes

- C-190 Tool pouch
- ST-30Y Wire stripper
- ST-26 Diagonal pliers
- ST-34 Long nose pliers
- ST-71A #2 phillips screwdriver
- ST-72A 1/4" slotted screwdriver
- ST-70 Linesman pliers
- ST-95 8" groove pliers
- ST-38G AC receptacle tester
- ST-156 Electrician knife

Assembled in USA

HVAC Electricians Master Tool Kit

Model TK-8200

A complete tool kit for the troubleshooting of HVAC systems includes two meters for making all critical voltage, current and temperature measurements. Also includes quality, heavy-duty, large durable tool bag featuring 18 pockets of every conceivable size. It is designed with an open top for ease of access, triple-bottom construction and sturdy handles.

Inlcudes

- C-180 Portable tool bag
- M-2625A Autoranging meter with temperature
- ST-1012 Clamp meter
- ST-97 10" groove pliers
- ND-4 Nut drivers 3/16", 1/4", 5/16" 3/8"
- ST-26 Diagonal pliers
- ST-34 Long nose pliers
- ST-125 6 pc. Screwdriver set
- ST-74 AC line splitter
- ST-73 AC voltage detector probe
- ST-32 Inspection flashlight
- ST-38G AC receptacle tester

Bag Dimensions:
7" (H) x 16" (W) x 9 1/2" (D)

Assembled in USA

AC Voltage Detector Probe

Model ST-73

Detect AC voltages 120/240VAC without contact. Visual and audible indicators. Excellent for voltage tracing circuits.

AC Line Splitter

Model ST-74

For measuring current in plug-in appliances and air conditioners. Splits two conductor line cord for reading at outlets under load. Permits voltage measurements at outlet under active conditions. Direct and 10X sensitivity.

AC Receptacle Tester With Built-in GFCI Tester

Model ST-38G

UL listed. Gives instant display of wiring conditions of any standard 3-wire 110VAC outlet. Also tests GFCI.

Circuit Tester

Model ST-37

AC/DC 80-500 volts. Bright neon indicator, pocket clip, insulated case.

STEM Tool Kit

Model PK-622

Contains all the tools needed for building electronic kits such as Teach Tech®. The featured ST-43 Tool Bag is made of lightweight and durable polyester provides extra strength and carrying comfort. Adjustable elastic straps for versatility, easy to organize tools inside the bag. Inside walls are made of rigid plastic to ensure no twisting or bending when the bag is fully loaded Heavy-duty zipper, micro injection plastic handle , durable and comfortable in use. Easy way to reorganize tools and make your own combination tool bag quickly.

Inlcudes

- ST-43 Tool Bag
- 1PK-125T Tweezer
- SD-202B Screwdriver #1x75mm
- SD-201A Screwdriver -3.0x75mm
- PM-200 Plastic Modeler Slide cutter
- PD-510 Knife
- HAM-3 Hammer
- R006 6" Steel ruler
- K002A Flat file 120mm
- K002B Flat file 120mm

Made in Taiwan

12pc. Computer Service Tool Kit

Model TK-1100

Inlcudes

- 3/16" nut driver
- 1/4" nut driver
- Driver handle - Fits all bits
- Reversible screwdriver bits T10 & T15.
- Reversible screwdriver bits 3/16" & 1/4"
- Reversible screwdriver bits #1 & #2 phillips
- ST-17 Tweezers
- ET-14 IC inserter 14-16 pin
- ET-10 IC puller
- ST-101A 1/8" slotted screwdriver
- ST-101B #0 phillips screwdriver
- PR-3 3-prong parts retriever

In Black Vinyl Zippered Case
Dimensions: 8 3/8" x 6" x 1 3/8"
2-Year Warranty on all tools.

Model TK-1100A: Same TK-1100 with spare parts tube, but without the IC inserter.

Made in Taiwan

Deluxe Electronic Tool Kit

Model TK-3000

A professional technician service tool kit in a metal reinforced tool case with heavy-duty handle and locks. A removable, double-sided pallet handles most of the tools listed below with more room for tools and parts in the lower half. A special ramp in the tool case will lock your meter of choice in place.

Inlcudes

- ZD-300C Deluxe 25W soldering iron
- SH-1 Soldering iron holder
- ST-1 Mini diagonal cutters
- ST-2 Mini long nose pliers
- ST-30 Premium wire stripper
- SE-1 Solder ease kit (4 pc.)
- TL-8 Precision screwdriver set (6 precision screwdrivers)
- SW-5 Desoldering wick
- ST-72 Screwdriver slotted 3/16"

- ST-6 Screwdriver #1 phillips
- ET-10 IC puller
- SP-4 Desoldering pump
- ST-20 Safety goggles
- ST-9 Pocket screwdriver
- LF-99 Lead-free solder tube
- ST-75 11 pc. screwdriver bit set (3 nut drivers, 2 slotted, 2 phillips, & 3 star bits)

Meter and calculator shown are sold separately.

Assembled in USA

ZD-300C is Ⓔ️Ⓣ️Ⓛ️

C-400 Case Dimensions: 13" (H) x 18" (W) x 5 ½" (D)

Deluxe Electronic Tool Kit

Model TK-1001

A professional organizer tool kit at affordable prices. No technician should be without this unique tool kit that holds all of the tools you need (meter, experiments, etc.). Dimensions: 12" (H) x 17" (W) x 4" (D).

Inlcudes

ZD-300C is Ⓔ️Ⓣ️Ⓛ️

- ET-10 IC puller
- SE-1 Solder ease kit (4 pc.)
- SH-3 Soldering iron holder
- SP-4 Desoldering pump
- ZD-300C Deluxe 25W soldering iron
- ST-1 Mini diagonal cutters
- ST-2 Mini long nose pliers
- ST-3 Wire stripper
- LF-99 Lead-free solder tube
- ST-20 Safety goggles
- ST-75 11 pc. screwdriver bit set (3 nut drivers, 2 slotted, 2 phillips, & 3 star bits)
- SW-3 Desoldering wick
- TL-8 Precision screwdriver set (6 precision screwdrivers)

Meter shown sold separately.

Assembled in USA

2-Year Warranty on all tools.

Other Tool Kit packages available - custom made to your specifications.

**C-800 Deluxe Heavy-Duty Large Zipper Case
Dimensions: 12" (H) x 17" (W) x 4" (D)**

Deluxe 25 pc. Electronic Technician Tool Kit

Model TK-2000

An electronic technician tool kit designed for the educational field. Heavy-duty deluxe tool box comes with two cantilever trays having 18 component trays. Deep bottom storage area for bulky items. 25 quality tools to meet most educational requirements.

ZD-300C is Ⓔ🆃🅛

Inlcudes

- ZD-300C Soldering iron, 25W, 3-wire grounded plug
- ST-1 4 1/2" diagonal cutters, return spring, cushion grip
- ST-2 5" long nose pliers, return spring, cushion grip
- ST-3 5" adjustable wire strippers, cushion grip
- SH-1 Soldering iron holder with sponge
- SP-4 Desoldering vacuum pump
- SE-1 Solder ease kit (4 pcs.)

- TL-8 Precision screwdriver set (6 pcs.) in case
- ST-5 Slotted 3/16" screwdriver, chrome vanadium
- ST-6 Phillips #1 screwdriver, chrome vanadium
- ND-3 3-piece nut driver set, 3/16", 1/4", and 5/16"
- ET-10 IC puller, stainless steel, vinyl grip
- ST-20 Safety goggles
- LF-99 Lead-free solder tube
- SW-3 Desoldering wick

Assembled in USA

C-500 Case: 13 ¾" (H) x 8 ¼" (W) x 6 ¾" (D)
2-Year Warranty on all tools.

Deluxe 32 pc. Technician Tool Kit

Model TK-1500

ZD-300C is Ⓔ🆃🅛

Inlcudes

- M-1000D Digital multimeter
- ZD-300C Soldering iron, 25W, 3-wire grounded plug
- SE-1 Solder ease kit (4 pcs.)
- SP-4 Desoldering vacuum pump
- ST-1 4 1/2" diagonal cutters, return spring, cushion grip
- ST-2 5" needle nose pliers, return spring, cushion grip
- ST-30 Premium wire stripper, cutter, pliers, & crimper, cushion grip.

- ET-10 IC puller, stainless steel, vinyl grip
- C-10 Parts box
- SH-2 Soldering iron stand (wire form)
- TL-8 6 pc. precision screwdriver set
- LF-99 Lead-free solder tube
- SW-3 Desoldering wick
- ST-75 11 pc. screwdriver bit set (3 nut drivers, 2 phillips, 2 slotted, & 3 star bits)

Assembled in USA

C-200 Large Vinyl Zipper Case
9" (H) x 14 ½" (W) x 3" (D)

Model TK-1600: Same as above but without meter.

---

15 pc. Basic Technician Tool Kit

Model TK-1350

Inlcudes

- ZD-300C Deluxe soldering iron
- ST-1 4 1/2" diagonal cutters
- ST-2 5" needle nose pliers
- ST-30 Premium wire stripper
- ST-5 3/16" slotted screwdriver
- ST-6 #1 phillips screwdriver
- SP-4 Desoldering pump
- ST-101A 1/8" slotted screwdriver
- ST-101B #0 phillips screwdriver

- SH-2 Soldering iron stand (wire form)
- LF-99 Solder tube
- ND-3 Nut driver set, 3/16", 1/4", & 5/16"

Assembled in USA

ZD-300C is Ⓔ🆃🅛

C-200 Large Vinyl Zipper Case
9" (H) x 14 ¾" (W) x 2 ¼" (D)

TOOLS FOR THE ELECTRONIC & ELECTRICAL INDUSTRY

Mini Diagonal Cutters

ST-1 *

Drop forged steel, return spring, cushion grip. 4 ½" long.

Available in retail packaging as WeMake WMSC1

Mini Long Nose Pliers

ST-2 *

Drop forged steel, return spring, cushion grip. 5" long.

Available in retail packaging as WeMake WMLNP2

Diagonal Cutters

ST-26

Drop forged steel, cushion grip. 6" long.

Long Nose Pliers

ST-34 - 6"
ST-145 - 8"

Wire Stripper

ST-3

Adjustable wire stripper, return spring, cushion grip. 5" long.

Available in retail packaging as WeMake WMS30

Premium Wire Stripper

ST-30

7-in-1 all-purpose wire stripper, cutter, pliers, and crimper. Cushion grip. Strips AWG16 - 26. 6" long.

Deluxe Wire Stripper

ST-30Y

Knife-type blade cuts, strips AWG 12 - 24; cushion grip, return spring. 6" long.

Professional Wire Stripper/ Crimper

ST-170

Multi-purpose wire stripper, cutter, crimper, & pliers Cushion grip. Strips AWG 10-22. 8" long
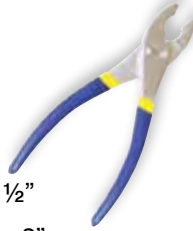
Linesman Pliers

ST-70

Drop forged, fully polished, cushion grip. 8" long.

Slip Joint Pliers

ST-8 - 6 ½"
ST-127 - 8"
ST-148 - 10"

Drop forged steel, chrome plated, cushion grip. Three sizes.

Locking Pliers

ST-200 - 6"
ST-95 - 8"
ST-97 - 10"

Drop forged, fully polished, cushion grip. Three sizes.

Wire Stripper/ Cutter Romex

ST-153

Used to strip, cut and loop 12 & 14 AWG Romex (NM-B non-metallic sheathed cable). Cushion grip, 8" long.

Hand Tool Kit

Model ST-10 *

Inlcudes

- **ST-1** 4 1/2" diagonal cutters
- **ST-2** 5" needle nose pliers
- **ST-3** Wire stripper
- **ST-5** 3/16" slotted screwdriver
- **ST-6** #1 phillips screwdriver

9 Piece Electronic Technician Starter Tool Kit

Model TK-14

Inlcudes   *ZD-200C is* (ETL)

- **ZD-200C** Standard 25W soldering iron
- **SH-2** Soldering iron stand
- **ST-2** 5" needle nose pliers
- **ST-3** Wire stripper
- **LF-99** Lead-free solder tube
- **ST-5** 3/16" slotted screwdriver
- **ST-6** #1 phillips screwdriver
- **ST-23** Heat sink
- **SW-3** Desoldering wick

Solder Tool Kit

Model ST-12 *   *ZD-200C is* (ETL)
Inlcudes

- **ZD-200C** Standard 25W solder iron
- **SP-4** - Desoldering pump
- **SW-3** - Desoldering wick
- **LF-99** - Lead-free solder tube
- **SH-2** - Soldering iron stand
- **STSP-** Sponge

Available in retail packaging - See price sheet

6 pc. Mechanics Screwdriver Set
Model ST-125

Hardened and tempered chrome vanadium steel shafts. Hex bolster for wrench assisted torque; magnetized tips.

⊖ Slotted - 3/16"
1/4"
5/16"
3/8"

⊕ Phillips - #1 & #2

7 pc. Professional Screwdriver Set
Model ST-121

Chrome vanadium steel shafts. Color line handles for comfort and identity; vapor blasted magnetized tips.

⊖ Slotted - 1/8"
5/32"
1/4"

⊕ Phillips - #0
#1
#2
#2

Pocket Screwdriver ⊖
ST-9
Slotted 1/8" x 2" with clip. Overall 4 1/4".

Screwdriver ⊖
ST-101A
Slotted 1/8" x 3". Overall 5 1/4".

Screwdriver ⊖
ST-5
Slotted 3/16" x 3" chrome vanadium. Overall 6".

Pocket Screwdriver ⊕
ST-11
Phillips #0 x 2" with clip. Overall 4 1/4".

Screwdriver ⊕
ST-101B
Phillips #0 x 3". Overall 5 1/4".

Screwdriver ⊕
ST-6
Phillips #1 x 3" chrome vanadium. Overall 6".

Screwdriver ⊕
ST-71 - #1 Phillips x 6"
ST-71A - #2 Phillips x 6"
Shock-proof, cellulose acetate plastic handles. Chrome vanadium blade. Overall 9"

Screwdriver ⊖
ST-72 - Slotted 3/16" x 6"
ST-72A - Slotted 1/4" x 6"
Shock-proof, cellulose acetate plastic handles. Chrome vanadium blade. Overall 9".

11 Piece Screwdriver Bit Socket Set ⊕ ⊖ ✱
ST-75
Slotted 3/16" x 3" chrome vanadium. Overall 6".

Inlcudes
• 3 nut drivers • 2 slotted
• 2 phillips • 3 star

Six Piece Precision Screwdriver Set
TL-8
Swivel heads, packaged in storage case.

5-in-1 Driver Set
ST-85
Inlcudes
• 2 Phillips (#1 and #2)
• 2 Slotted (3/16" and 1/4")
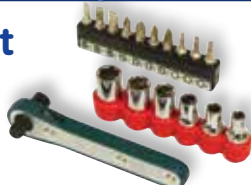• 1 Nut driver (5/16")

Nut Driver Set
ND-3
3 pc. set - 3/16", 1/4", and 5/16".

17 pc. Offset Ratchet & Socket Driver Set
Model ST-151

This screw and socket driver set comprises six hexagon sockets made from good quality carbon steel. The screwdriver has a 1/4" hexagon drive to accommodate ten 1/4" bits: slotted, phillips, and star.

15 pc. Precision Quality Screwdriver Set
Model ST-152 ⊕ ⊖ ✱
Inlcudes
• Vanadium blades, plastic handles
• Star: #T6, #T7, #T8, #T9, #T10, #T15, #T20
• Flat: 0.08", 0.10", 0.12", 0.16"
• Phillips: #000, #00, #0, #1

27

For all Items on this page ⚠ **WARNING**: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

Electricians Scissors

ST-68

Hot forged - scraper and file on back edge of blade. Double stripping botch. 5" long.

Hemostat

ST-19

Straight 6" insulated handle Use as a clamp to hold parts in place.

Adjustable Wrenches

ST-63 - 4"
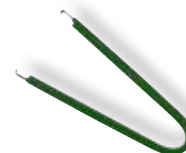### ST-62 - 6"
ST-59 - 8"

Drop forged, chrome plated, max. jaw opening.

IC Puller

ET-10

Stainless steel construction for removing IC's. Insulated vinyl grip.

IC Inserter

ET-14

14/16-pin.

Parts Retriever

PR-3

3-prong. Pick up parts in hard-to-reach places.

Tweezers Crossover

ST-16 - Pointed tip. 4 1/2" long.

Tweezers

ST-17 - 6" straight. Insulated with blunt serrated ends.

Lighted Magnifier

ST-25

Requires 2 "AAA" batteries.

Precision Duster

ST-49

Pressurized blaster removes microscopic dust, lint, and other particles. Net weight: 10 oz.

Allen Wrench Set

ST-15

8 pc. Ring set with springs - Twist off, twist on.

13 pc. Long Hex Key Wrench Set - SAE

ST-67

Chrome vanadium steel. Hardened and tempered.

6" Ruler

ST-14

Etched metal.Inch and metric divisions w/ pocket clip.

Inspection Mirror

ST-55

All-angle, telescoping inspection mirror.

Inspection Flashlight

ST-32

6" Inspection light. Bright bulb. Requires 2 "AA" batteries, part # 590001.

Deluxe Alignment Tool

ST-41

Metal non-magnetic tip.

Magnetic Pick-up Tool

ST-45

Telescopic (24 inch) pick-up tool with pocket clip.

Universal Stripping Tool
Model ST-350

Strips outer jacket of UTP and STP cable and CAT 5 round. Strips RG 59/6/11/7 coaxial cable. Strips flat telephone cable. Cable cutter function.

Multi-Function Wire Stripper
Model ST-302

Cuts, strips RG-58, RG-59, and RG-62. Precision strips 16 to 26 gauge wire.

Coaxial Cable Stripper
Model ST-35

Three-step coaxial cable stripper. Strips RG/U 6, 58, 59, 62 and 3C2V, 5C2V. Replacement blade cartridge - part # ST-331.

Ceramic Kevlar® Cutter
Model ST-340

Easily trim Kevlar® strength member in fiber optic cable. The ceramic blades cut Kevlar® quickly and precisely.

Cable Tie Gun
Model DCT-300V ST-375

Speeds up cable tie applications Insures correct tension and provides automatic cutoff.

Round Cable Cutter
Model ST-211

The 100 pair group cutter is rated for ethernet, 100 pair group telephone cable, and RG-174 / RG-9 coax. Spring return with safety lock.

Modular Crimping Tool
Model ST-568

Cuts, strips, and crimps modular plugs 8P/RJ45 and 6P/RJ12, RJ11. Cushion grip; length 7 ½".

Universal Crimp Tool
Model ST-950

Repeatable and reliable terminations. Pressure adjustment for activation force. Dies change quickly - 10 dies available (sold separately). Cushion grip; length 9".

Hex-Type Crimping Tool
Model ST-60

For use on RG-58 and RG-59 connectors. Cushion grip; length 9".

Economy Crimping Tool
Model ST-560

Multi-function telephone tool crimps, cuts, and strips for 4, 6, and 8 pole modular plugs. Plastic construction; length 8".

Punch Down Tool
Model ST-620

Includes 1 combination 66 & 88/110 blade. Spare blade storage in handle. **Replacement Blades:** Type 66 (ST-601), Type 66 & 88/110 (ST-604), KRONE Type (ST-603)

Can Wrench
Model ST-670

An easy-to-use tool that allows access to telephone boxes and pedestals. 3/8" and 7/16" hex double end, plastic handle.

Deluxe Punch Down Tool Impact Type
Model ST-630

Adjustable pressure control. Suitable for 66 & 110 or KRONE terminal blocks. Includes 1 combination 66 & 88/110 blade. Storage for 1 spare blade in handle. **Replacement Blades:** Type 66 (ST-601), KRONE Type (ST-603), Type 66 & 88/110 (ST-604)

All products on this page made in Taiwan

Large Zipper Case w/ Handles
C-200
See TK-1500 for suggested tool array.

Dimensions: 9" (H) x 14 ½" (W) x 3" (D)

Deluxe, Heavy-duty, Black Canvas Zipper Case
C-800
3 outside pockets. See TK-4000 for suggested tool array.

Dimensions: 12" (H) x 17" (W) x 4" (D)

Deluxe Case
C-400
Metal reinforced w/ handle & locks. Double-sided tool pallet, meter ramp & dividers. See TK-3000 for suggested tool array.

Dimensions: 13" (H) x 18" (W) x 5 ½" (D)

Plastic Case
C-570
Built-in handles, large sliding closures, lock lid into place.

Dimensions: 10 ½" (H) x 8" (W) x 3 3/16" (D)

Heavy-duty, Deluxe Plano Tool Box
C-500
2 cantilever trays with 18 compartments. Deep bottom storage. See TK-2000 for suggested tool array.

Assembled in USA

Dimensions: 8 ¼" (H) x 13 ¾" (W) x 6 ¾" (D)

Plano Tool Box
C-520
Top access area; full-size, lift-out tray and bulk storage area.

Assembled in USA

Dimensions: 7 ½" (H) x 13" (W) x 5" (D)

Deluxe Heavy-duty Tool Bag
C-180
Heavy-duty zipper & padded handles, a hard bottom to keep shape & 18 pockets. See TK-8200 for suggested tool array.

Dimensions: 10" (H) x 15" (W) x 9 ½" (D)

Heavy Duty Tool Bag
C-190
Ideal for electricians; networking technicians & general maintenance people. Made from heavy-duty blue canvas material with adjustable quick-release belt.

Dimensions: 11 ½" (H) x 9" (W)

Small Zipper Case
C-20
See TK-1100 for suggested tool array.

Made in Taiwan

Dimensions: 8 ½" (H) x 12 ½" (W) x 1 ¼" (D)

Molded Cases
C-40 - Plastic case with pin hinge, latch and side handle.
Dimensions: 8" (H) x 10" (W) x 3" (D)

C-50 - Plastic case with built-in hinge & latch.
Dimensions: 7 ½" (H) x 10" (W) x 3" (D)

Assembled in USA

Parts Boxes
C-10 - Five fixed compartments.
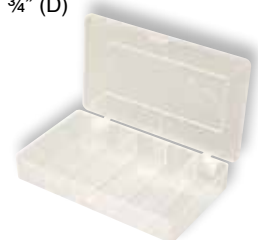**Dimensions:** 3 ¾" (H) x 6 ½" (W) x 1 1/8" (D)

C-30 - Four fixed compartments.
Dimensions: 2 7/8" (H) x 4 5/8" (W) x 1" (D)

C-900 - 6 to 18 adjustable compartments.
Dimensions: 7 ¼" (H) x 11" (W) x 1 ¾" (D)

Assembled in USA

65MHz Scope Probe, Switchable

P-1D

Built-in 2 position switch; X1, X10, complete w/ accessories, 10MΩ input impedance. Fits all scopes with BNC connector. Compensation range 10 to 35pF. Includes minigrabber, insulating tip, adjusting tool, channel identifier clips, and IC tip. Length - 60".

Made in Taiwan

250MHz Scope Probe, Switchable

P-3D

Built-in 3 position switch; X1, X10, ref. Complete with accessories. 10MΩ input impedance. Fits all scopes with BNC connector. Compensation range 10 to 35pF. Length - 60".

Made in Taiwan

BNC Test Lead Set

TL-3 *

BNC to minigrabber. Length - 36"

Test Lead Set

TL-4 *

Banana to test probe lead set. Length - 36"

Banana to Alligator Lead Set w/ Small Alligator Clips

TL-5 *

Stackable banana to alligator clip. Length - 36"

Alligator Lead Set with Small Alligator Clips

TL-6 *

Jumper clip lead set (10 pieces, 5 colors). Length - 14"

Alligator Lead Set w/ Large Alligator Clips

TL-6LG *

Jumper clip lead set (10 pieces, 5 colors). Length - 36"

BNC Cable

TL-7 *

BNC male to BNC male. 50Ω. Length - 36"

Minigrabber to Minigrabber

TL-9 *

IC clip test lead set. Length - 36"

Banana to Minigrabber Set

TL-12 *

Stackable banana to minigrabber. Length - 36"

Component Test Lead

TL-13*

Banana to alligator for testing capacitors, inductors, and resistors. Length - 4"

Heavy-Duty Test Lead Set

TL-15 *

Insulated banana to test probe lead with screw-on alligator clips. Length - 36"

Banana to Alligator Lead Set with Large Alligator Clips

TL-16 *

Stackable banana to alligator clip. Length - 36"

BNC Test Lead Set

TL-17 *

BNC to alligator clips. Length - 36"

Banana to Banana Lead Set

TL-18 *

Stackable 3-way banana plugs. Length - 36"

Minigrabber to Minigrabber IC Test Lead Set

TL-21 *

Jumper minigrabbers. 5 pieces, 5 colors. Length - 36"

Banana to Probe Heavy-duty Test Lead Set

TL-22 *

Rated max 1,000V & 10A (CAT III) Protective covers for tips. Length - 36"

Push-on Alligator Test Lead Set

TL-30 *

Extra-large red and black insulated boots. Slips onto most 0.08" diameter test lead tips.

Soldering Station

Model SL-5

The SL-5 Soldering Station is electronically controlled to provide 5 to 40 watts and is ideal for professionals, students, and hobbyists. The unit includes a holder funnel for the iron, sponge pad for cleaning the tip and an on/off indicator light. It is available assembled or in kit form.

Assembled in USA

ASSEMBLED SOLDERING STATIONS		SOLDER STATION KITS	
Model SL-540	This station comes complete with a 40-watt soldering iron providing you with variable heat - 5 watts to 40 watts. For general soldering requirements.	**Model SL-5K40**	A solder station in kit form using a 40-watt soldering iron that is included to build the station. The 40-watt soldering iron then becomes part of the station.
Model SL-5	is the station that comes without a soldering iron. You may plug in any iron and obtain variable heat. It is suggested that you use 40-watt or 60-watt irons.	**Model SL-5K**	is a solder station in kit form. The soldering iron is not included. You build the station with your own soldering iron (40-watt iron suggested). Ideal for student projects.

Model SL-540 shown

Temperature Controlled Soldering Stations

Model SL30A

LED readout for greater accuracy (SL-30 only) • Temperature range 300°F to 900°F. This hi-tech soldering station incorporates a sophisticated electronic circuit that enables the user to change the tip temperature from 300°F (150°F) to 900°F (480°F). The temperature is maintained within +10°F of its preset temperature. The tip is isolated from the AC line by a 24V transformer. The tip is grounded to eliminate static charges.

REPLACEMENT TIPS:

Conical - **600020** 1/32"
Conical - **600021** 1/64"
Wedge - **600022** 3/32"
Screwdriver - **600023** 3/32"

Temperature Controlled Soldering Station

Model SL-75

Low-cost solder station features manual temperature settings.

Features

- 48W heater power
- Temperature range 350°F - 900°F
- Electronic temperature control
- Power on LED
- Anti-static ground output

Deluxe Temperature Controlled Soldering Station w/ Ceramic Heater

Model ZD-931

Ideal for applications requiring temperature stability when working with sensitive components.

Features

- 48W ceramic heating element with temperature sensor
- Temperature range 302°F - 842°F
- Temperature preset on LCD display
- LCD display with digital temperature display

Deluxe 25W Soldering Iron

Model ZD-300C

Features

- 3-wire grounded plug
- Screw-in tip
- Rubber sleeve handle with long-life plated tip
- Replacement tips: Conical - 2DT, ZD200CT Fine (1/64"), Wedge, ZD200CT2

Canadian and USA safety approved

Standard 25W Soldering Iron

Model ZD200C

25W Pencil soldering iron

Features

- 2-wire grounded plug
- Screw-in tip
- Rubber sleeve handle with long-life plated tip
- Replacement tips: Conical - 2DT, ZD200CT Fine (1/64"), Wedge, ZD200CT2

Canadian and USA safety approved

Available in retail packaging as WeMake WMSI200

Deluxe 40W Soldering Iron

Model SR-6

Features

- 3 wire grounded plug
- Screw-in tip rubber sleeve handle with long-life plated tip
- Replacement tips: Conical - SR-2BT2, Wedge - SR-2BT

Canadian and USA safety approved

Soldering Iron Tip Package

Model TIPK-1

For SR-6

1/64"
3/64"
5/64"
1/16"
3/64"
7/64"

Made in Taiwan

Soldering Iron Tip Package

Model TIPK-2

For SL-75

1/32"
1/32"
1/32"
1/16"
1/16"
5/32"

Soldering Iron Tip Package
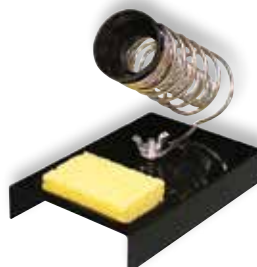
Model TIPK-3

For ZD-200C and ZD-300C

1/32"
1/64"
5/32"
1/16"
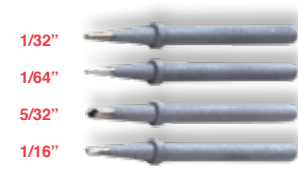
Soldering Iron Stand

Model SH-1

Heavy-duty holder w/ sponge

Available in retail packaging as WeMake SH-1

Soldering Iron Stand

Model SH-2 *

Small stand w/ flip-up form

Soldering Iron Stand

Model SH-3

Flip-up wire form with sponge

Lead-free Solder

Model LF-99 *

5 ft. Rosin core, 0.031" dia. 99.3% tin, 0.7% copper

Lead-free Solder

Model 551136

1 lb. Rosin core, 0.032" dia. 99.3% tin, 0.7% copper

Available in retail packaging as WeMake WM1LB

Desoldering Wick

Model SW-3 *

Solder removal braid removes solder from all types of connections. 5 ft. roll in handy dispenser.

Desoldering Pump

Model SP-4

Deluxe, high-vacuum pump anti-static tip, Teflon tip

Available in retail packaging as WeMake WMSP4

Tip Tinner, Cleaner

Model TTC-1

Prevents oxide build-up. Prolongs tip life and heat transfer.

Assembled in USA

Soldering Tip Cleaner

Model SH-1025

Made of low abrasive brass shavings. No water necessary, no temperature drop & cleans better than conventional sponges.

Golden Curls Refill Model 556006

Helping Hands w/ Magnifying Glass

Model HH-55

For soldering or making fine adjustments. Adjustable arms can hold objects in any position. ø60mm lens

Available in retail packaging as WeMake HH-55
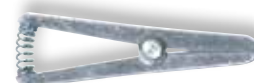
Solder Ease Kit

Model SE-1

4 pc. Set: Brush, scraper, probe, & ST-23 heat sink in pouch
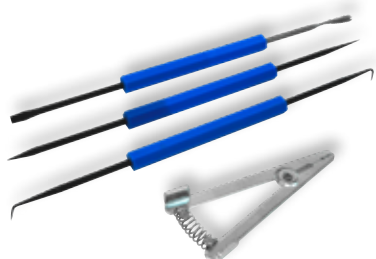
Heat Sink

Model ST-23

Aluminum body

Safety Goggles

Model ST-20

Contours to Head Soft Vinyl Frame Ventilated

safety approved

Made in Taiwan

Available in retail packaging as WeMake WMSG20

Safety Spectacles

Model ST-22

Features Wide Upper Frame Fits Over Prescription Glasses

Safety approved

Made in Taiwan

For all Items on this page ⚠️ **WARNING**: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

EDUCATION KITS

Space War Gun

K-10

This gun gives you realistic sounds and flashes you expect in a Space Gun. Produces rapid fire or single shot with two flashing LED's. Speaker included. Requires one (1) "9V" battery
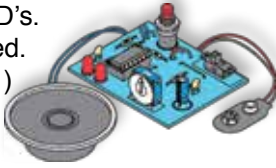
0-15V Power Supply

K-11

This kit is one of the most useful, low-cost power supplies you can build. It supplies voltage to transistor radios, tape recorders, and electronic games. Output: 0-15VDC@ 250mA 8.5VAC @ 500mA.

Christmas Tree

K-14

Produces flashing colored LED's and three popular Christmas melodies! See TK-3000 for suggested tool array. Requires one (1) "9V" battery

Electronic Cricket

K-16

The perfect project & fun game for family & friends. You'll drive your friends crazy trying to find it! Speaker included. Requires one (1) "9V" battery

LED Robot Blinker

K-17

Learn about free-running oscillators. You'll have fun building, displaying and learning about the LED Robot Blinker. Requires one (1) "9V" battery

Digital Bird

K-19

There are all kinds of birds in this world, singing all kinds of songs. But neither you nor they probably have heard anything quite like this! Speaker included. Requires one (1) "9V" battery

Burglar Alarm

K-23

The Burglar Alarm is an easy-to-build alarm control for your car, house, room, or closet. After the alarm is on, the only way to turn it off is to open the switch. Buzzer included. Requires one (1) "9V" battery
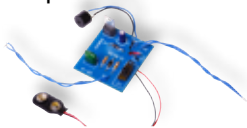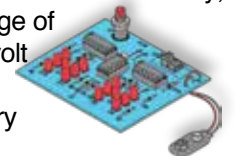
Metal Detector

K-26

Find new money and old treasure. Get started in the fascinating hobby of metal detecting. Requires one (1) "9V" battery

Pocket Dice

K-28

The Pocket Dice is a handy little project to be used with any game of chance. Since it uses CMOS circuitry, it has the advantage of operating off a 9-volt battery. Requires one (1) "9V" battery
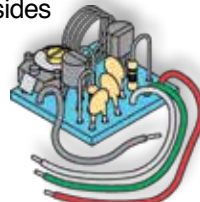
One Button Bandit

K-34

Press the button and away she goes. If three LEDs light, you win! Our version of Vegas' one arm bandit. Requires one (1) "9V" battery
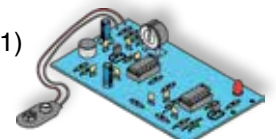
Telephone Bug

K-35

Our bug is only the size of a quarter, yet transmits both sides of a telephone conversation to any FM radio. No battery needed.

Sound Activated Switch

K-36

Clap your hands and the light comes on, clap again and off it goes Many other uses. Complete with microphone. Requires one (1) "9V" battery

Digital Roulette

AK-300

A sure winner with you, your friends and your relatives. Thirty-eight LEDs are arranged in a five inch diameter circle. Requires one (1) "9V" battery
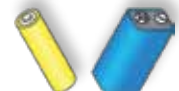
Color Code Calculator for resistors, capacitors, & inductors

CC-100

Pocket-sized calculator in determining values of resistors, capacitors, and inductors. Match colors and get a fast reading of values.

Batteries

AA
General-purp_____590001
Alkaline_____590002

AAA
General-purpose_____590003
Alkaline_____590015

D
General-purpose_____590005
Alkaline_____590006

9V
General-purpose_____590009
Alkaline_____590011

Diode / Transistor Tester

Model DT-100

Features

• Checks transistors and diodes in circuit.
• Identifies NPN or PNP transistors.
• Checks small or large power types.

Assembled in USA

Available in kit Model DT-100K

1% Resistor Substitution Box

Model RS-500

The RS-500 Resistance Substitution Box is a convenient instrument for determining the desired resistance values in circuits under design or test. The resistance obtainable is from 0Ω to 11,111,110Ω in 1Ω increments. All resistors are 1% precision. 1Ω - 40kΩ (1 watt),100kΩ −4MΩ (1/2 watt).

Resistor Substitution Box

Model RS-400

Contains 24 standard value resistors from 10Ω to 1MΩ. All resistors are 5% tolerance, 1/2 watt.

Assembled in USA

Available in kit K-37

Capacitor Substitution Box

Model CS-440

Contains 24 different value capacitors from 100pF to 0.1μF.

Assembled in USA

Available in kit K-38

Multi-Network Cable Tester Kit

Model TCT-255K

This tester is a convenient instrument for testing different unshielded wiring schemed telephone cables with RJ-11 and RJ-45 connectors and coax cables (F and BNC connectors). Cables can be tested before and after they are installed. Soldering required. Requires one (1) 9V battery (part # 590009).

Inlcudes

- Testing cables before or after their installation.
- Mapping function.
- Cable identification (straight or cross-pinned).
- Open or short testing.
- F to BNC connectors included.

- Low battery indicator.
- Auto power-off function (30 s.).
- 9V battery (part # 590009) included.

Assembled in USA

Function Generator Kit

Model FG-500K

Provides sine, square or triangle waveforms continuously variable 1Hz to 1MHz. The amplitude of the sine/ triangle wave forms are adjustable from 0 to 3Vpp. Square wave amplitude is 8V (no load). Output impedance for waveforms are 600Ω. Complete with all parts, PC board, schematic, deluxe case and extensive assembly manual. Soldering required.

Assembled in USA
Available Assembled Model FG-500

Diode/Transistor Tester Kit

Model DT-100K

This dynamic tester allows the checking of transistors and diodes in circuit. Identifies NPN or PNP transistors. Checks all types: small or large power. Identifies anode or cathode of diodes. Soldering required.

Assembled in USA
Available Assembled Model DT-100

Resistor Substitution Box

Model K-37

Contains 24 standard value resistors from 10Ω to 1MΩ. All resistors are 5% tolerance, 1/2 watt.

Assembled in USA

Available Assembled Model RS-400

Capacitor Substitution Box

Model K-38

Contains 24 different value capacitors from 100pF to 0.1μF.. Soldering required.

Assembled in USA

Available Assembled Model CS-440

Anti-Static Wrist Straps

WS-1 (elastic band)

Protects ICs and other equipment from static discharges. Adjustable.

Anti-static Work Mat

Model WS-2

Protects your workstation from static discharge. Made of semiconductive vinyl. Size: 11" x 22".

Model WS-3 Size: 19" x 23"

Made in Taiwan

Power Supply Kit ⚠️ **WARNING**: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

Model XP-720K

Model XP-720K has 3 fully regulated DC supply outputs, two outputs are continuously variable and one is fixed, plus a 12.6VAC output center-tapped to 6.3VAC.

SPECIFICATIONS	
Input Voltage	120VAC, 60Hz
Output Voltage	1) 1.25VDC - 15VDC @ 1A 2) –1.25VDC - –15VDC @ 1A 3) 5VDC @ 3A 4) 6.3VAC @ 1A and 12.6VAC center-tapped @ 1A It features short circuit protection on all supplies.
Dimensions / Weight	3 ½" (H) x 8" (W) x 6 ½" (D) / 7 lbs.
Note	Variable outputs can be stacked to get 3 - 30VDC @ 1A.

Assembled in USA
Available Assembled Model XP-720

FM Wireless Microphone Kit ⚠️ **WARNING**: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

Model AK-710

Now you can hear your voice on the radio! This kit will have you singing in no time at all. After following our easy assembly manual, you'll be ready to transmit your voice on an actual FM Radio. Range up to 100 feet. Soldering required. Requires two (2) "AA" batteries (part # 590001)

Assembled in USA

Variable Voltage Power Supply Kit ⚠️ **WARNING**: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

Model XP-15K

A handy portable power supply features an output voltage variable from 0 to 15V at 0.3 ampere maximum current.

| SPECIFICATIONS	
Input Voltage	120VAC, 60Hz
Output Voltage	1.25 - 15VDC
Output Current	0.5A @ 8V 0.3A @ 12V 0.2A @ 15V
Short Protection	IC Thermo

Assembled in USA

Variable Voltage Power Supply Kit ⚠️ **WARNING**: Cancer and Reproductive Harm www.P65Warnings.ca.gov.

Model K-11

A low cost way to supply voltage to school projects. For breadboarding, prototyping, and training.

SPECIFICATIONS	
Input Voltage	120VAC, 60Hz
Output Voltage	0 - 15VDC @ 250mA AC: 8.5V @ 500mA
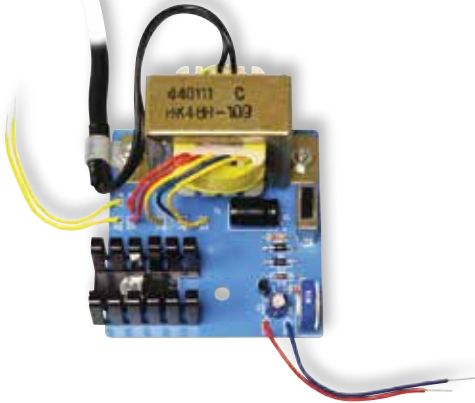
Assembled in USA

Deluxe Full Function Digital Multimeter Kit

Model M-2666K

Features

- Extra-large 1", 3 1/2 digit display
- Transistor tester
- Overload protection
- Capacitance to 200mF
- Diode test
- Audio continuity
- AC/DC current to 20A
- Low battery indication
- Rubber holster & tilt stand
- Safety input sockets & test leads.

SPECIFICATIONS	
AC + DC Volts	200mV, 2V, 20V, 200V, 1,000V, 750VAC
Accuracy	DC: ±(0.5% rdg + 2dgt), 1,000V: ±(0.8% rdg + 2dgt) AC: 200mV, 750V: ±(1.5% rdg + 2dgt), 1mV-100mV: ±(1.0% rdg + 2dgt) Resolution 100µV
AC + DC Current	200µA, 2mA, 20mA, 200mA, 20A
Accuracy	DC: 200µA-20mA: ±(1.5% rdg + 2 dgt), 200mA: ±(2.0% rdg + 2 dgt), 20A: ±(2.5% rdg + 3 dgt) AC: 200µA-20mA: ±(1.0% rdg + 3 dgt), 200mA: ±(1.5% rdg + 3 dgt), 20A: ±(2.0% rdg + 3 dgt) Resolution 0.1µA
Resistance	200Ω, 2kΩ, 20kΩ, 200kΩ, 2MΩ, 20MΩ
Accuracy	200Ω: ±(1.0% rdg + 2 dgt), 2kΩ - 2MΩ: ±(0.8% rdg + 3 dgt), 20MΩ: ±(2.0% rdg + 4 dgt) Resolution 0.1Ω
Capacitance	2nF, 20nF, 200nF, 2µF, 20µF, 200µF
Accuracy	2nF - 20µF: ±(2.5% rdg + 3 dgt), 200µF: ±(5.0% rdg + 3 dgt) Resolution 1pF
Size / Weight	7 1/2" (H) x 3 1/2" (W) x 1 13/32" (D)
Accessories	Test leads, Manual, 9V Battery included

20K/V VOM

Model M-1250K

DSR-85 dial Scale Reading Kit Included.

Features

- 20,000Ω/V
- 23 ranges
- 3 1/2" meter
- Mirrored scale
- Audible continuity
- Checks transistors / diodes
- Safety input sockets and test leads
- 10A DC current & dB scale
- Battery test & tilt stand

Available assembled as Model M-1250

SPECIFICATIONS	
DC Volts	0.1, 0.5, 2.5, 10, 50, 250 – 3% FSR / 1k – 5% FSR
AC Volts	10, 50, 250 – 4% FSR / 1kV – 5% FSR
DC Current	50mA, 2.5mA, 25mA, 250mA – 4% FSR / 10A 5% FSR
Resistance	x1, x10, x100, x1k, x10k – 3% of ARC
Transistor hFE 0-1000	ICEO 15mA, 150mA
DCV Null Meter	0 - ±5V 0 - ±25V ±5% FS Zero centering meter type input impedance 40kΩ/V
Buzzer	Conduct indicator (buzzer is emitted at 20Ω or less.)
Battery Test (BATT)	GOOD _ ? _ BAD Color Coded Scale Load current 250mA
AF Output (dB)	−10dB ~ +22dB (AC10V) ~ +62dB Input impedance 9kΩ/V for output terminal. 0dB/0.775V (1mW through 600Ω impedance circuit)
Size	5 29/32" (H) x 3 23/32" (W) x 1 1/4" (D)
Accessories	Test leads, Manual, 9V and (2) 1.5V AA batteries

Digital Multimeter Kit

Model M-1008K

Features

- Low cost
- 3 1/2 digit LCD
- 19 ranges
- Transistor test
- Diode test
- Overload protection
- Pocket-size

Available assembled as Model M-1000E

SPECIFICATIONS	
DC Volts	200mmV, 2V, 20V, 200V, 1,000V
AC Volts	200V, 750V
Accuracy	DC ±0.5% rdg + 2d, AC ±2% rdg + 10d Resolution 0.1mV
Input Impedance	1MΩ
DC Current	200µA, 2mA, 20mA, 200mA, 10A
Accuracy	±1.8% rdg + 2 digits, +2.5% rdg ± 2d (200mA), +3% rdg + 3d (10A) Resolution 0.1µA
Resistance	200Ω, 2kΩ, 20kΩ, 200kΩ, 2MΩ
Accuracy	±1% rdg + 10 digits Resolution 0.1Ω
Size	5" (H) x 2 29/32" (W) x 1" (D)
Accessories	Test leads, Manual

Practical Soldering Project Kit
Model SP-3B

Elenco® Electronics is proud to present another superb solder practice kit designed to meet the ever-increasing demands on proper soldering procedures. Some of the features of this kit are as follows:

- Identifying components
- Color-code reading exercises, resistors, capacitors, and inductors. Includes color code calculator (Model CC-100).
- 163 solder points, standard soldering connections, close-tolerance soldering, and tack soldering.
- Evaluation exam of performed soldering connections. Written & visual.
- Complete voltage and resistance analysis of circuit.
- Desoldering exercise

Requires one (1) 9V battery
Assembled in USA

Practical S oldering Project Kit
Model SP-1A

Working with printed circuit boards is in the future of every electronic technician. Almost every electronic device today has a printed circuit board and whether you are assembling a PC board or repairing it, you must understand the basics of working with these boards.

Good soldering requires practice and an understanding of soldering principles. This solder practice project will help you achieve good soldering techniques, help you become familiar with a variety of electronic components, and provide you with dynamic results. Requires one (1) 9V battery

SP-1A Solder Kit w/ Soldering Iron & Side Cutters - AK-100

Assembled in USA

Surface Mount Technology Solder Practice Kit w/ Training Course
Model SM-200K

The future of electronics is headed for miniaturization through surface mount technology (SMT). Taking our course of training will prepare you for the future. Includes all parts and instructions to give you experience on working with surface mount components. The finished project is a decision maker with 6 flashing LED's to help you make vital decisions. Requires one (1) 9V battery

SM-200K PC board showing practice areas & mounted components

SM-200K in its final assembly as a decision maker

Assembled in USA

Learn Surface Mounting Techniques Function Generator Kits w/ Training Courses Kit
Model FG-600K

These versatile function generators include surface mount components such as IC's, resistors and capacitors. When completed, they provide Sine, Square and Triangle waveforms, continuously variable to 1MHz. Amplitude adjustable. Complete with all parts and PC board. Both include case and extensive training manual. Requires one (1) 9V battery

SPECIFICATIONS	
OUTPUT	
Waveforms	Sine, square, triangle
Frequency	1Hz - 1MHz
Impedance	600Ω ±10%
Amplitude	Sine/triangle: 0-3V; Square wave: 8V
Frequency Variable Range	10:1 or more
Frequency Multiplier	Six decade steps

SINE WAVE	
Distortion	Less than 1% (at 1kHz)
Flatness	+0.05dB (1Hz - 100kHz)
SQUARE WAVE	
Symmetry	Less than 5% (at 1kHz)
Rise / Fall Time	Less than 50/30ns (at 1kHz)
TRIANGLE WAVE	
Linearity	Less than 1% (up to 100kHz)
Power Requirements	9V battery

Assembled in USA

AM/FM Radio Kit and Training Course

1 INTEGRATED CIRCUIT, 14 TRANSISTORS, AND 5 DIODES

Model AM/FM-108CK

Training course of 56 pages is divided into 9 lessons; Audio Amplifier, AM Detector, AM IF, AM Amplifier, AM Mixer & Oscillator, FM Detector, 1st FM IF, 2nd FM IF, FM RF Stages. "Superheterodyne" designed to receive standard AM (amplitude modulation) and FM (frequency modulation) broadcast frequencies. New transistor module allows you to switch between the modern integrated circuit (IC) technology and the original transistor technology. Includes radio mounting stand. Requires one (1) 9V battery.
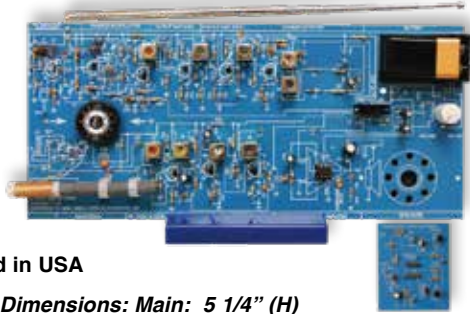
Assembled in USA

PC Board Dimensions: Main: 5 1/4" (H) x 11 5/8" (W) Module: 2 3/8" (H) x 2" (W)

Two IC FM Radio Kit

Model FM-88K

The ELENCO® FM-88K Kit is a monophonic, two-IC, FM (frequency modulation) receiver designed to receive FM signals in the frequency range (88-108MHz). It uses electronic auto-scan to search for FM stations. This scan system is done with two button switches - one switch scans up, the other resets to the start of the tuning position. Requires one (1) 9V battery.

Made in Burma

Available in retail packaging as WeMake WMSK200
PC Board Dimensions: 3 3/8" (H) x 5 1/4" (W)

AM Radio Kit and Training Course

1 INTEGRATED CIRCUIT, 7 TRANSISTORS, AND 2 DIODES

Model AM-550CK

Training course divided into 5 lessons: Audio Amplifier, Detector, IF Amplifier, Oscillator, and Mixer - integrated circuit technology now included. "Superheterodyne" designed to receive standard AM (amplitude modulation) broadcast frequencies. Includes radio mounting stand. Requires one (1) 9V battery.

Assembled in USA
PC Board Dimensions: 3 1/2" (H) x 10 1/2" (W)

# Two IC AM Radio Kit

Model AM-780K

New Design - Easy-to-Build complete radio on a single PC board. Unique design allows you to place parts over its corresponding symbol on the PC board. Teaches the basic theory of AM radio operation.

Detailed instructions and illustrations make it an easy and educationally sound project. Requires one (1) 9V battery.

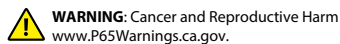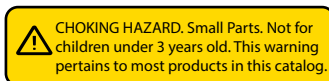**Assembled in USA**
PC Board Dimensions: 3 7/16" (H) x 5 5/16" (W)
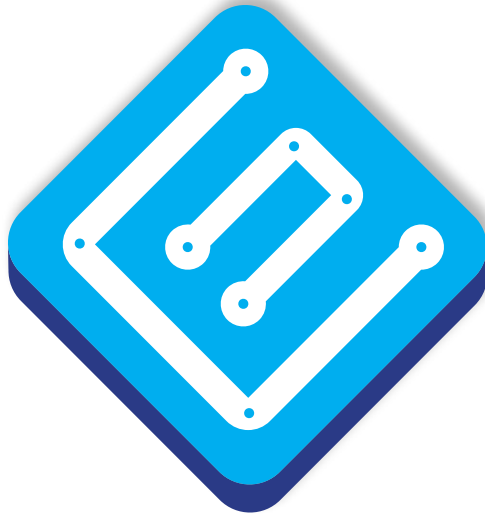
ELENCO ELECTRONICS, INC.
150 Carpenter Avenue, Wheeling, IL 60090, USA
(847) 541-3800 or (800) 533-2441
Fax: (847) 520-0085

Get inspired... www.elenco.com

Not responsible for typographical errors.
Colors, styles and case quantities are subject to change without notice

"The best way to learn is by doing"
Gil Cecchin, Co-founder of Elenco Electronics, Inc.

Catalog #55

⚠ CHOKING HAZARD. Small Parts. Not for
children under 3 years old. This warning
pertains to most products in this catalog.

⚠ **WARNING**: Cancer and Reproductive Harm
www.P65Warnings.ca.gov.

This warning pertains to many products in this catalog.