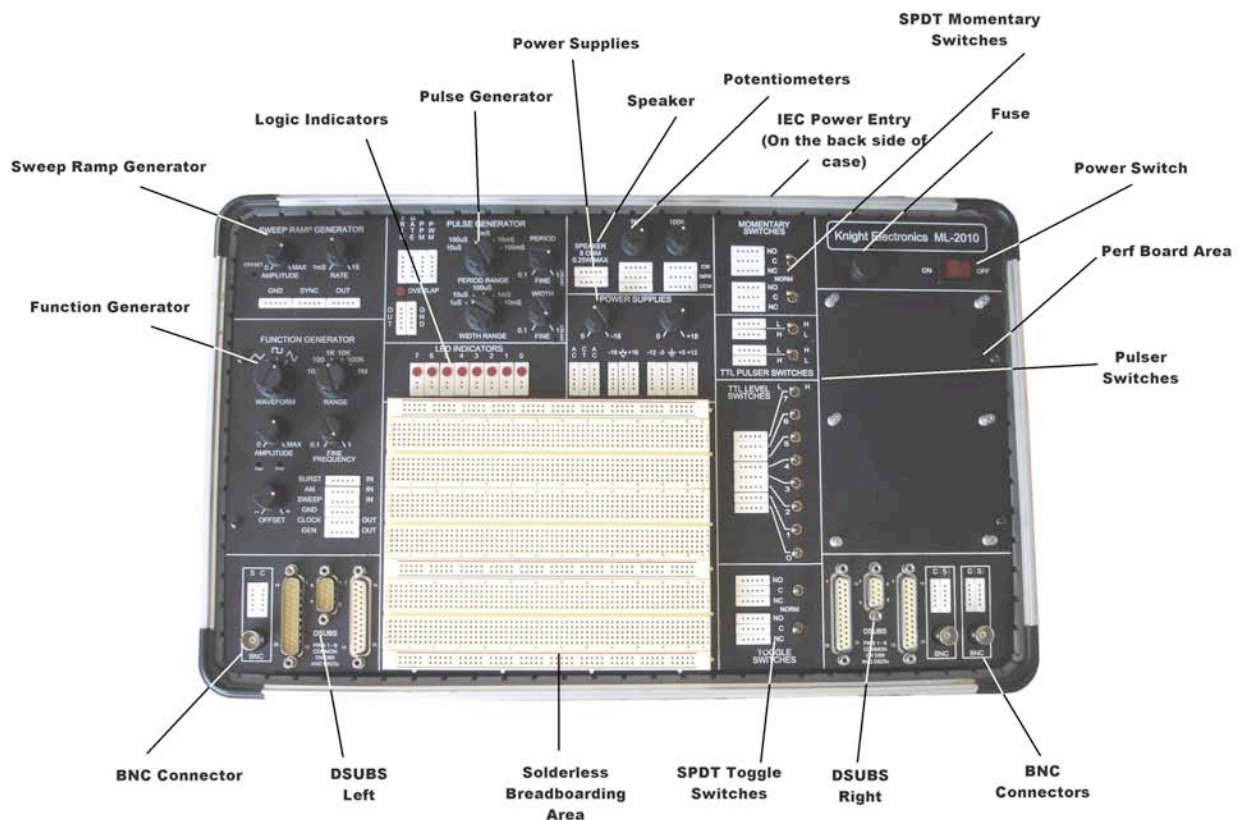
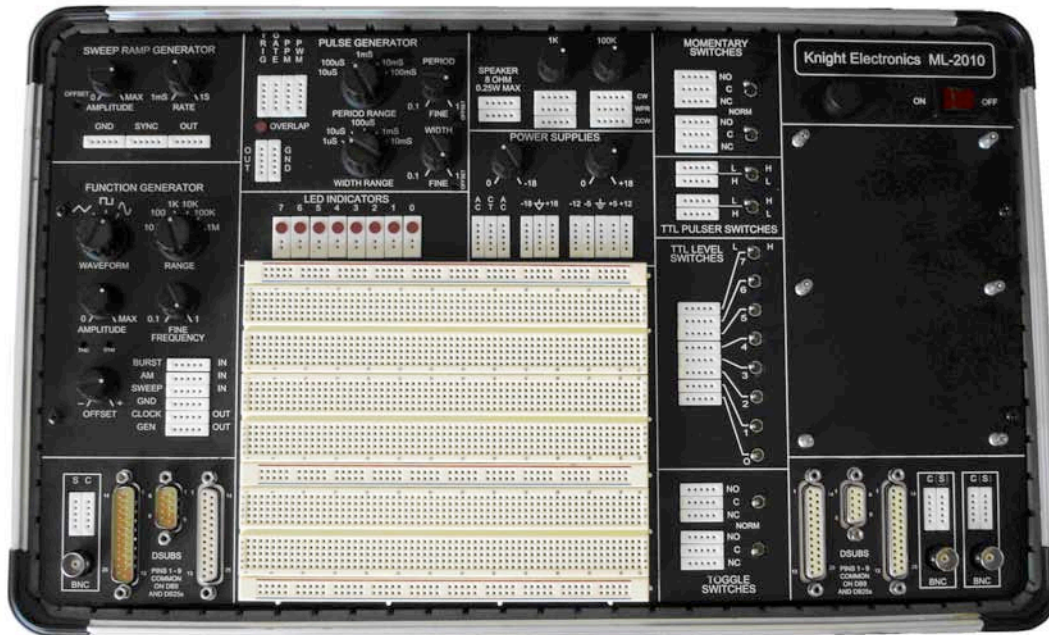


KNIGHT ELECTRONICS

ML2010 MINI LAB



The ML2010 is a complete prototyping station and has been designed to consolidate all of your test equipment needs into one compact package. This miniature laboratory used in conjunction with an oscilloscope and multimeter puts everything you need at your fingertips for building and testing all types of digital and analog circuits. The features incorporated in this equipment are perfect for the hobbyist, designer, technician, and student in electronics.



SPECIFICATIONS

POWER INPUT: 120 VOLT AC 50/60 HZ
FUSED (2A 250V, 5x20mm GLASS, FAST ACTING)
LIGHTED POWER ON INDICATOR

DC POWER SOURCES: +5 VOLTS $\pm 3\%$ @ 1 AMP
-5 VOLTS $\pm 3\%$ @ 1 AMP

+12 VOLTS $\pm 3\%$ @ 1 AMP
-12 VOLTS $\pm 3\%$ @ 1 AMP

0 TO $>+18$ VOLTS VARIABLE @ 1 AMP
0 TO >-18 VOLTS VARIABLE @ 1 AMP
(ISOLATED GROUND FOR VARIABLE SUPPLIES)

0.1% LINE REGULATION
0.1% LOAD REGULATION

SHORT CIRCUIT AND THERMAL OVERLOAD PROTECTED

AC POWER SOURCE: 15 VOLTS CENTER TAPPED @ 500 MILLIAMPS

PULSE GENERATOR: CONTINUOUSLY VARIABLE IN FIVE DECADE RANGES:
PULSE WIDTH: $\leq 100\text{nSEC}$ TO $\geq 10\text{mSEC}$
PULSE REPETITION: $\leq 1\mu\text{SEC}$ TO $\geq 100\text{mSEC}$

OVERLAP INDICATOR

CAPABLE OF 100% DUTY CYCLE

PULSE POSITION AND WIDTH MODULATION INPUTS

TTL COMPATIBLE GATE AND TRIGGER INPUTS

RISE AND FALL TIMES LESS THAN 10nSEC

SWEEP RAMP GENERATOR:

ADJUSTABLE PERIOD - $\leq 1\text{mSEC}$ TO $\geq 1\text{SEC}$

ADJUSTABLE 0 TO 3.7 VOLT OUTPUT AMPLITUDE

NEGATIVE LINEAR RAMP OUTPUT FOR LINEAR SWEEP

SEPARATE TTL COMPATIBLE SYNC OUTPUT

FUNCTION GENERATOR:

SINE, SQUARE, OR TRIANGLE WAVE OUTPUT

0 TO 18 VPP OUTPUT AMPLITUDE
~500 OHM OUTPUT IMPEDANCE
SHORT CIRCUIT PROTECTED

DC OFFSET ADJUSTABLE FROM 0 TO ± 10 VOLTS

SEPRATE TTL/HC COMPATIBLE CLOCK OUTPUT
(20mA OUTPUT AT 0.33VDC (LOW) OR 4.3VDC (HIGH)
RISE/FALL TIME LESS THAN 20nSEC

CONTINUOUSLY VARIABLE FREQUENCY FROM 1HZ TO 1MHZ
IN SIX DECADE RANGES

(NOTE: DUE TO LIMITATIONS OF THE FUNCTION GENERATOR CHIP WAVEFORM
VARIATIONS, OR ROLL OFF, MAY BE EXPERIENCED AT THE MAXIMUM RANGE.)

DISTORTION: SINE WAVE $\leq 2\%$ TO $\geq 100\text{KHZ}$
TRIANGLE WAVE $\leq 2\%$ TO $\geq 100\text{KHZ}$

RISE & FALL: SQUARE WAVE $\leq 20\text{nSEC}$

FREQUENCY MODULATION INPUT
AMPLITUDE MODULATION INPUT
BURST INPUT

SWEEP INPUT CAPABLE OF 1000:1 SWEEP
(START FREQUENCY DETERMINED BY SWEEP RAMP AMPLITUDE
STOP FREQUENCY DETERMINED BY GENERATOR FREQUENCY SETTING)

SPEAKER: 2-1/4" 8Ω 0.25W

POTENTIOMETERS: UNDEDICATED $1\text{K}\Omega$ AND $100\text{K}\Omega$
LINEAR TAPER
20% 0.125W

INDICATORS: EIGHT BUFFERED LED (CMOS/TTL COMPATABLE)

SWITCHES: EIGHT LEVEL - 0V OR +5V UNBUFFERED TOGGLE SWITCHES
TWO UNDEDICATED SPDT TOGGLE SWITCHES [ON – NONE – ON]
TWO UNDEDICATED SPDT MOMENTARY [ON – NONE – (ON)]

PULSERS: TWO TTL LEVEL DEBOUNCED PULSERS WITH COMPLEMENTARY OUTPUTS

INTERFACE: DB25 MALE – DB9 MALE – DB25 FEMALE
DB25 FEMALE – DB9 FEMALE – DB25 FEMALE
(DB25 TO DB25 PINNED 1 TO 1 WITH DB9 COMMON TO FIRST 9)

THREE BNC TO TIE-POINT BLOCK



■ **P/N 10099 Tool Kit Includes:**

All items conveniently packaged in a removable tool pallet and can be placed inside the tool case in most of our deluxe tool kits and Mini-Lab Trainers. Other Items can be added to the package at very attractive prices.

- Brush & Scraper
- Knife & Hook
- 1/4" Nut Driver
- Large Heat Sink
- Solder Pack
- IC/DIP Extractor
- Desolder Wick
- 25W Solder Iron
- Slotted Probe & Reamer
- Solder Iron Holder & Sponge
- Wire Cutter/Stripper
- 6" Stainless Steel Ruler
- Vacuum Desoldering Tool
- 4 1/2" Diagonal Cutters
- 4 1/2" Forged Long Nose Pliers
- Slotted Screwdriver 4" X 3/16"
- #1 Phillips 4" X 3/16"
- #0 Pocket Phillips
- Set of 4 Jewelers Style Screwdrivers