IHTACP FOR THYMATRON SYSTEM IV
ECT MACHINE

Issue No.						
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Checked By:						

Test No.

Visual Inspection

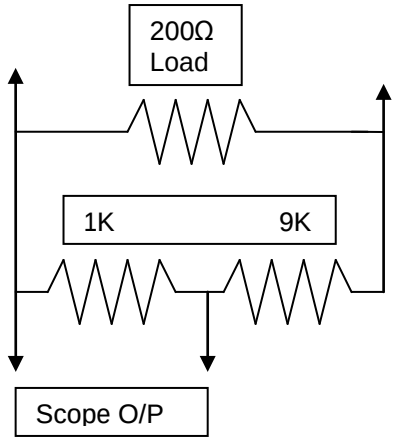
Check the following and repair / replace as necessary

1. Mains plug and fuse
2. Mains cable / connections
3. Instrument Fuses
4. Labels / markings intact
5. Inspect All patient cables for signs of wear and damage

Function Check

Caution high output voltages present Exercise caution during testing

6. Connect patient treatment leads to 200Ω 10 Watt load with built in voltage divider scope output.



7. **Test Current Output:** Set scope to measure 5V/div with 1msec/div time base with a positive phase trigger. Set Thymatron IV output to 100% and press the treat button to activate the generator. Confirm output on scope corresponds to 18Volts(180 without divider) ±7.5%.

8. **Test Pulse Width:** Now set time base to 100µSec/div. Press treat button and measure pulse width is 0.5 msec ±5% from start of rising edge to start of falling edge.

9. **Test Pulse Frequency:** Use the oscilloscope to measure the pulse frequency, set the percentage energy to the values below and press treat and ensure the output is as follows
   100% = 70 Hz ±5% 50% = 40 Hz ±5% 20% = 20Hz ±5%

10. **Test Stimulus Duration:** Set time base to 1.0 sec/div and measure the duration of the entire treatment which should be 8 seconds from beginning to end. Note it might be difficult to obtain reading on a modern scope if so use alternative means to measure treatment length.

10. **Test Impedance Test:** Connect a variable resistor across treatment leads and use Impedance test button to take measurements as variable resistor set to the following values 0, 1000 and 2000 ± 100Ω

11. Test Impedance Test: Now set load to 3000Ω and ensure display reads >3000 and flashes

12. EEG Amp Gain Test: Use voltage divider to reduce to output of signal generator down 200µV p-p at 10 Hz. Common all the + leads from EEG cable to the positive output from signal generator then common all the – leads and ground lead to the negative output.
Switch on the EEG chart and ensure the signal output is 1cm or 200 µV.

13. EEG Amp Gain Test: Repeat test 12 for both 1 Hz and 25 Hz and ensure the amplitude of the voltage begins to attenuate for both values.

14. EEG Amp Noise test: Connect all EEG outputs together using a 5K resistor for each lead then with the gain on the unit up full (50µV/cm) ensure noise is no greater than 5 µV.

15. EEG Amp Sound test: Connect EEG input to signal generator as test 13 and the ECT output to the dummy load. Press the treat button, after treatment completed modulate the input frequency up and down and ensure the tone adjusts appropriately.

Electrical Safety Test

17. Perform electrical safety test Class 1 type BF
18. Attach serviced by label