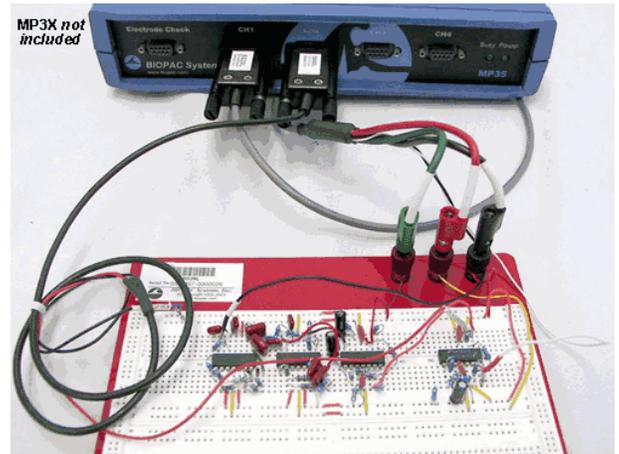


SS39L BREADBOARD

The Bioengineering Breadboard Lab consists of circuitry hardware and eight projects (with schematics and design notes) that demonstrate a very important subset of circuit design for recording and processing physiological signals. Students will use the MP36/35/46/45 and BSL *PRO* software to evaluate their designs. See Lessons H25, H26.

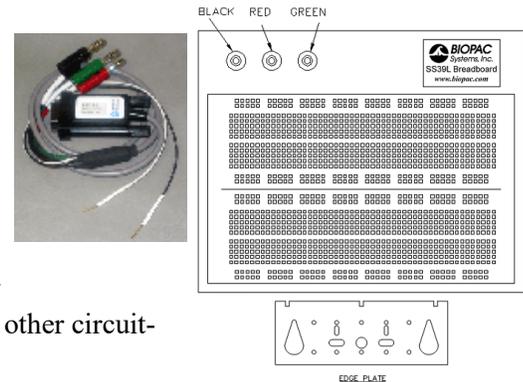
Project Book includes schematics for:

- Lab 1: Square Wave Oscillator
- Lab 2: Instrumentation Amplifier
- Lab 3: High Pass Active Filter
- Lab 4: Active Gain Block and Low Pass Filter
- Lab 5: Notch Filter for 50/60 Hz Rejection
- Lab 6: QRS Detection: Band Pass Filter
- Lab 7: QRS Detection: Absolute Value Circuit
- Lab 8: QRS Detection: Low Pass Filter and Overall System Test



Circuitry Hardware

- Breadboard
- Signal/Power Cable:
 - 3 x Power Plugs: Green -5 V, Black GND, Red +5 V
 - 2 x Signal Wires: White-Signal, Black-GND
 - Built-in automatically resettable fuse
- Signal Cable: 2 x Signal Wires: Red-Signal, Black-GND
- Electrode Lead Interface: enables use of SS2L Lead Assembly
- Accessory Kit: capacitors, diodes, resistors, jumper wires, and other circuit-building components



ACCESSORY OPTIONS

BSL-BMEACC BREADBOARD ACCESSORY KIT

Use to add work stations for the SS39LB Breadboard. Students can build a lab and rotate the power and signal cables from the SS39LB to connect to the Biopac Student Lab software and test the design.

Includes: breadboard, capacitors, diode, ic, ic quad OP-AMP, jumper wire kit, and resistors.



Important! BSL Breadboard Accessory Kits are *not interchangeable*. BSL-BMEACC must be used for the H25-26 QRS detector lab set and the [BSL-BMEACC1](#) kit is only compatible with the H40 Robotic Arm lab set.

BSL-BMEACC Components

Jumper Wire Kit (SS39L)

Multiple:

Capacitor BP 10uF

Capacitor FILM 0.047UF 5% 63VDC Radial

Capacitor FILM 0.47UF 63VDC Radial

Capacitor FILM 0.1UF 5% 100VDC Radial

Capacitor MF .22uF 5%

Capacitor SC .01uF 10% .1"LS

Diode 1N4148

IC Quad OPAMP LMC6484-AIN rail

IC LM324

Resistor 1/4W 1% 1K

Resistor 1/4W 1% 2.0K

Resistor 1/4W 1% 4.99K

Resistor 1/4W 1% 10K

Resistor 1/4W 1% 12.1K

Resistor 1/4W 1% Axial 14.3K
 Resistor 1/4W 1% 19.6K
 Resistor 1/4W 1% 23.7K
 Resistor 1/4W 1% 24.3
 Resistor 1/4W 1% 24.9K
 Resistor 1/4W 1% 28.7K

Resistor 1/4W 1% 45.3K
 Resistor 1/4W 1% 100K
 Resistor 1/4W 1% 200K
 Resistor 1/4W 1% 226K
 Resistor 1/4W 1% 237K
 Resistor 1/4W 1% 453K

SS60LB SIGNAL CABLE FOR SS39LB BREADBOARD



Use this signal cable to add signal inputs to the SS39LB Signal Processing Breadboard, which ships with one combination power/signal cable.

BSL-TCI22 ELECTRODE LEAD INTERFACE



The electrode interface connects the SS2L Shielded Lead Assembly to the SS39LB Breadboard for circuit configurations that require electrodes. One BSL-TC122 is shipped with the SS39LB; SS2L not included.

NOTE: SS39L previously included cable SS39LA and SS60LA; current customers can use those older cables to run lesson set H25-H26 but upgrading cables to SS39LB and SS60LB is strongly recommended to run lesson set [H40 EMG-Controlled Robotic Arm](#) or future BME breadboard lessons.

