

## Red Box Contents

### Top Tray:

- 2 MM (magnetic multi meters) with leads
- 2 cells, 1.5V AA
- 4 fuses, for MMM
- 1 CLK (clip lead kit)
- 1 roll tape, black vinyl
- 1 piece emery cloth
- 2 magnets
- 1 *ft* resistance wire, MWS type 800
- 1 socket, for 1157 lamp

### Bottom Compartment:

- 1 transformer 120V ac to 12V ac
- 1 pack. aluminum foil for expts. MF & MW

### 12 Kits in Packages:

- 1 MM (multi meter)
- 2 LVPS (low voltage power supply)
- 1 LVPST (low voltage power supply test)
- 1 VI (voltage & current)
- 1 HVPS (high voltage power supply)
- 1 EF (electrostatic force)
- 1 EB (electrical breakdown)
- 1 AMP (amplifier)
- 1 MF (magnetic force)
- 1 MW (microwaves)

## Kits Parts List

Parts marked **(RB)** are in RedBox

### CLK

- 12 alligator clips
  - 12 insulating sleeves, black\*
  - 10 alligator clips
  - 10 insulating sleeves, red
  - 4 *ft* wire, #22 black, stranded
  - 4 *ft* wire, #22 red, stranded
- \*use 2 black for transformer**

### MM

- 1 cell, 1.5V AA
- 1 battery holder
- 2 resistors,  $20\Omega$   $1/2W$

### LVPS

- 1 perfboard
- 4 rubber feet
- 1 full wave bridge rectifier
- 1 electrolytic capacitor,  $1000\mu F$
- 1 socket for LM317T regulator
- 1 potentiometer,  $5k\Omega$
- 1 electrolytic capacitor,  $1\mu F$
- 1 resistor,  $390\Omega$   $1/2W$
- 1 *ft* wire, #22 bare solid
- 1 voltage regulator LM317T

### LVPST

- 1 resistor,  $2.4\Omega$   $2W$
- 1 lamp #1157 automotive
- 1 heat sink for LM317 regulator

### VI

- 3 lamps, #47 6.3V 0.15A
- 3 lamp holders
- 3 resistors,  $43\Omega$   $1/2W$
- 1 electrolytic capacitor,  $1000\mu F$
- 1 *ft* wire, #22 insulated stranded

## HVPS

- 1 transistor, 2N3055T
- 1 socket, transistor
- 1 heat sink, clip on
- 2 diodes, 1N5062
- 1 ferrite core inductor,  $5\text{ mH}$
- 1 capacitor, ceramic disc,  $100\text{ pF}$
- 2 capacitors, ceramic disc,  $470\text{ pF}$
- 1 capacitor, ceramic disc,  $1000\text{ pF}$
- 1 resistor,  $8.2\text{ k}\Omega$   $1/2\text{ W}$
- 2 resistor,  $1\text{ M}\Omega$   $1/2\text{ W}$
- 1 *ft* wire, #26 insulated solid
- 1 *ft* wire, #22 red insulated solid
- 1 *ft* wire, #22 bare solid

## EF

- 1 strip perfboard
- 2 washers, 1 in. plated steel
- 4 *ft* wire, #30 bare solid
- 1 piece Al foil, 2 in square 0.0003 in thick
- 1 piece sand paper 80 grit

## EB

- 1 clothespin, wooden drilled
- 1– $3/4$  in rod, tungsten 0.040 in dia.
- 2 screws, brass 4-40x $1/2$
- 3 nuts, steel 4-40
- 2 solder lugs
- 1 corner brace, 2 in
- 1 screw, 4-40x $1\frac{1}{2}$ " steel
- 3 washers, #4 flat
- 1 wing nut, 4-40 nylon
- 2 resistors,  $1\text{ M}\Omega$   $1/2\text{ W}$
- 3 *ft* wire, #22 speaker

## MF

- 40 *ft* wire, #26 enameled copper
- 1 piece foam core, 2 in by 10 in (**RB**)
- 2 pins, T-head
- 2 corner braces, 1 in
- 1 piece tape, double sided
- 1 *ft* wire, #22 red insulated stranded
- 1 *ft* wire, #22 black insulated stranded

## AMP

- 1 op amp, LF411
- 1 socket, IC 8 pin dual inline
- 1 potentiometer,  $100\text{ k}\Omega$
- 1 potentiometer,  $5\text{ k}\Omega$
- 3 resistors,  $100\Omega$   $1/2W$
- 2 resistors,  $9.1\text{ k}\Omega$   $1/2W$
- 1 resistor,  $91\text{ k}\Omega$   $1/2W$
- 1 resistor,  $1.3\text{ k}\Omega$   $1/2W$
- 1 resistor,  $150\text{ k}\Omega$   $1/2W$
- 1 capacitor,  $0.05\mu F$
- 1 *ft* wire, #22 red insulated solid
- 1 *ft* wire, #22 bare solid

## MW

- 1 diode, Schottky 1N5711
- 1 capacitor,  $33\text{ pF}$  ceramic disc
- 4.5 *in* wire, household 14x2 w/ground(NM)
- 4 *ft* wire, 2 conductor shielded
- 3 *ft* wire, #22 speaker (from EB and MI)