INSTRUCTION MANUAL

MiniSim 330

EEG Simulator

Netech Corporation
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Dear User:

We appreciate your purchase of the MiniSim 330 EEG Simulator. Properly used, the instrument will deliver years of high performance and accuracy.

This instruction manual has been designed as a tool to assist you in getting the most from your MiniSim EEG. In order to properly use and to maintain this instrument, please read the manual carefully.

Netech is recognized as an innovative designer and manufacturer of advanced biomedical and industrial test instruments. We are ISO 9001-2000 Certified and fully committed to a continuous improvement process. Further, we guarantee absolute satisfaction with our products.

Your business is important to us and we are dedicated to providing you with the best customer and technical service possible. Please contact us should you have any questions or concerns regarding your instrument.

We hope you will consider us again when you have a requirement for accurate, reliable, affordable test instruments.

Sincerely,
NETECH CORPORATION

Copyright

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Quality Assurance

Netech Corporation is ISO 9001-2000 Certified. This instrument was thoroughly tested and inspected according to Netech's ISO 9001-2000 quality standards (ISO/IEC 17025) and test procedures, and was found to meet those specifications when it was shipped from the factory.

Warranty

Netech warranties the MiniSim 330 EEG for one year from the date of its original purchase against defects in materials and workmanship.

During the warranty period, we will repair or, at our option, replace at no charge a product that proves to be defective, provided you return the product shipping prepaid to Netech Corporation. This warranty does not apply if the product has been damaged by accident or misuse, or as the result of service or modification by other than Netech

Corporation, or if its serial number is defaced or removed.

Netech reserves the right to discontinue the MiniSim 330 EEG at any time, and change its specifications, price, or design without notice and without incurring any obligation. Netech guarantees availability of service parts for 5 years after the manufacture of the unit is discontinued.

The warranty is void if you elect to have the unit serviced and / or calibrated by someone other than Netech.

The purchaser assumes all liability for any damages or bodily injury that may result from the use or misuse of the unit by the purchaser, his employees, agents or customers.

In no event shall Netech Corporation be liable for consequential damages

Trademarks

Netech and MiniSim 330 EEG are trademarks of Netech Corporation. Any other trademark names used in this manual are only for editorial purposes and the benefit of the respective trademark owner, with no intention of improperly using that trademark.

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GENERAL DESCRIPTION

The MiniSim 330 EEG Simulator is a unique stand-alone simulator designed to test EEG recorders and sleep study monitors. The MiniSim 330 EEG simulates microvolt levels of ABR, sine, triangle, and square waveforms.

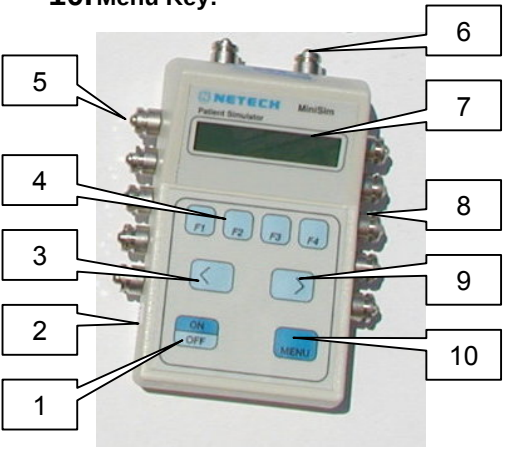
The instrument has a 2 line 16 character LCD display and 8 key keypad. It is menu driven via the tactile keys.

The small hand held instrument is powered by one 9 Volt battery. The MiniSim 330 is CE marked and is shipped with a Certificate of Calibration traceable to the NIST.

The MiniSim 330 EEG Simulator is a rugged instrument that performs quickly, accurately, and with ease.

CONTROLS AND INDICATORS

1. **On-Off Key.**
2. **AC adapter connection.**
3. **Left Arrow Key 🡐.**
4. **F1, F2, F3, F4 Function Keys.**
5. **Negative lead connectors.**
6. **Reference ground connectors.**
7. **LCD Display.**
8. **Positive lead connectors.**
9. **Right Arrow Key 🡒.**
10. **Menu Key:**



When the MiniSim 330 Simulator is turned on a test routine is performed and the model and software version will be displayed followed by “EEG Simulator ABR Sin Sqr Tri”. Menus are arranged in a tree structure.

1. Connect the MiniSim 330 to the instrument being tested using the positive, negative, and reference connectors as appropriate. Refer Appendix1 for connection diagram)
   (Refer to Appendix 1 for connection Drawing)
2. Push ON/OFF Key to turn the MiniSim on.
3. Select the desired waveform by pushing F1 for ABR, F2 for Sin, F3 for Sqr, or F4 for Tri
4. If ABR is selected “1KHz ABR @ 0.64 μV Spike” will be displayed.
5. If Sin, Sqr, or Tri waveform is selected “Freq” and “Ampl” will be displayed.
6. Push the F1 Key to select Frequency and the F2 Key to select Amplitude.
7. Push the F1, F2, F3, or F4 Keys to select the desired frequency or amplitude. The selected value will be displayed.
8. Press the left arrow key ← or right arrow key → to scroll to the other frequency and amplitude choices.
9. To return to the previous menu push the MENU key.

CALIBRATION

The MiniSim 330 EEG Simulator is shipped from the factory fully calibrated with a Certificate of Calibration traceable to the NIST. Annual calibration is recommended. Contact the Customer Service Department for instructions for returning the instrument to Netech for either calibration or repair.

SPECIFICATIONS

ABR Waveform: 1 KHz, 0.64 μV
Sine, Square, Triangle Waveforms:
Frequencies: 0.1, 2, 5, 50, 60 Hz
Amplitudes: 10, 30, 50, 100, 500 μV and 1, 2, 2.5 mV.
Operating Temperature: 15° C to 35° C.
Storage Temperature: 0° C to 55° C
Accuracy: ± 1%.
Power: One 9 Volt Alkaline Battery.
Weight: 10 oz. (.28 kg) With Battery.
Dimensions: 5.5 X 3.5 X 1.5 in.
(14 X 8.9 X 3.8 cm.)

ACCESSORIES

Description	Part Number
User Manual	330-Manual-Rev 3
Soft Carrying Case	301

Designing and Manufacturing Innovative Biomedical and Industrial Test Instruments since 1987.

- Electrical Safety Analyzers
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- Defibrillator Testers
- Pacemaker Analyzer
- Patient Simulators
- Infusion Pump analyzers
- Ultrasound Watt Meter
- Flow meter
- Tachometer
- Light Meter
- Laser meter
- NIBP Simulator
- Spo2 Simulator
- BioMedical test Kit (BTE1)

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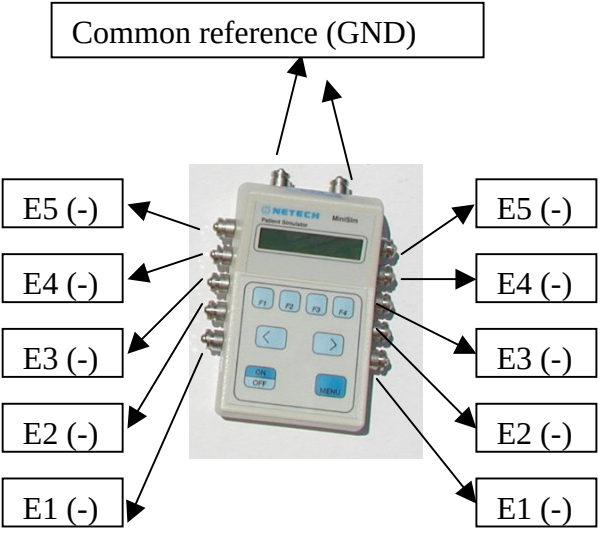
Appendix1

Netech EEG Simulator 330 – Connection Drawing



Note: The simulator differential outputs are available through the Cup electrode adapter as shown above. The out

put signal is paired with signal polarity as shown. The common mode reference is at the top. There are 5-paired outputs.

E1(-) and E1(+) makes one pair (Channel 1),
E2(-) and E2(+) makes second pair (Channel 2).
E3(-) and E3(+) makes third pair (Channel 3).
E4(-) and E4(+) makes fourth pair (Channel 4).
E5(-) and E5(+) makes fifth pair (Channel 5).