



EPDETECT MOBILE PHONE APPLICATION automatically detects epileptic seizures

EpDetect has been designed to automatically detect Tonic-Clonic seizures. When a seizure is detected, Epdetect will automatically notify your carers that a seizure has occurred. It will also provide location information that can be used in conjunction with Google maps to precisely locate your position.

The detector employs sophisticated signal processing to differentiate between normal movements and those associated with a seizure.

Epdetect works by monitoring movement in three dimensions. If the detector sees movement that looks like a seizure, it will trigger the Seizure Detected alarm.

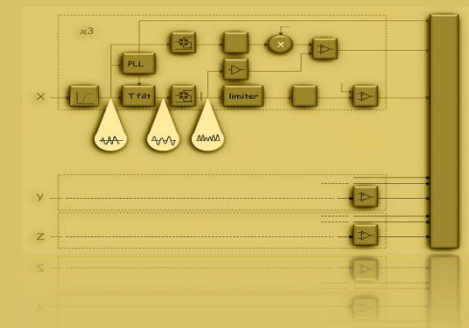
For Epdetect to operate correctly it must be attached to the user. Attaching the phone to the user's belt usually provides good results, as even small movements can be detected. Epdetect cannot detect absence seizures or any seizure that does not produce convulsions (rhythmic shaking movements).

DETECTOR

The detector employs digital signal processing to detect seizures. It looks for movement in the frequency range of 2-5Hz (movements per second) that persist for a period of 10 seconds. The detector will ignore other movements, even if they are of high amplitude (large movements), yet is very sensitive to even very small movement in the correct frequency range.

However, a number of day-to-day activities produce similar signals to those associated with a seizure. Should the detector falsely identify a seizure, simply press the cancel button for 5 seconds to cancel the alarm.

The detector has been designed to err towards safety, meaning it is more likely to falsely detect a seizure rather than fail to detect one. Hence the inclusion of the seizure detected/cancel screen





OPERATION

When you have successfully setup EpDetect, select 'activate' at the bottom right of the EpDetect screen. This will activate the seizure detector. If at any time you need to deactivate the detector, simply select, 'deactivate' on the EpDetect screen.

EpDetect continues to work in the background while you use the phone for making calls, downloading email or while any of the other applications are running.

When a seizure is detected a warning alarm will sound. At this point you have the option of cancelling the alarm, by pressing the 'clear' button (on-screen graphic) for 5 seconds.

Failing to cancel the Seizure Detected screen within 30 seconds ('clear time'), will result in the Seizure In Progress alarm. At this point SMS messages will be automatically sent to your carers.

Before you use EpDetect for the first time, you must enter the phone numbers of your carers, the messages to be sent and the audio alerts that you wish to use.

SETUP

Run the EpDetect application from your program menu. When the EpDetect screen opens, select 'menu' at the bottom left of EpDetect screen, then select 'settings'.

Five further sub menus are available from the 'setting' menu. Select an item then click the phone keypad to enter data.

SUB MENUS

ACTIVATION - optional settings for application, no action required

SOUND - mandatory settings for alarm sounds, check settings

ALARM - mandatory settings for carer's phone number(s) and messages

LOG - optional settings for application log file, no action required

GUI - optional user interface settings and haptic feedback. If ticked, 'prevent external close' automatically restarts the application.

SETTINGS

ACTIVATION:

Activation delay	[1 second]
Auto minimise	[not ticked]
Prevent minimise	[ticked]
Auto sleep	[not ticked]

SOUND:

Play sound	[must be ticked]
Force volume	[must be ticked]
Volume	[slide to max]
Activation sound	[optional *]
Detection sound	[enter file name *]
Alarm sound	[enter file name *]
Deactivation sound	[optional *]

* must be a 'wav' file format

ALARM:

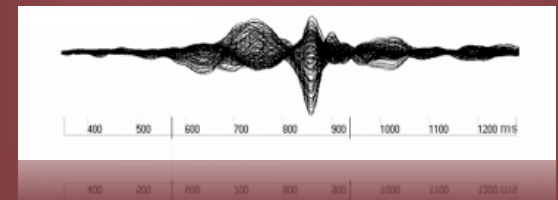
Clear time	[30 seconds]
Send SMS	[must be ticked]
Phone num 1	[enter carer 1]
Phone num 2	[optional]
Phone num 3	[optional]
SMS alarm text	[seizure message +GPS]
SMS cancel text	[recovered message +GPS]
Use GPS	[tick if GPS phone]
Send Google map link	[tick if GPS phone]
GPS fix timeout	[10 mins]

LOG:

Enable log	[not ticked]
Log folder	[if used choose 'temp']

GUI:

Skin	[default VGA]
Enable Haptic Feedback	[not ticked]
Prevent external close	[ticked]



FREQUENTLY ASKED QUESTIONS

Q My phone is Windows Mobile equipped, but it does not have GPS positioning, will it still work?

A Yes, Epdetect will work, but it will not be able to include your position in the messages it sends to your carers

Q How do I know that EpDetect is working correctly, is there a way to test it?

A Yes, activate Epdetect then gently shake the phone in a slow sweeping movement from left to right, about 3 times per second for 10 seconds. If setup correctly the alarm will trigger when the status bar reaches 100%

Q I accidentally changed the advanced settings, how do I change them back to the default settings?

A In the Advanced settings screen, enable the default settings tick box or change any parameters that have different values to the following:

The correct settings are:

Hi = 2; Lw = 0.75; Magic = 0.00033;
Th = 0.2; Frequency = 3; Gain = 5000;
HighPassRC = 0.1; PLLlimit = 0.7;
Samplerate = 25; Lockrate = 0.04;
PLLthreshold = 0.35;
AlarmThreshold = 100;
AlarmLimit = 300;

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DISCLAIMER

EpDetect is supplied free of charge and subject to the terms and conditions contained on our website. We accept no responsibility for the failure of this product to detect any seizure or series of seizures. Automatic messaging requires a mobile phone signal.

EpDetect has been designed as an aid to detecting seizures and monitoring those with epilepsy and should be used in conjunction with established procedures for the treatment and care of those with epilepsy.

Check our website for latest information and software updates www.EpDetect.com

EpDetect Version 0.1.1.1 Beta release

This product was created to help those who have to face the day to day problems associated with epilepsy. We would greatly appreciate any feedback on EpDetect. It will help us improve this product, which we hope could save or enhance the lives of people with this condition.



ADVANCED settings

The 'advanced setting' screen is used to setup the operation of the seizure detector. These settings should not be changed unless you are advised to do so by a member of the EpDetect team.

Changing these settings could result in improper operation of the detector, leading to increased false alarms or failure to detect a seizure.