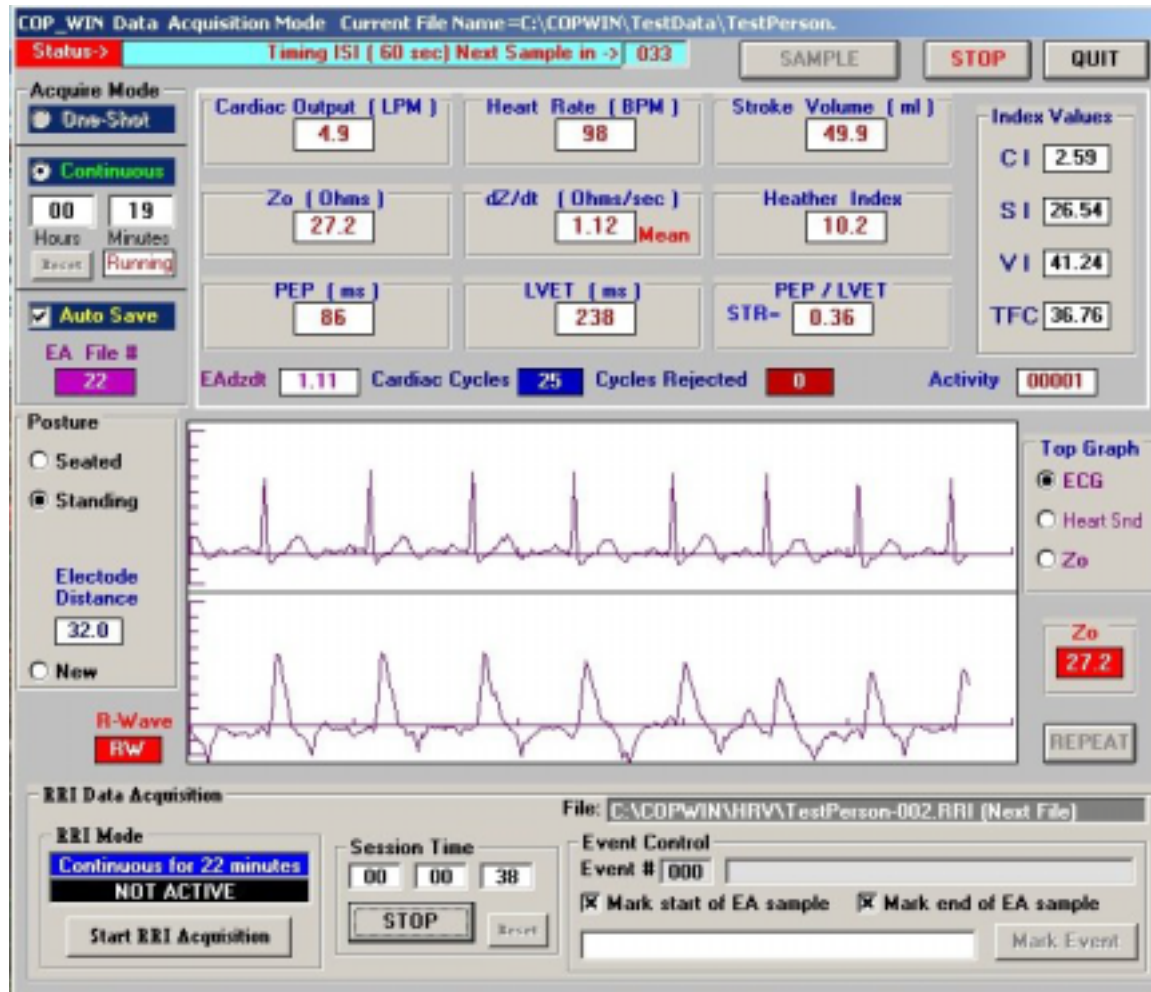# COP-WIN Version 6.0 New Features and Enhancements

HRV Data Acquisition:

- **The new COP-WIN 6.0 has the option to produce R to R interval (RRI), event (EMA), and patient information (REC) data files that are directly compatible with <u>Nevrokard HRV</u> analytical software.**


COP-WIN / HRV 6.0 Data Acquisition Screen

- **Version 6.0 allows several modes of R to R interval data acquisition for Heart Rate Variability (HRV) applications. These modes offer acquisition independent of (or synchronized with) Ensemble Average (EA) measurement duration and inter-sample intervals. The following acquisition modes are available:**

  1. **<u>Continuous Acquisition:</u>** The user starts the RRI data acquisition, and the acquisition continues until stopped by the user.
  2. **<u>Continuous Acquisition (with user-specified Time Limit):</u>** The user starts the RRI data acquisition, and the acquisition continues for a specified number of minutes and then stops automatically.

3. **Acquisition Synchronized with each EA sample for a Preset Time:** The RRI data acquisition is triggered by the beginning of an EA sample, and then continues for a specified number of seconds (132 sec or 2.2 minute minimum). This permits the user to obtain a HRV data sample that can easily be associated with a specific EA sample. Note that when using the continuous EA data acquisition mode that the Inter-Sample Interval time for each EA <u>must be greater</u> than the RRI acquisition time.

- **With each RRI file produced COP-WIN 6.0 will automatically create an event data file where the user has the option to mark any event by typing in a one line text description of the event, and then clicking the MARK button. Event marks are time stamped by the user controlled Session Timer that is part of the RRI (HRV) data acquisition frame. The user also has the option to have COP-WIN automatically create an event mark for the beginning and /or the end of each EA data sample.**

- **For each uniquely named RRI file, or for the first file in a series of sequentially named RRI files, COP-WIN will create a ".REC" record file. This is the patient information record used by the NEVROKARD HRV program. This file is created from the information contained in the COP-WIN patient information file, and the information is passed over to the Nevrokard HRV analysis program when that program is used.**
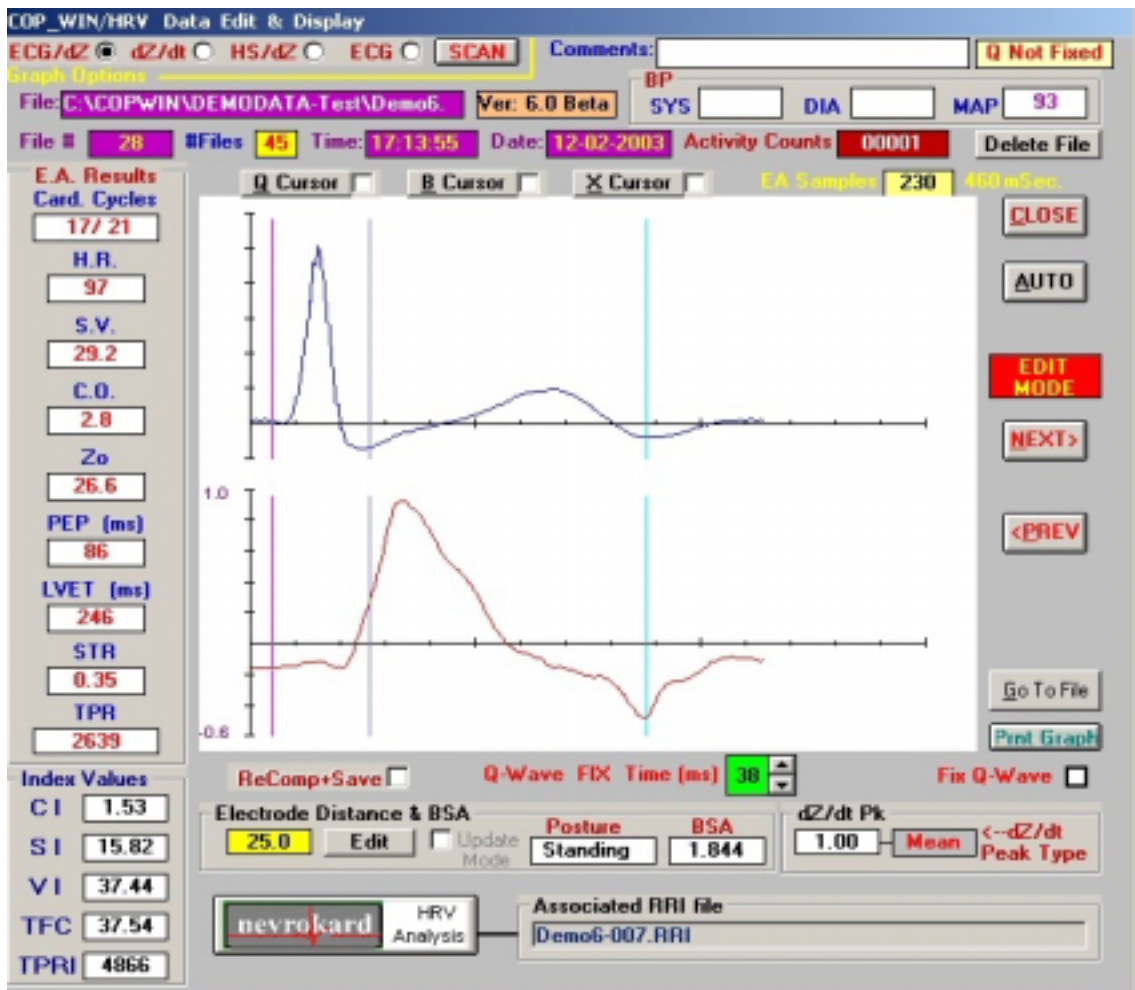
COP-WIN / HRV 6.0 Edit & Analysis Screen

- **The HRV file name associated with each EA sample is now embedded in the new COP-WIN 6.0 data file format, and the HRV analytical software can be executed from within the COP-WIN Edit mode to facilitate HRV analysis.**
- **There is now an automatic indicator that shows when the user has previously edited a file and fixed the Q wave cursor.**
- **The Edit Mode now retains the last used fixed Q-wave time from one edit session to the next.**
- **Any of the three Edit cursors now be "lock on" as the default active edit cursor for each file as it is accessed in the edit mode.**

New Features an enhancements for COP-WIN Ensemble Average Data Acquisition:

- **Version 6 now computes, displays, and records the following additional extended indices, which were not available in previous versions: CI(Cardiac Index), SI(Stroke Index), VI(Velocity Index), TFC (Total Fluid Content) and TPRI (TPR Index).   Also PEP/LVET is now displayed as STR (Systolic Time Ratio) which is also an accepted name for this variable.**

- **The Patient information form has been updated to automatically compute and display BSA (Body Surface Area) from the height and weight data entries. BSA is required for the computation of several of the new indices, and Version 6 offers the user the option to update previously acquired Version 5 data (as well as AIM data) in order to compute these extended indices for data not acquired using the new version of COP-WIN.**

- **The Patient information form has been expanded to allow the user to enter electrode distance measurements for several body postures and label them accordingly. Both the electrode distance and body posture may then easily be changed during data acquisition or data editing without having to type in distance values as was previously required.**

COP-WIN 6.0 Patient Information Form

As shown in the example above, COP-WIN now offers the option to set the patient information form to a very basic format for users that do not wish enter more than a minimal amount of patient information.

- As requested by several users, the COP-WIN Acquisition Setup Form now permits the user to specify a Finite Time Limit for Continuous Mode EA data acquisition. This limit may be specified in either hours or minutes, and the system will also display the estimated number of files that will be acquired according to the inter-sample interval that has been selected. In addition, the Version 6 Data Acquisition Window includes a timer display which will show the Continuous EA acquisition time status in either an Elapsed Time format or a Count Down format (user selectable).
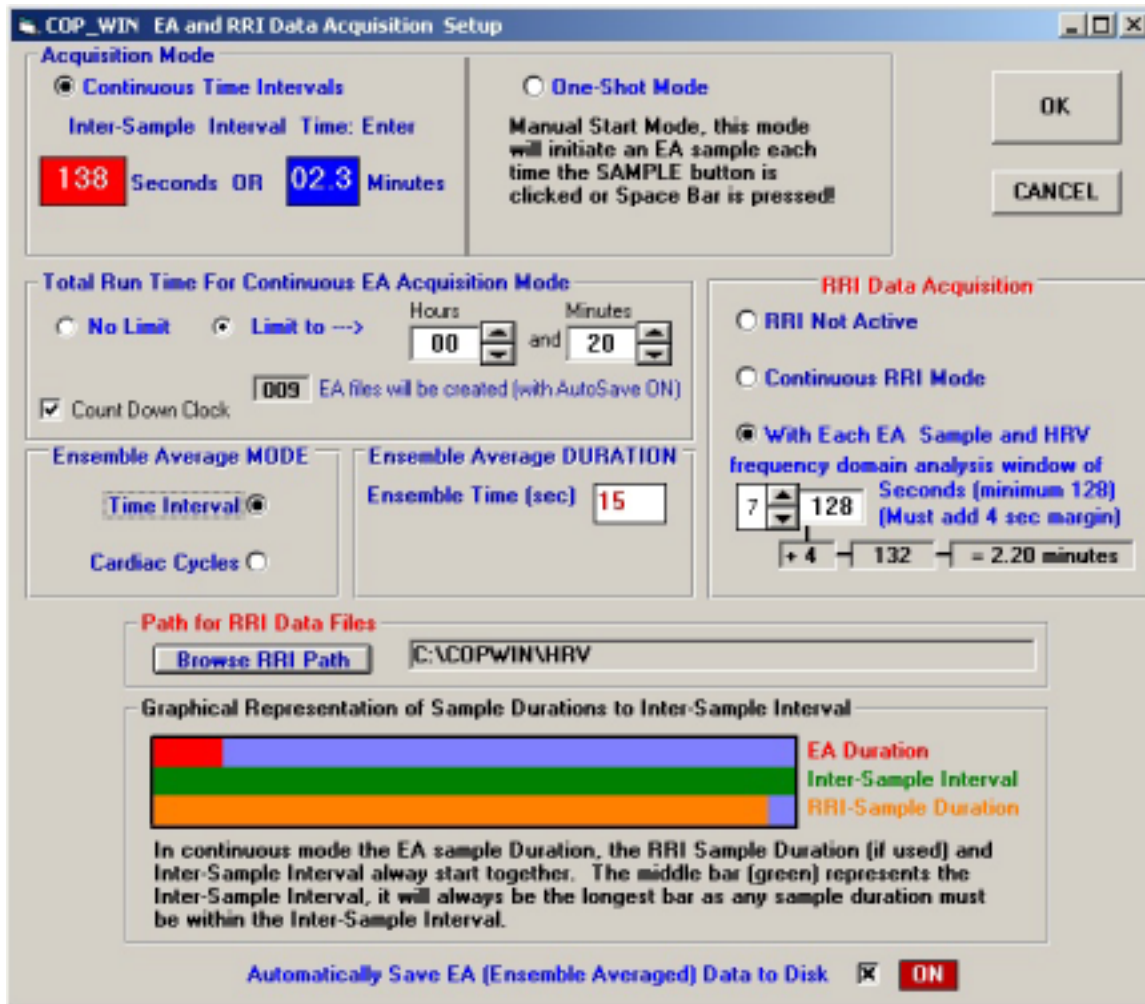
COP-WIN / HRV 6.0 Data Acquisition Setup Window

- **As shown in the example above, the new Acquisition Set Up window now shows a graphical relationship of the EA Duration and the Inter-Sample Interval, plus the RRI Sample Duration (if used in the 'With Each EA Sample' mode).**

- **Most COP-WIN command buttons, option selections, and value display boxes now have useful Help Tips that are displayed when the mouse hovers over a specific item.**