

Enterotach® Family of Gastrointestinal Sound Analysis Systems

◆ Enterotach® 2D

Specifications:

- 8,000 Hz sound sampling
- Real time sound analysis
- Map up to 1,000 sounds per session
- Metrics from user defined regions include:
 - » sound count
 - » sounds per min.
 - » % time as sound
 - » average sound frequency (Hz)
 - » coordinates
- Graphs results including:
 - » sound locations
 - » individual sound waves
 - » power spectrum of sounds
- Pseudocolor distribution of sounds:
 - » by absolute count
 - » by relative percent
 - » by sound per minute
- Adjustable sensor frame
 - »adjustable arms for body width 17 cm or larger
 - »central On/Off switch
 - »run from single battery
 - »single cable to computer

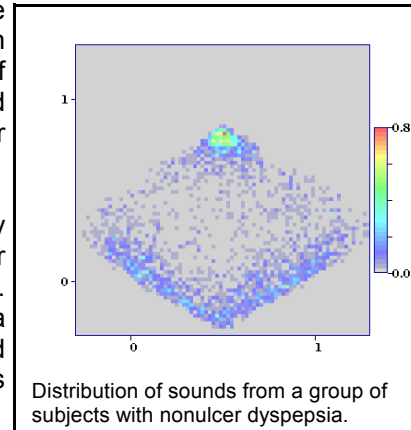
Requirements:

- Windows 98 or greater
- Pentium II, 200 MHz or greater
- One PCI slot
- CD-ROM
- 25-pin Parallel port

Enterotach® 2D is a hardware/software system to simplify the procedure for two-dimensional gastrointestinal sound positional mapping[†]. The system includes a specially designed frame for holding three sound sensors in a set geometric configuration, a high speed PCI data acquisition computer board, and a dedicated sound analysis software package for data reduction.

Enterotach® 2D allows for the automatic calculation of the site of origin of gastrointestinal sounds by a triangulation algorithm using the magnitude of the sound envelope. The result is a two-dimensional projection of the site relative to the surface of the abdomen. Results can be displayed as locations of individual sounds or as sound distributions using a pseudocolor scaled display.

Each individual sound may be analyzed including the power spectrum and times series values. Alternatively, sound sessions from a group of subjects can be combined to display average distributions characteristic of that group.



Distribution of sounds from a group of subjects with nonulcer dyspepsia.



[†]Craine BL, Silpa M, O'Toole C. 2002. Two-Dimensional Positional Mapping of Gastrointestinal Sounds in Control and Functional Bowel Syndrome Patients. *Dig. Dis. and Sci.* 47(6):1290-1296.



Frame for positioning three sensor heads. Heads are attached by articulating joints to ensure contact with the surface of the abdomen.



High speed PCI data acquisition board

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INCORPORATED

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