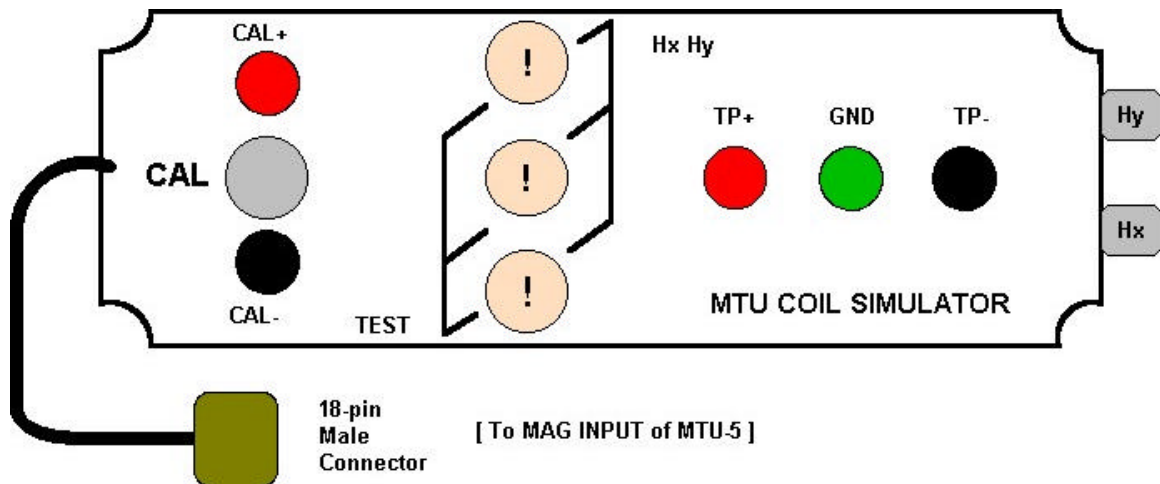


MTU COIL SIMULATOR

The MTU COIL SIMULATOR was developed to test the COIL POWER SUPPLY from the MTU-5 or MTU-3H/2H box. It just supplies a load to the +15V and –15V power supply module on the MTU power supply board. The load is set to simulate 3 x MTC-50 coils.



1. COIL POWER SUPPLY TEST:
 - 1) Connect the 18-pin cable end to the MTU box MAG INPUT connector.
 - 2) Turn the MTU box ON.
 - 3) Check **TP+** to **GND**. A normal DC reading is between +14.8 and +15.1Vdc.
 - 4) Check **TP-** to **GND**. A normal DC reading is between -14.8 and –15.1Vdc.
2. COIL CALIBRATION SIGNAL TEST:
 - 1) Connect the 18-pin cable end to the MTU box MAG INPUT connector.
 - 2) Turn the MTU box ON.
 - 3) Use WinHost to change the MTU MODE to COIL CALIBRATION.
 - 4) Connect an oscilloscope to the BNC connector labeled **CAL**.
 - 5) Check the sensor calibration waveform. It should approximate an squarewave, because a filter that simulates the frequency response of the COIL modifies it. The Amplitude should be between 0 and 2.5Vdc.
3. COIL CALIBRATION TEST:
 - 1) Connect the 18-pin cable end to the MTU box MAG INPUT connector.
 - 2) Set ALL three switches on the MTU COIL SIMULATOR to **TEST** mode.
 - 3) Turn the MTU box ON. Use WinHost to change the MTU MODE to SETUP.
 - 4) Change the SENSOR names to COIL-Hx, COIL-Hy and COIL-Hz.
 - 5) Set the Coil Cal Multiplier to 1.
 - 6) Use WinHost to change the MTU MODE to COIL CALIBRATION.
 - 7) Allow calibration to complete. Plot the output *.CLC files.
 - 8) Check peak amplitude of each channel. It should fall into the normal range.

COIL	NORMAL	ONLY 2 of 3 OK	ONLY 1 of 3 OK
Hx	1.00	0.66	0.33
Hy	0.85	0.56	0.28
Hx	0.70	0.46	0.23

4. COIL SIMULATOR MODE:

- 1) Connect the 18-pin cable end to the MTU box MAG INPUT connector.
- 2) Set ALL three switches on the MTU COIL SIMULATOR to **Hx Hy** mode.
- 3) Turn the MTU box ON.
- 4) Connect Hx & Hy outputs of White Noise Generator to **Hx & Hy** inputs.
- 5) Connect Ex & Ey outputs of White Noise Generator to MTU Ex & Ey inputs.
- 6) Use WinHost to change the MTU MODE to SETUP.
- 7) Change the SENSOR names to COIL-Hx, COIL-Hy and COIL-Hz.
- 8) Set the Ex & Ey E-length to 1 meter.
- 9) Set Ex Azimuth and Hx Azimuth to 0 degrees.
- 10) Set the acquisition time: Short test ~ 2 hours, Long test ~12 hours.
- 11) Use WinHost to change the MTU MODE to ACQUISITION mode.

