

BrainRT™ for Epilepsy monitoring

The BrainRT™ equipment is the excellent choice for epilepsy monitoring. Patient comfort is a key feature of the system: ultralight and small amplifiers maximize the mobility of the patient with up to 256 EEG channels available. Error-free stimulation is guaranteed with the software controlled channel selection for stimulation.

With recorder and cameras communicating over the network, the BrainRT™ software provides a modern solution for Long Term Monitoring which is easy to setup and maintain.

Brainbox description

Produced by Braintronics, the Brainbox recorder is a compact EEG amplifier for Epilepsy monitoring. Through daisy chaining of separate units, the amplifier offers up to 256 EEG channels, including an optional SpO₂ channel and event button.



64 channel Brainbox Recorder

Brainbox design:

- Small size (9.5 cm x 9 cm x 3 cm)
- Light Weight (150 grams for 64 channels)

Technical description:

- 64 EEG channels per Brainbox unit
- Configurable sampling rate (256 Hz up to 4096 Hz)
- Optional channels: SpO₂, Event Button, DC channels
- Amplifier resolution: 16 bit
- Communication over IP: Ethernet connection to acquisition post



256 channels Brainbox recorder with IP box and isolation box

Full-HD video with BrainRT™ software

The BrainRT software uses Full HD network cameras for synchronized video recordings, with the powerful option to measure up to **four video streams** at the same time. Camera control is integrated in the BrainRT software for effortless Pan-Tilt-Zoom of the cameras. In addition, multi-camera views are available in BrainRT: one up to four cameras in one window. With these features, BrainRT facilitates HD recordings of seizures without limiting the patient's freedom.



Long Term Epilepsy Monitoring Unit at VUmc with two cameras: one overview capture, one detailed patient capture

Camera features

- **Full-HD resolution (1920 x 1080)**
- **Max. frame rate:** 30 frames per second
- **Pan-Tilt-Zoom** functionality (camera control through BrainRT software)
- **Automatic NightShot**
- **IP camera:** data transfer and camera control through Ethernet connection
- **Highly efficient compression:**
 - 640 x 480 recordings: 450 MB/h
 - Full-HD recordings: 900 MB/h

Real Time video features

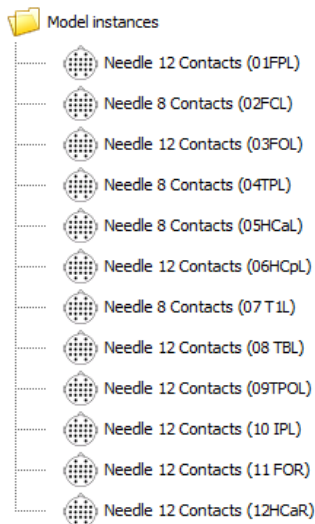
- During the acquisition, BrainRT sends signals and video to a central data share, allowing for **real time access to signals and video** by an unlimited number of BrainRT stations
- In the ongoing recording, all completed video tracks are available for review in synchrony with the EEG signals
- Review and live images can be viewed at the same time with a dual video screen setup

BrainRT™ software for easy operation

Intracranial measurements require personalized measurement protocols. BrainRT provides easy configuration features to map needles and grids on the amplifier channels. Display montages can be added before, during or after the acquisition.

Configuration features

- Models of needles and grids for mapping channels to the amplifier
- Option to label each needle/grid for easy recognition
- One-click methods for making montages with referential, bipolar, common reference, average or source derivation channels during the acquisition



Measurement models for a patient with 12 implanted needles

Measurement viewing features

- Split screen view for simultaneous real time data and recorded data
- Signals divided over two or more monitors for detailed view of real time data and recorded data, with synchronized video recordings
- Multiple time bases for signals and trends
- **Real Time Analyses** provide trends of the signals: spectrogram, dominant frequency, mean phase coherence, HRV and more
- Real Time HFO Filter for High Frequency bursts
- Real Time interface to Matlab for research



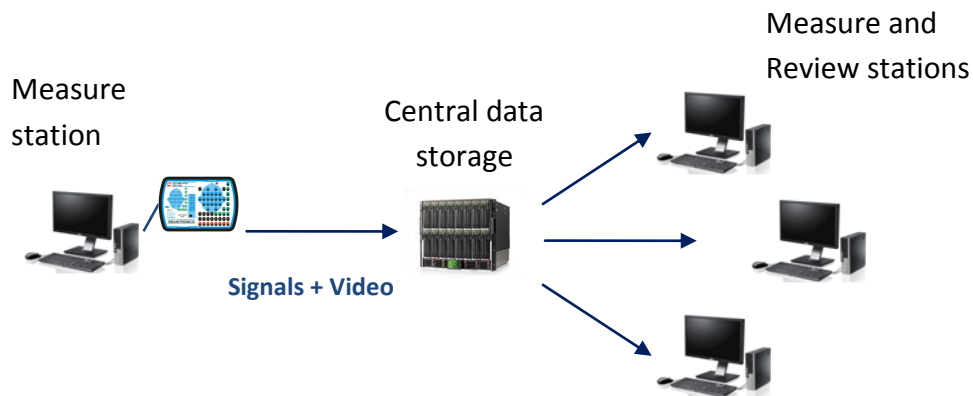
O.S.G. b.v.b.a. Medical Software & Hardware

Stimulation with BrainRT™ equipment

BrainRT™ and Hospital Integration

In the hospital, BrainRT offers many advantages with its centralized data management and integration in the hospital network.

- During the acquisition, signals and video are immediately transferred to the central server, which enables doctors and technicians to monitor live acquisitions on remote review stations.



- BrainRT offers network licenses for review, making the client application accessible to all hospital computers.
- BrainRT communicates with the Hospital Information System, offering the following services:

BrainRT communicates with the Hospital Information System:

- **Patient Query:** upon entry of the patient ID, all patient info is automatically filled in.
- **Appointments:** a list of the appointments is automatically generated based on messages from HIS.
- **Reports** are sent to HIS and appear in the patient's medical record.