

# COP-WIN/HRV/BP Version 6.10 Update

## Overview

COP-WIN Version 6.10 adds the ability to acquire and/or monitor respiration data while simultaneously acquiring cardiac impedance and HRV data. In addition BIT is now offering a respiration transducer and amplifier package for users who may not already have the ability of generate a respiration signal. The respiration signal is connected to the “Activity” input on all out standard systems (the HIC-3000 integrated system ,the SIU box for the HIC-2000 DAP/COP-WIN configuration, or the USB/SIU box for the HIC-2000 USB/COP-WIN systems) and therefore does not require any hardware modifications to your COP-WIN System. We feel that the acquisition and monitoring of respiration will be especially useful to those acquiring HRV data who also wish to control for respiration. The Acquisition Window has a real time display of BPM (breaths per minute) and a continuous update of the dominate respiration frequency in Hertz (32 second epochs) updated every 8 seconds. These data values are also acquired for each COP-WIN file and the results may be viewed in the Edit Mode’s Data Scan Window.

Version 6.10 also has enhanced data editing features to assist users in achieving the highest accuracy waveforms and resultant data. Previous versions of COP-WIN only stored the ensemble averaged ECG and dz/dt waveforms in each data file. This new version now stores the all the individual ECG and dz/dt waveforms for each cardiac cycle that make up the EA (ensemble averaged) waveforms and permits the user to graph and inspect them in an “ALL” or Single Cycle mode. When editing with COP-WIN, the Data Scan Window permits the user exclude cycles that are not within certain amplitude and time domain criteria, this new feature permits the user to also exclude cycles that may be distorted or noisy and that may have NOT been excluded by the Data Scan process.

Another enhanced data editing feature of Version 6.10 is the ability to use post digital filtering on the COP-WIN data waveforms. The Edit Window will now permit a single pass of the waveform data though a software digital (DSP) filter of the user’s choosing. This feature will also function for data acquired by earlier versions of COP-WIN. However, data files earlier than 6.10 will have only the EA waveforms passed through the filter. In version 6.10 files all the cardiac cycle ECG and dz/dt waveforms comprised in the EA are filtered first and then the EA waveforms a re-ensemble averaged. In addition to the post digital filtering the number of digital input filters for the COP-WIN data acquisition mode have been increased. We have added 30Hz & 40 Hz notch filters. These filters were added to help users who may be using electronic muscle stimulators that operate in these frequency ranges.

The Reports Menu option has been updated to include Extended Indices variables, Respiration, and the current “Posture” setting (Note! these 3 posture setting could also be used as “Event” or “State” markers in psychophysiology studies). The printed output format of Reports has also been updated for better column alignment. An MRU (Most Recently Used) option has been added to the File menu making it easy to return to the last previously accessed subject data. Last but not least we have finally implemented COP-WIN “HELP”! The Help option now appears on both the Main Window Menu bar and the new Edit Mode Window menu bar.

***New Respiration Acquisition Instrumentation is Now Available! See Next Page!***

## Respiration Acquisition Instrumentation

Bio-Impedance Technology is now offering instrumentation for acquiring respiration frequency and waveform data. This new instrumentation in conjunction with COP-WIN Version 6.10 gives the user the ability to continuously monitor respiration data with values displayed in both BPM (Breaths per Minute) and frequency (Hz). The data values are displayed continuously in the acquisition mode (similar to heart rate). When an EA sample is acquired the BPM value at each cardiac cycle, the frequency value in Hz (for the epoch) and the raw respiration waveform are stored in the EA data file.

The cost of adding this additional data parameter to the COP-WIN system is economically priced at just \$690. The new instrumentation consists of the RESP-01 Respiration Amplifier / Signal Conditioner and the PNEUMO-T Respiration Transducer. This instrumentation includes all required connecting cables and the transducer can be quickly placed around the subject using the adjustable Velcro strap (one size fits all!).



### PRICE LIST

<b>RESP-01 Respiration Amplifier / Signal Conditioner .....</b>	<b>\$375.00</b>
<b>PNEUMO-T Respiration Transducer.....</b>	<b>\$315.00</b>

