



**NATIONAL INSTITUTE OF MENTAL HEALTH & NEURO SCIENCES**  
(Institute of National Importance), P.B. No. 2900, Hosur Road, Bengaluru – 560 029  
Ph: 26995023 to 25 / 5090 E-mail: [aaos@nimhans.ac.in](mailto:aaos@nimhans.ac.in)  
Fax: 080-26571563/26564830/2121/6811 Website: [www.nimhans.ac.in/tender](http://www.nimhans.ac.in/tender)

---

STRD4/VENKAT/PSY/2020-21

02.02.2021

**Subject: Purchase of Electromyography Multichannel Pre-amplifier for Dr. Venkatasubramanian,  
Dept. of Psychiatry, NIMHANS (Project)**

A request letter has been received from Dr. Venkatasubramanian from Dept. of Psychiatry for procurement of “**Electromyography Multichannel Pre-amplifier**” on proprietary basis from **M/s. Cambridge Electronic Design, England (Manufacturer) through M/s. Aerobe Medicare Pvt. Ltd., New Delhi.**

The proprietary certificate, specification and authorization certificate of above mentioned equipment/consumable is being uploaded on NIMHANS website for open information to invite objection, comments, if any, from any manufacturer regarding proprietary nature of the item within 14 days from the date of issue/uploading of the notification giving reference **STRD4/VENKAT/PSY/2020-21**. The comments should be sent to **Shri D.P. Nagaraj, Administrative Officer (Purchase) on or before 16.02.2021 up to 03:30 p.m.** failing which it will be presumed that any other vendor/company is having no comment to officer and case will be decided purely on merits.

**SD/-**

**Shri D.P. Nagaraj**

**Administrative Officer (Purchase)**

Enclosures:

1. Proprietary Certificate (SSC) from M/s. Cambridge Electronic Design, England.
2. Authorization Certificate from M/s. Cambridge Electronic Design, England towards M/s. Aerobe Medicare, New Delhi.
3. Proprietary Certificate from Dr. Venkatasubramanian, Dept. of Psychiatry.
4. Specification Sheet of the Equipment/consumable that is to be procured on proprietary basis

**Annexure for EMG (Indent Number: PI/000668/20-21):**

**Name of the item:** Multichannel pre-amplifier for Electromyography (EMG) recordings and Signal (CED, UK) data acquisition and analysis package with the following specifications

**Quantity:** 1

**Technical Specifications:**

**1. Electromyography (EMG) Unit**

- 1.1 EMG unit capable of acquiring data during from at least two muscles simultaneously during transcranial magnetic stimulation (TMS): monophasic and biphasic single-pulse TMS stimuli to cortex to record active/resting motor threshold and motor evoked potentials; monophasic and biphasic paired-pulses to a single cortical region in a single sequence to record Short interval intracortical inhibition (SICI), long interval intracortical inhibition (LICI), short interval intracortical facilitation (SICF), and long interval intracortical facilitation (LICF).
- 1.2 EMG unit should be compatible with standard TMS stimulators by international manufacturers like MagStim and MagVenture.
- 1.3 EMG unit compatible with the Signal (CED, UK) software (version 7 or latest) for acquisition and analysis.
- 1.4 Multi-channel isolated pre-amplifier with two channels electrodes adaptor box and 1.5mm cable, 1.5 mm touch-proof safety socket with USB cable, Serial Connector & Trigger Cable
- 1.5 Signal (CED, UK) software (version 7 or latest) and hardware interface (Micro 1401) to trigger the TMS device and receive signals from the TMS device (stimulation artefacts) and electromyography unit, as well as perform analysis of the EMG data

**2. Support**

- 2.1 Five-years warranty on all hardware and software.
- 2.2 Full technical support in setting TMS parameter, EMG acquisition with the acquisition software.

- 2.3 On-site installation and comprehensive training by a qualified support engineer must be provided at the sites. These equipments are being procured as per multi-centred collaborative project involving NIMHANS, Central Institute of Psychiatry (Ranchi) & Kasturba Medical College (Manipal). The vendor should ensure delivery and installation & maintenance of the equipment at these centres as per project requirements.
- 2.4 The training must be comprehensive and include:
- 2.4.1 Hands on training on setting-up, starting on delivering TMS with concurrent acquisition of EMG.
- 2.4.2 Hands-on demonstration of visualizing, saving and analysing the recorded EMG data in a compatible format
- 2.4.3 Data acquisition and analysis in the Signal (CED, UK) software (version 7 or latest).
- 2.5 Any major upgradation to the software or the hardware within the warranty period should be provided free of cost.
- 2.6 Ag/AgCl sintered ring electrodes (20 nos. per unit) for EMG
- 2.7 State-of-the-art laptop computer system with 14-16 inch monitor to host the trigger and EMG software (Signal) with Intel I6 processor, 8GB RAM, 1TB storage and Wi-Fi / Bluetooth connectivity
- 2.8 One-unit cost and the quantity per unit to be quoted for all the mandatory accessories and consumable items to be provided.**

### **3. Others**

- 3.1 List of users with contact details (e-mail & telephone / mobile number) in research institutes (India & Abroad) to be provided
- 3.2 The bidder should provide documents to support the compliance with all the technical specifications as annexures. In addition, the bidder should indicate the exact location of the text in the annexure (for example annexure no., page, paragraph, and lines detail) that provides the necessary documentary support for the respective technical specification. Scrutiny for matching the technical specifications will be solely based on the hard copy documents & details of the text location (as specified above) provided with the technical bid, preferably along with cross-referencing from the product website.

- 3.3 Certification: FDA or CE or CDSCO or equivalent certification with validity for the use of equipment in human subjects is mandatory and a copy of the same should be enclosed.
- 3.4 Required Mandatory Accessories to ensure turnkey operation.
- 3.5 The technical bid should be accompanied by an item-wise compliance report (as per enclosed format) that is signed & stamped by the authorized signatory of the bidder in all pages. This compliance report should have reference to the page number of the manual in which the specific technical compliance details with respect to each item (i.e. 1.1., 1.2., 1.3., ...) as per the instructions provided in item no. 8.3 above. The pdf / hard copy of the manual should be submitted along with the technical bid. It is preferable that the vendor provides additional reference to these technical details in their product web site as well.
- 3.6 If requested, the bidder must be able to organize for a physical demonstration of the product at NIMHANS with regards to all the technical specifications mentioned in this document within a notice period of 1 week.

#### **4. Optional**

- 4.1 Quotation for comprehensive maintenance care after 5 years of warranty
- 4.2 Quotation for annual maintenance care after 5 years of warranty

**Quote must have a compliance report on all the above points.**

**The decision of L1 (lowest price bid) will be decided based on the price quoted for sections 1 to 3.**

### Compliance form:

Specification	Compliance (Yes/No)	Reference to the text in brochure with page No. (and indicate reference to the enclosed certificate/document as applicable if any)
<b>1. EMG Unit</b>		
1.1 EMG unit capable of acquiring data during from at least two muscles simultaneously during transcranial magnetic stimulation (TMS); monophasic and biphasic single-pulse TMS stimuli to cortex to record active/resting motor threshold and motor evoked potentials; monophasic and biphasic paired-pulses to a single cortical region in a single sequence to record Short interval intracortical inhibition (SICI), long interval intracortical inhibition (LICI), short interval intracortical facilitation (SICF), and long interval intracortical facilitation (LICF).		
1.2 EMG unit compatible with the Signal (CED, UK) software (version 7 or latest) for acquisition and analysis.		
1.3 Multi-channel isolated pre-amplifier with two channels electrodes adaptor box and 1.5mm cable, 1.5 mm touch-proof safety socket with USB cable, Serial Connector & Trigger Cable		
1.4 Signal (CED, UK) software (version 7 or latest) and hardware interface (Micro 1401) to trigger the TMS device and receive signals from the TMS device (stimulation artefacts) and electromyography unit, as well as perform analysis of the EMG data		
<b>2. Support</b>		
2.1 Five-years warranty on all hardware and software.		
2.2 Full technical support in setting TMS parameter, EMG acquisition with the acquisition software.		
2.3 On-site installation and comprehensive training by a qualified support engineer must be provided at the sites. The training must be comprehensive and include:		

2.3.1	Hands on training on setting-up, starting on delivering TMS with concurrent acquisition of EMG.		
2.3.2	Hands-on demonstration of visualizing, saving and analysing the recorded EMG data in a compatible format		
2.3.3	Data acquisition and analysis in the Signal (CED, UK) software (version 7 or latest).		
2.4	Any major upgradation to the software or the hardware within the warranty period should be provided free of cost.		
2.5	Ag/AgCl sintered ring electrodes (20 nos.) for EMG		
2.6	State-of-the-art laptop computer system with 14-16 inch monitor to host the trigger and EMG software (Signal) with Intel I6 processor, 8GB RAM, 1TB storage and Wi-Fi / Bluetooth connectivity		
2.7	<b>One-unit cost and the quantity per unit to be quoted for all the mandatory accessories and consumable items to be provided.</b>		
<b>3. Others</b>			
3.1	List of users with contact details (e-mail & telephone / mobile number) in research institutes (India & Abroad) to be provided		
3.2	The bidder should provide documents to support the compliance with all the technical specifications as annexures. In addition, the bidder should indicate the exact location of the text in the annexure (for example annexure no., page, paragraph, and lines detail) that provides the necessary documentary support for the respective technical specification. Scrutiny for matching the technical specifications will be solely based on the hard copy documents & details of the text location (as specified above) provided with the technical bid, preferably along with cross-referencing from the product website.		
3.3	Certification: FDA or CE or CDSCO or equivalent certification with validity for the use of equipment in human subjects is mandatory and a copy of the same should be enclosed.		

3.4 Required Mandatory Accessories to ensure turnkey operation.		
3.5 The technical bid should be accompanied by an item-wise compliance report (as per enclosed format) that is signed & stamped by the authorized signatory of the bidder in all pages. This compliance report should have reference to the page number of the manual in which the specific technical compliance details with respect to each item (i.e. 1.1., 1.2., 1.3., ...) as per the instructions provided in item no. 8.3 above. The pdf / hard copy of the manual should be submitted along with the technical bid. It is preferable that the vendor provides additional reference to these technical details in their product web site as well.		
3.6 If requested, the bidder must be able to organize for a physical demonstration of the product at NIMHANS with regards to all the technical specifications mentioned in this document within a notice period of 1 week.		
<b>4. Optional</b>		
4.1 Quotation for comprehensive maintenance care after 5 years of warranty		
4.2 Quotation for annual maintenance care after 5 years of warranty		

**Price quoted format**

Sl.No	Item	Quantity	Amount (inclusive of GST)
1	Electromyography (EMG) Unit	2	
2	Ag/AgCl sintered ring electrodes for EMG	40	
3	State-of-the-art laptop computer system with 14-16-inch monitor to host the trigger and EMG software (Signal) with Intel i6 processor, 8GB RAM, 1TB storage and Wi-Fi / Bluetooth connectivity	2	
4	Optional accessory: Quotation for comprehensive maintenance care after 5 years of warranty	1	
5	Optional accessory: Quotation for annual maintenance care after 5 years of warranty	1	



**PROPRIETARY CERTIFICATE FORM**

1. I hereby certify that the items quoted for are proprietary in nature and are manufactured solely by **Cambridge Electronic Design Ltd, Cambridge CB24 6AZ, England.**

No other makes or models are acceptable for the following reasons:-

**These are proprietary items to be compatible with the existing CED devices at the Department of Psychiatry, National Institute of Mental Health & Neurosciences (NIMHANS) Bangalore**

I hereby certify to the best of my knowledge and belief that the authorized reseller in academic segment for India is

**AEROBE MEDICARE PVT. LTD.**

**Address: K - 92 B, II Floor, Lajpat Nagar - II, New Delhi 110024. India**

**Phone: (11) 6528 0010**

**Fax: +91 11 4607 3966**

**E-mail: [info@aerobe.com](mailto:info@aerobe.com)**

**Website: [www.aerobe.com](http://www.aerobe.com)**

2. And the requirement of the research project will not be met by any substitute stores due to following reason:

**There are no other authorized resellers for this region.**

This is against purchase indent no. PI/000668/20-21 dated 15-01-2021

Dr. Urvakhsh Meherwan Mehta

Associate Professor, Department of Psychiatry

(Co-Principal Investigator)

सह प्राध्यापक मनोरोग

Associate Professor of Psychiatry

मनोरोग विभाग / Department of Psychiatry

निष्ठास / NIMHANS

बेंगलूर / Bangalore - 560 029

# CAMBRIDGE ELECTRONIC DESIGN LIMITED

---

Dr Vanteemar S Sreeraj,  
Department of Psychiatry,  
National Institute of Mental Health & Neuroscience,  
Karnataka,  
Bangalore,  
560029  
India

Technical Centre  
139 Cambridge Road  
Milton, Cambridge CB24 6AZ  
England

Tel: +44 (0)1223 420186  
Email: [info@ced.co.uk](mailto:info@ced.co.uk)  
Web site: [www.ced.co.uk](http://www.ced.co.uk)

11 January 2021

To Whom It May Concern:

Cambridge Electronic Design Ltd. is the sole manufacturer of the 1401 range of data acquisition interfaces and Signal data acquisition and analysis software.

The company does cooperate with Aerobe Pvt Ltd., New Delhi for distribution of our equipment in India. Aerobe is the only authorised distributor in India.

Signal for Windows is unique in that it has the capability to control up to ten magnetic stimulators simultaneously. This coupled with real-time access to incoming data at the 1401 interface means that stimulation can be triggered by waveform conditions as close as possible to the recording site avoiding delays imposed by the host computer.

Signal can be easily configured to deliver trigger pulses and capture data around the evoked response with ease. A built-in scripting language enables further control of the experiment as well as automating standard or custom analysis.

Please feel free to contact me with any questions or further clarification.

Yours faithfully,

Simon Gray  
Sales Manager

# CAMBRIDGE ELECTRONIC DESIGN LIMITED

---

Dr Vanteemar S Sreeraj,  
Department of Psychiatry,  
National Institute of Mental Health & Neuroscience,  
Karnataka,  
Bangalore,  
560029  
India

Technical Centre  
139 Cambridge Road  
Milton, Cambridge CB24 6AZ  
England

Tel: +44 (0)1223 420186  
Email: [info@ced.co.uk](mailto:info@ced.co.uk)  
Web site: [www.ced.co.uk](http://www.ced.co.uk)

11 January 2021

To Whom It May Concern:

Cambridge Electronic Design Ltd. is the sole manufacturer of the 1401 range of data acquisition interfaces and Signal data acquisition and analysis software. We authorise Aerobe Pvt Ltd. of New Delhi to distribute these systems in India.

Please feel free to contact me for any further information or clarification.

Yours faithfully,



Simon Gray  
Sales Manager