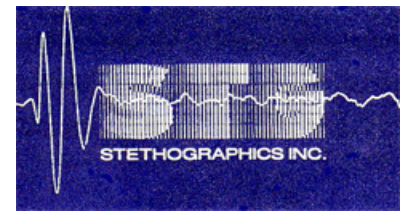# Stethographics
STG for Personal Computers

Overview

The Stethographics STG for PC captures, displays, replays and analyzes chest sounds. STG software has been proven to be effective in evaluating heart illnesses, pneumonia, asthma and chronic obstructive pulmonary disease. It provides objective evidence as a complement to normal auscultation:

- Waveform and time-expanded waveform displays
- Phonocardiogram display
- Automated counting of wheezes, rhonchi, fine and coarse crackles
- Longitudinal studies
- Email ready, enabling examiner to obtain a second opinion or to archive recordings
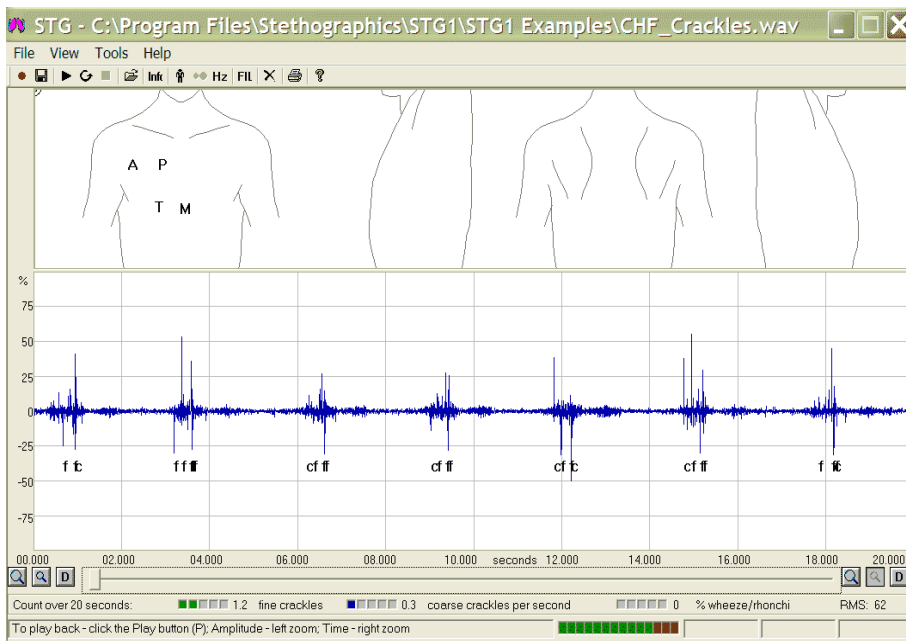
Benefits

By using STG for PC, medical professional can:

- Visualize chest sounds, improving auscultation accuracy
- Quantify crackle counts and wheeze rates, allowing more precise evaluations
- Print and archive chest sound analysis for longitudinal patient tracking
- Learn more about important lung and heart sounds
- Examine specific sounds more closely, thereby aiding diagnosis

Lung Sound Display and Analysis

Automated capture, display and playback of sounds

The STG software allows simultaneous visual and audible detection of the normal and abnormal sounds. The sound recording system has a frequency filter which can tune the system for lung or heart sounds. These sounds can be displayed, recorded and played back, for each auscultation position. Stethographics STG is the only software approved by the FDA for these uses.
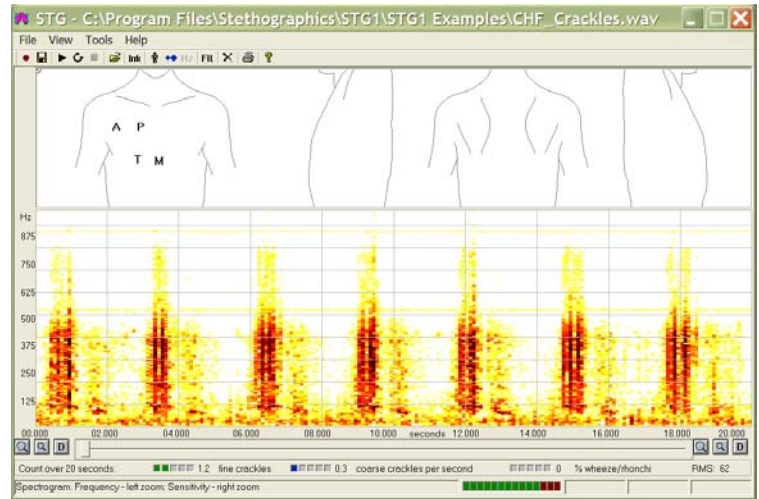
As a check on the physician's interpretation, the STG counts fine and coarse crackles, wheezes, and irregular patterns of inspiration and expiration. These counts are displayed on the toolbar and the waveform is marked accordingly.

Stethographics, Inc.

Waveform displays and sound playback features allow physicians to closely examine specific sounds. For example, is can be used to determine if a patient's short wheeze due to asthma or is a squawk caused by pneumonia or hypersensitivity pneumonitis.

The spectrum (spectra density), of the sound recording can also be displayed by selecting a toolbar icon.

Heart Sound Display and Analysis

Phonocardiogram displays

Phonocardiograms can improve the quality of care by detecting conditions that can be missed by echocardiograms and by eliminating the expense and time for some echo tests. For example, fourth heart sounds provide direct indications of possible diastolic dysfunction.

For heart sounds, the phonocardiogram is displayed in real time. The display can be controlled in both sound amplitude and in the time axis. Sound normalization can also be selected. Heart beat rate is provided on the display. As with lung sounds, heart sounds save be saved to the PC hard drive. Waveform displays can also be printed, allowing this information to be placed into the patient's folder.

Sound Capture and Storage

Capturing, Storing and Patient Tracking

An important feature of the STG system is the correlation of lung sounds with patient records. Physicians and nurses can enter patient name, optional comments and the location of the chest piece for each recording. Each 20 second heart or lung sound is recorded and identified with the patient and the location of the chest piece.

These sound recordings are stored on the PC for reference during the examination or afterwards. The files can be emailed to colleagues using the standard email software.

Waveforms can be printed and placed in the patient's file. A history of patient sound recordings and waveforms can play an important role in monitoring the course of illnesses and for other documentation purposes.

Longitudinal Studies and Recording Storage

STG for PC is ideal for tracking changes in heart conditions such as increased murmur loudness, or higher crackle rates often associated with IPF or CHF. Sound recordings can be sorted on a PC hard drive, burned to a CD or printed. These saved recordings can be recalled, allowing the physician to study the patient's treatment progress over a period of time.