

# Wearable Optical Topography WOT-100

[for research purpose]

**HITACHI**  
Inspire the Next

**WOT-100 provides real time measurement up to 4 persons simultaneously\*, in the daily-life-like environment.**

\* System expansion is necessary.

● **Measurable in the daily-life-like environment**

- Measures cerebral cortex activities of forehead portion with Near Infrared Spectroscopy (NIRS) method.
- It enables the measurement in the daily-life-like environment due to the newly developed compact design and wireless data connectivity.

● **Light weight and Wearable**

- No optical fiber cables between headset and signal processing unit.
- Custom-made Irradiation capsule packaging 2 wavelength laser diodes.
- Wearable measurement is allowed by wireless data connection and built-in rechargeable battery.

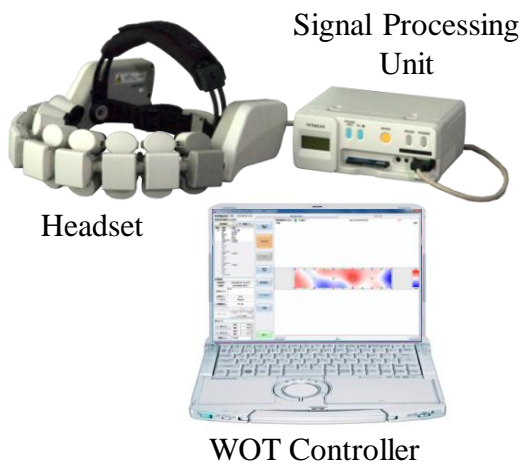
● **Simultaneous real time measurement up to 4 persons**

- Displayable measured data real time up to 4 persons on 1 computer display.
- Useful for the measurement in group works, communications, etc.
- Possible to collect data in of multiple persons at once in the same experimental conditions.

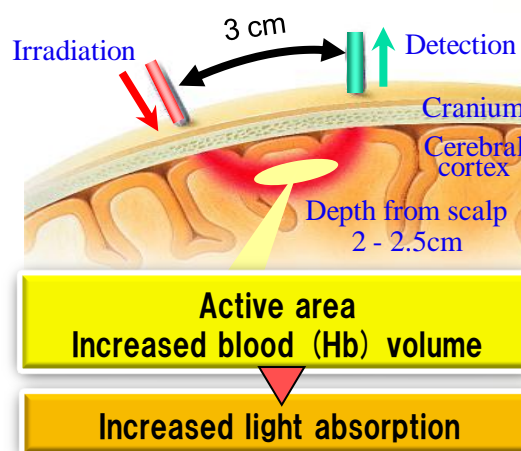
● **Analysis platform**

- Analysis platform "POTATo(Platform for Optical Topography Analysis Tools)" is provided, and downloadable from HITACHI web site. "POTATo" is developed by central laboratory of Hitachi, Ltd.

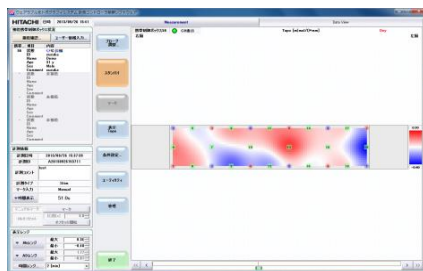
## System configurations and appearances



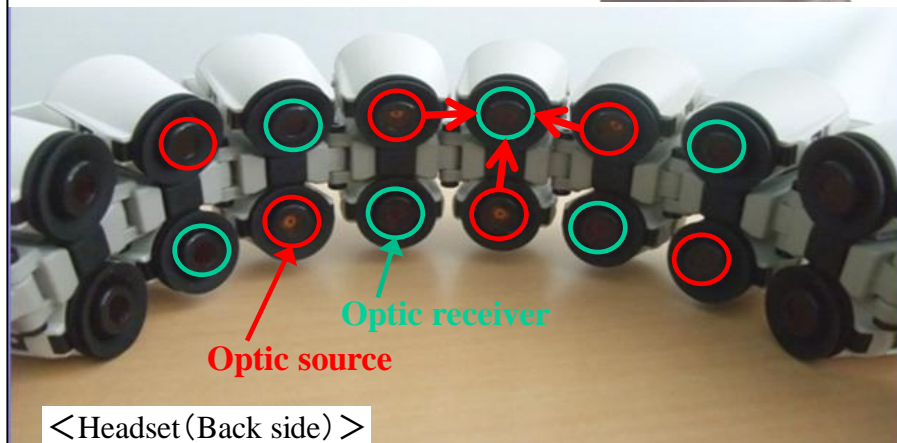
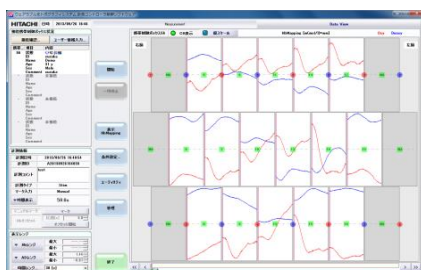
## Measurement principle



## Example of Screen Images



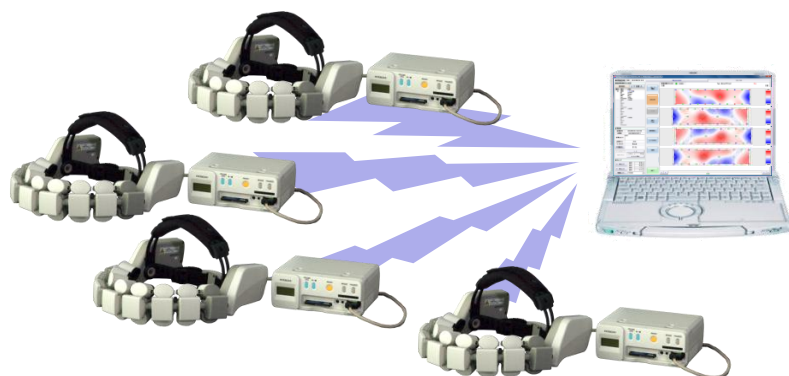
Timecourse Mode



● **WOT-100 is not designed for medical use.**

## Image of connection by wireless LAN

Up to 4 persons measurement simultaneously.



\* System expansion is necessary.

## Standard configurations

### WOT-100 system

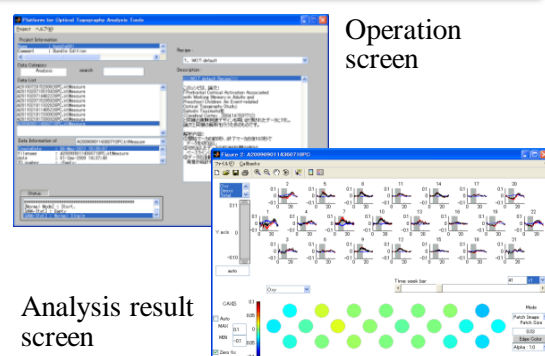
● Headset	1 unit
● Light Shading Sheet	2 units
● Light Shading Cap	1 unit
● Signal Processing Unit	1 unit
● Lithium-ion Rechargeable Battery pack	1 unit
● AC Adapter	1 unit
● Wearable Soft case	1 unit
● WOT Controller	1 unit
● Accessories	
● Wireless LAN Access Point (with LAN Cable)	1 unit
● CF Card Reader	1 unit
● Operations manual	1 unit

## SPECIFICATIONS

Item	Specifications	
Model name	WOT-100	
Channels	16 channels	
Measurement	Relative changes of hemoglobin (Oxy,Deoxy,Total)	
Optics	Laser Diode 705[nm] and 830[nm]	
Sampling Rate	200[ms]	
Simultaneous measurement	Up to 4 units	
Measurement Mode	Wireless Mode / Standalone Mode(Non-Wireless Mode)	
Measurement time	By Battery	Wireless Mode(IEEE802.11b): approx. 2[hrs], Standalone Mode: approx. 2.5[hrs]
	By AC Adapter	48 [hrs]
External input/output	Input: 2ch(analog) Output: 2ch(TTL level)	
Data Output	CSV(Relative change of hemoglobin Oxy, Deoxy, Total)	
Weight / Size	Headset : approx. 650[g], W:260/D:280/H:92[mm] Signal Processing Unit: approx 650 [g], W:150/D:115/H:62[mm]	

## "POTATo" ANALYSIS PLATFORM

- "POTATo" is a platform developed for analysis of Optical Topography by central laboratory of Hitachi, Ltd.
- "POTATo" is free download from HITACHI web site.  
URL: [http://www.hitachi.co.jp/products/ot/analyze/kaiseki\\_en.html](http://www.hitachi.co.jp/products/ot/analyze/kaiseki_en.html)
- "POTATo" is equipped with functions such as moving average, addition average, baseline revision, necessary for analysis.
- MATLAB of Mathworks, Inc. is necessary separately to use the "POTATo". Please confirm the usable version of MATLAB in the above HITACHI web site.



Operation screen

Analysis result screen

## 【 Notice 】

- WOT-100 is designed to measure the forehead portion only. It may not be measurable depending on the forehead shape.
- The Laser is complied to Class 1M (Japanese Industrial Standards) laser products. When using, please do not stare the laser source.
- WOT-100 is designed for the use in Japanese market and European market.
- WOT-100 uses wireless LAN(IEEE802.11b). If many wireless LAN equipments are used, it may block the use of WOT-100 wireless LAN.
- The specifications are subject to change without notice.

### Contact

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### Designed and Manufactured by

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