Frequently Asked Questions

1. What are the minimum computer requirements for CPS?

The CPS program will run on Windows 2000, NT, XP, Vista, and Windows 7. The CPS Software does not need anything more than the minimum computer requirements for Windows XP.

- PC with 300 megahertz or higher processor clock speed recommended; 233 MHz minimum required (single or dual processor system); Intel Pentium/Celeron family, or AMD K6/Athlon/Duron family, or compatible processor recommended
- 128 megabytes (MB) of RAM or higher recommended (64 MB minimum supported; may limit performance and some features of CPS software)
- 1.5 gigabytes (GB) of available hard disk space* (recommend 80 GB or more if recording video)
- Super VGA (800 x 600) or higher-resolution Video Adapter and Monitor
- CD-ROM or DVD drive
- Keyboard and Microsoft Mouse or compatible pointing device

2. What is the installation size of the CPS program?

- CPSpro: 37 MB
- CPS II: 16 MB

3. What computer algorithms come with your system?

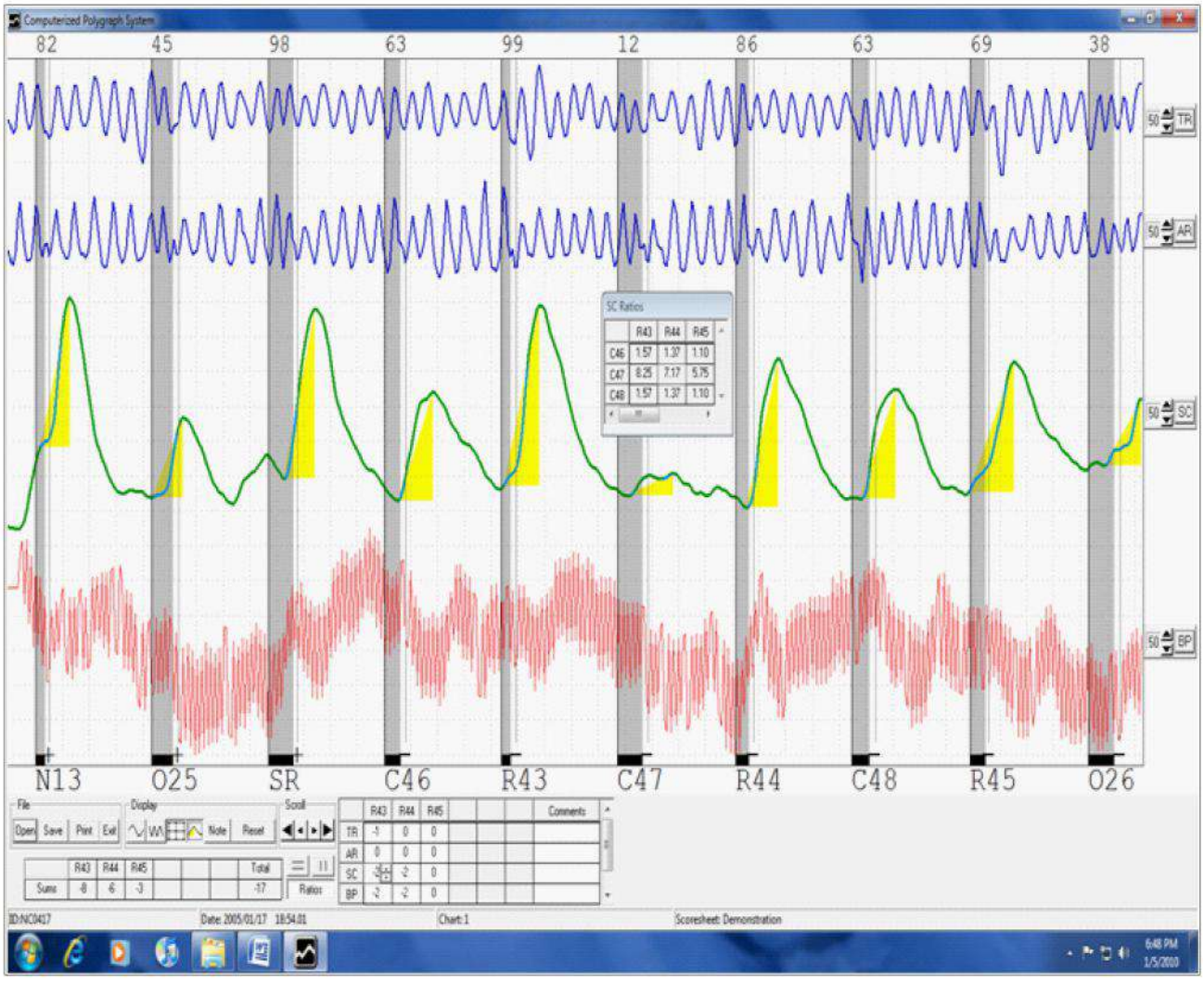
Utah On-screen Numerical Scoring

- Provides unobstructed view of chart on computer screen
- Facilitates valid and reliable numerical scoring
- Provides examiners with easy to understand computer measurements, using empirically validated scoring windows and physiological features; which provide scores that range from 0-99 (99 is the strongest reaction on the channel for that chart) for each question and each channel of data.
- Calculates and stores examiner entered numerical scores and subtotals for each relevant question, each chart, and each physiological component; which are included in the score sheet in report form.

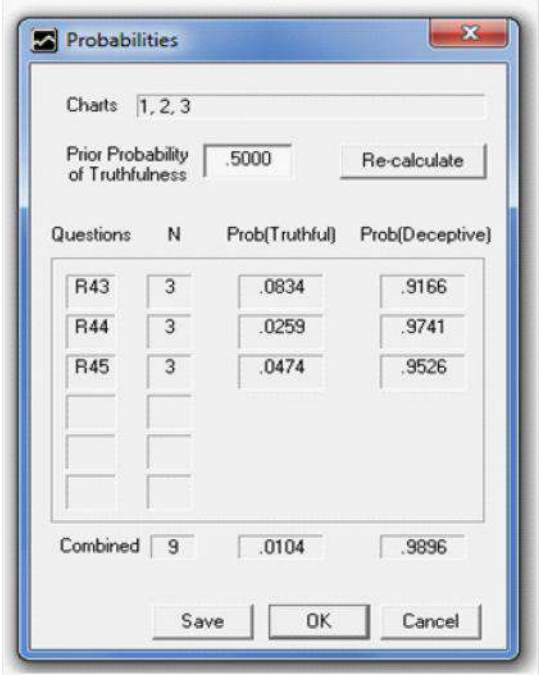
DISTRIBUIDOR AUTORIZADO POLYSCAN IPS:

Email: poligrafo.co@gmail.com | www.poligrafo. com | Phone: +(34) 916-308-945, +(34) 680-191-392 Dirección: calle Peru, Nº8, 28290 Las Rozas, Madrid, España

Algorithms

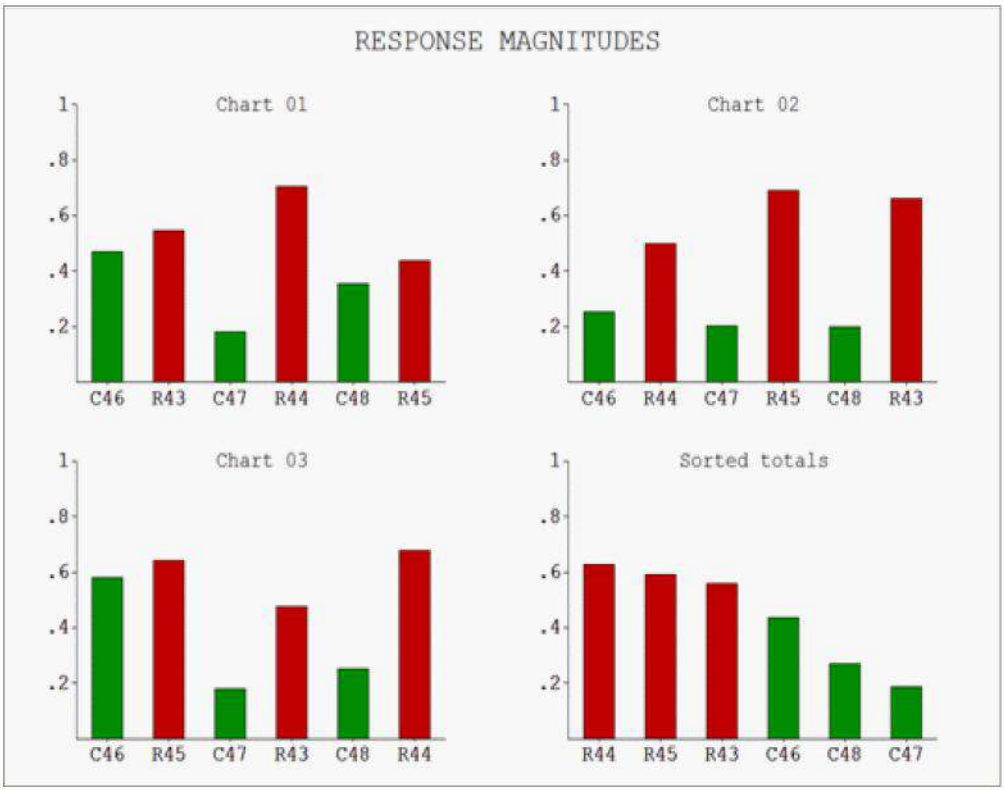


Utah Probabilities



- Unbiased against Truthful subjects
- Scientifically validated and published in top tier psychology journals
- Get probability for each relevant question or any combination of relevant questions or charts
- Optimal cutoffs are .70 and .30 for truthful and deceptive decisions

Utah Response Magnitudes



- Shows relative strength of reaction to questions in easy to understand color coded bar graph form.
- Can score any question type or polygraph technique (even R/I)
- Examiner can look at one question, one chart, or any combination they desire
- Shows sorted totals from strongest to weakest of any chart combination
- Great tool for getting confessions

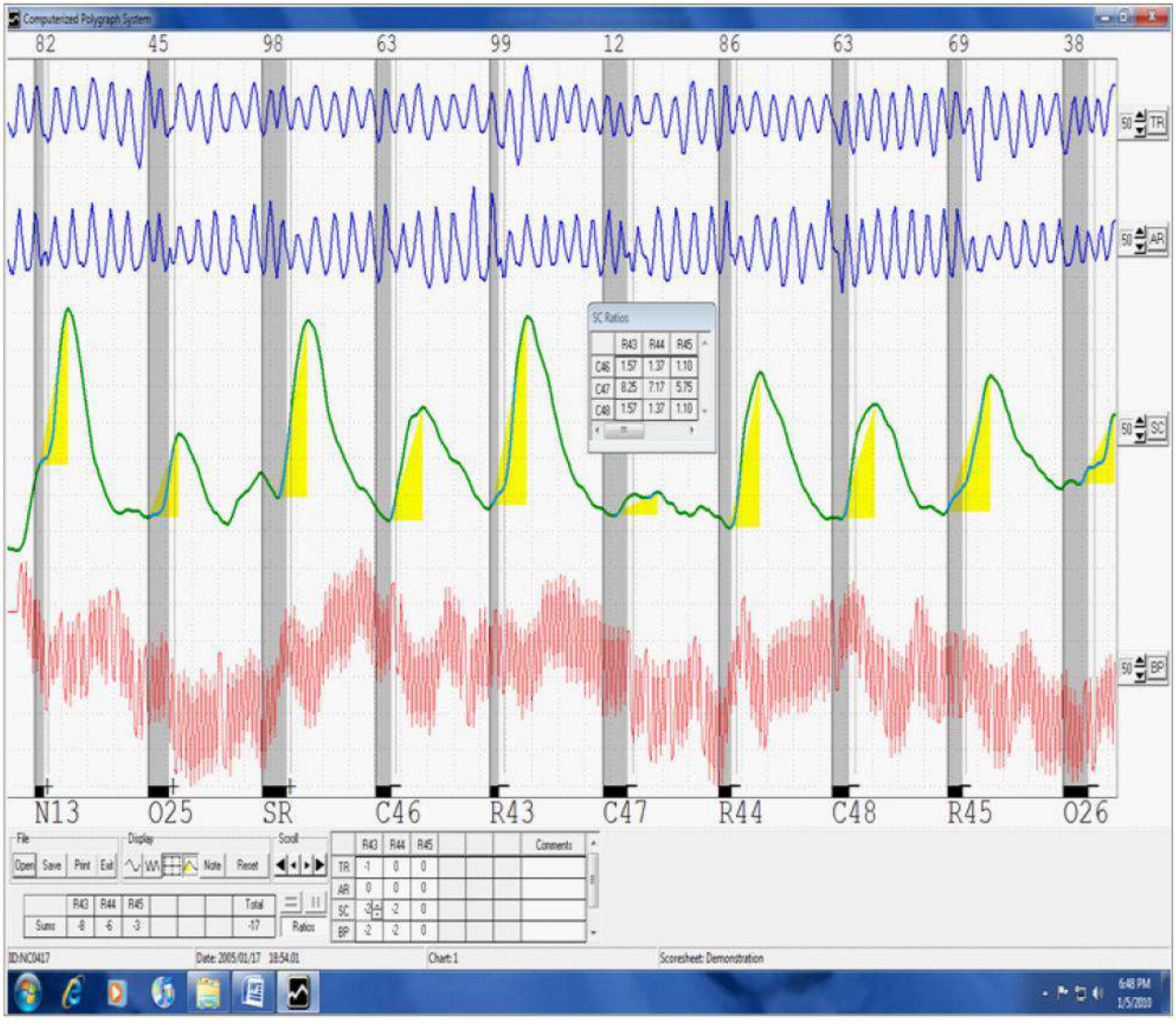
Objective Scoring System

- Constructed at DACA (Krapohl, 2002; Krapohl & McManus, 1999)
- Based on validated Kircher features
- Decision is DI, NDI, or No Opinion (NO)

Question: What do the numbers mean at the top of the numerical scoring screen and how am I supposed to use them?

Answer: The numbers represent measurements of the relative strength of the reactions on a scale from 0 (smallest reaction on the chart) to 99 (largest reaction on the chart). You may use these values to compare reactions when you assign numerical scores. CPS also shows where on the tracing it obtains its measurements, by clicking the highlight icon on display toolbar. The computer measurements and displays are useful in assigning scores and increase the reliability (consistency) and accuracy (validity) of numerical evaluations. Examiners can formulate their ratios by multiplying 1.5, 2, 3, and so on to the smaller of the two values (question reactions) being compared. The values are based on the Kircher features, which have been validated in numerous published scientific journals, and have been shown to reliably capture the most diagnostic information in PDD. The Kircher features are: EDA amplitude, the amplitude of increases in the baseline of the cardiograph, and a combined measure of thoracic and abdominal respiration line length.

In the chart below the cursor is located in the SC (Skin Conductance) row of the on screen score sheet. The computer measurement for R1 was 99 and the measurement for C2 was 12. In this example, R1 is easily 3 times greater than C2. The computer measurements along the top of the chart were extracted from the portion of the signal highlighted in yellow. As you select different channels in your score sheet, the highlighted regions and associated measurements along the top of the chart change to correspond to the channel being scored. We have also added a ratios button which will convert the 0-99 scores to precise ratios. In the above example, the ratio is 8.25; which means that R1 is 8.25 times greater than C2. If ratio is below 1.00, that means the comparison question reaction was stronger. For a ratio of 0.50, take the reciprocal 1/.50 = 2.00.



Question: How do I set up my Pentax 3 to avoid gaps on my chart printouts?

Answer: Proper Pentax III set up

From Windows
Start⇨ Printers and Faxes⇨ Pentax›Properties⇨ Printing Preferences⇨ Landscape⇨ Advanced⇨
-- infinite
-- roll
-- no feed
Paper Source: Automatically select
Start⇨ Printers and Faxes⇨ Pentax⇨ Properties⇨ Device Settings
-- manualroll: infinite
-- rollpaper: infinite

From CPS
File⇨ Page Setup⇨
Paper: infinite
⇨ Advanced
⇨ infinite
⇨ roll
⇨ no feed

Question: Why does my EDA tracing show minimal reactions?

Answer: The CPS hardware is capable of measuring all possible values of Skin Conductance, so the issue is almost always the quality of the disposable electrodes, proper attachment of the electrodes or examinee issues.

The disposable pre-gelled electrodes work well if they are relatively new. If they sit around they tend to dry out, and if they start to dry out, you'll get poor recordings. Keep a tube of electrode paste around in case the surface of the disposable electrode feels dry. Put a small amount of paste on the surface of the disposable electrode and push it down into the sponge to ensure that the electrode is saturated with paste before being applied to the subject.

Place disposable electrodes on the hand 10" before collecting your first chart. The 10 min delay allows the paste to saturate the skin under the electrode and stabilize the recording and minimize drift.

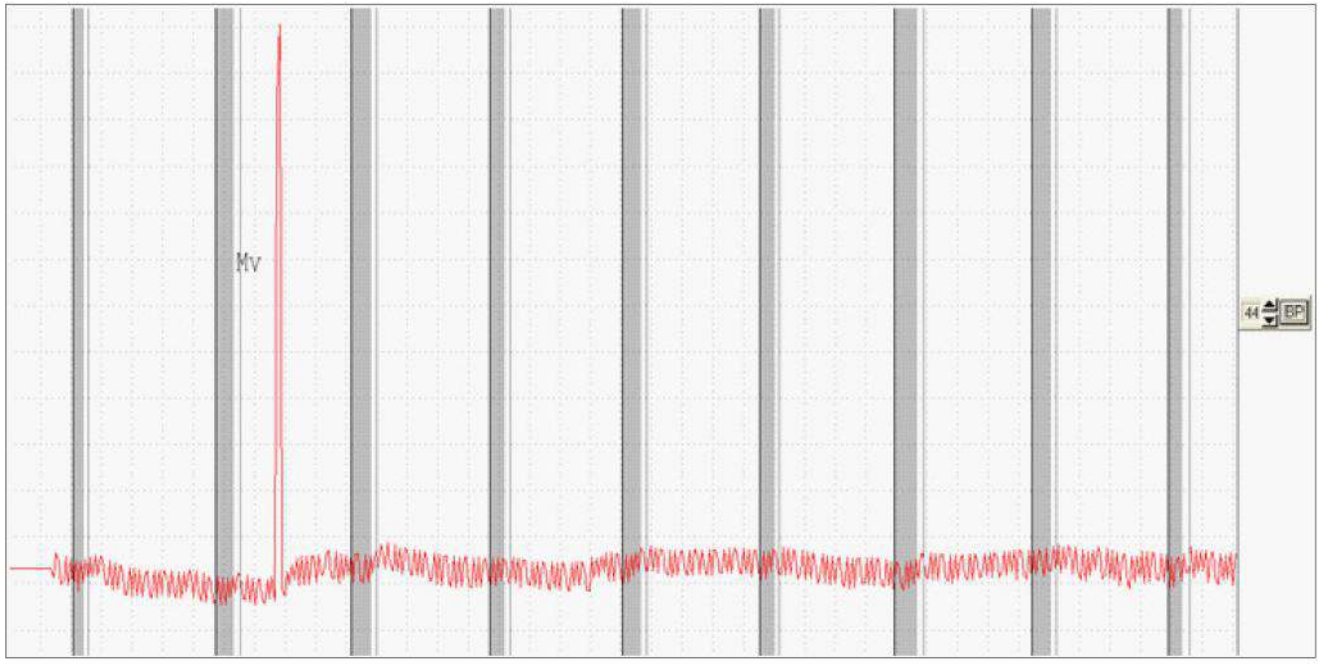
Washing hands with soap and warm water is a good idea, especially if the hands are dry or cold. Warm, moist hands produce much better recordings than cold, dry hands. In the winter, place a towel over the hand or place the hand on a heating pad to warm it up.

In the CPS software, users will get a warning message after collecting their first chart if the EDA level is < .05 microSiemens. The warning screen also provides troubleshooting tips.

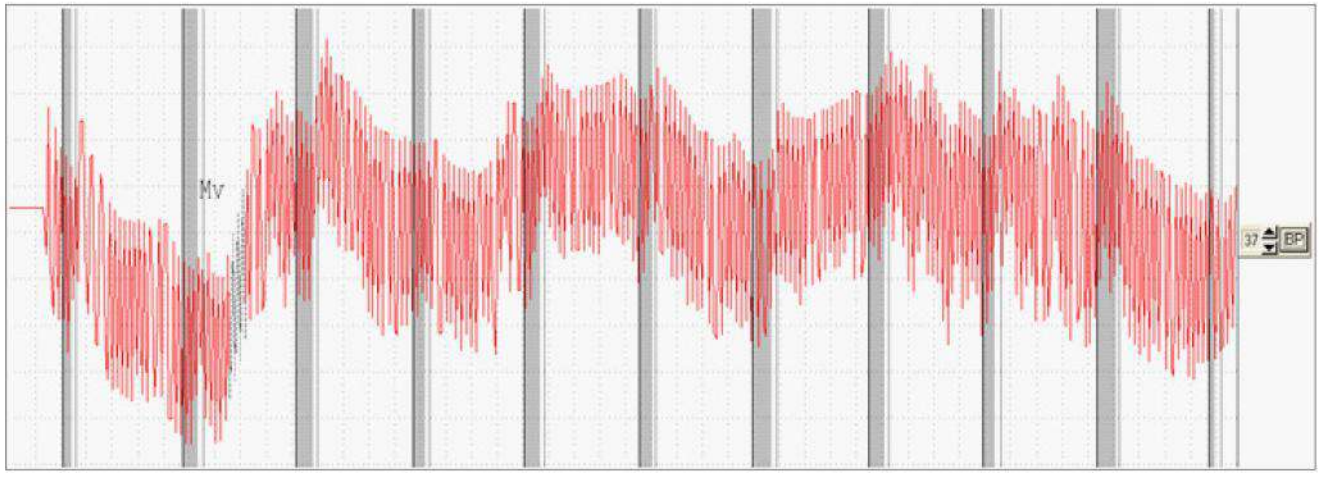
Question: The quality of my cardio tracing has been corrupted due to movement artifacts. What can I do?

Answer: Open your chart in the 'edit charts' mode, highlight the artifact on the tracing with your mouse, and select Interpolate. This will remove the giant spike from the cardio tracing, which will allow the rest of the channel to be rescaled. CPS will allow users to do analysis with and without edits performed for comparison purposes. The original chart is never lost, just open chart with "Apply Edits" off. You can do analysis with your edits and original chart to compare. All examiner edits are grey-shaded on the chart. Below is an example of editing a cardio artifact using interpolate:

Before Edit

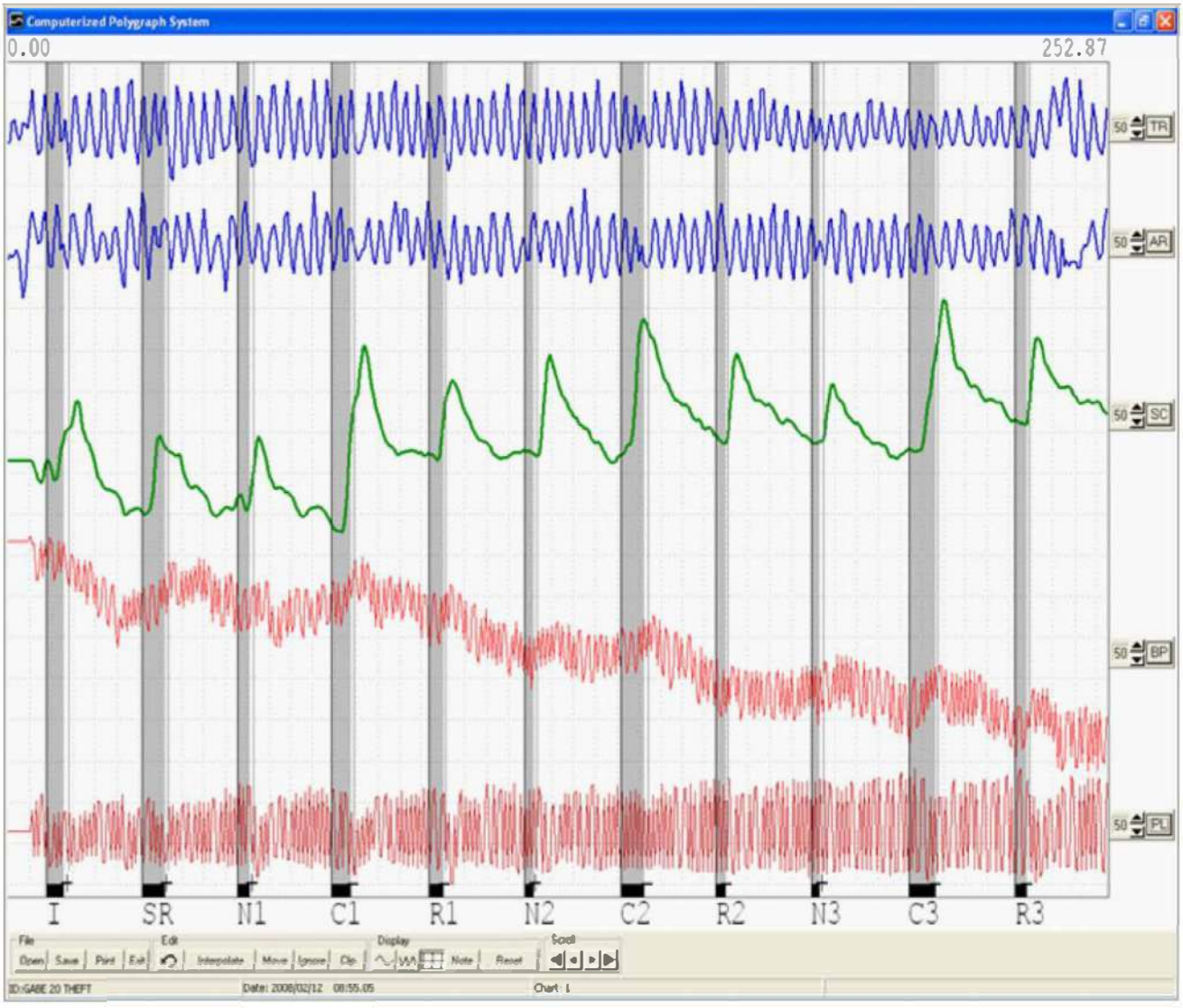


After Edit



Question: What does Detrend mean, and how does it benefit me?

Answer: Detrending a tracing makes it easier to see reactions to test questions when the tracing drifts upward or downward over the course of a polygraph chart. These trends have a tendency to obscure the reactions on a chart, and detrending a tracing allows for easier numerical evaluation. **Below is an example of a chart where the cardio drifts downward and the EDA drifts upward.**

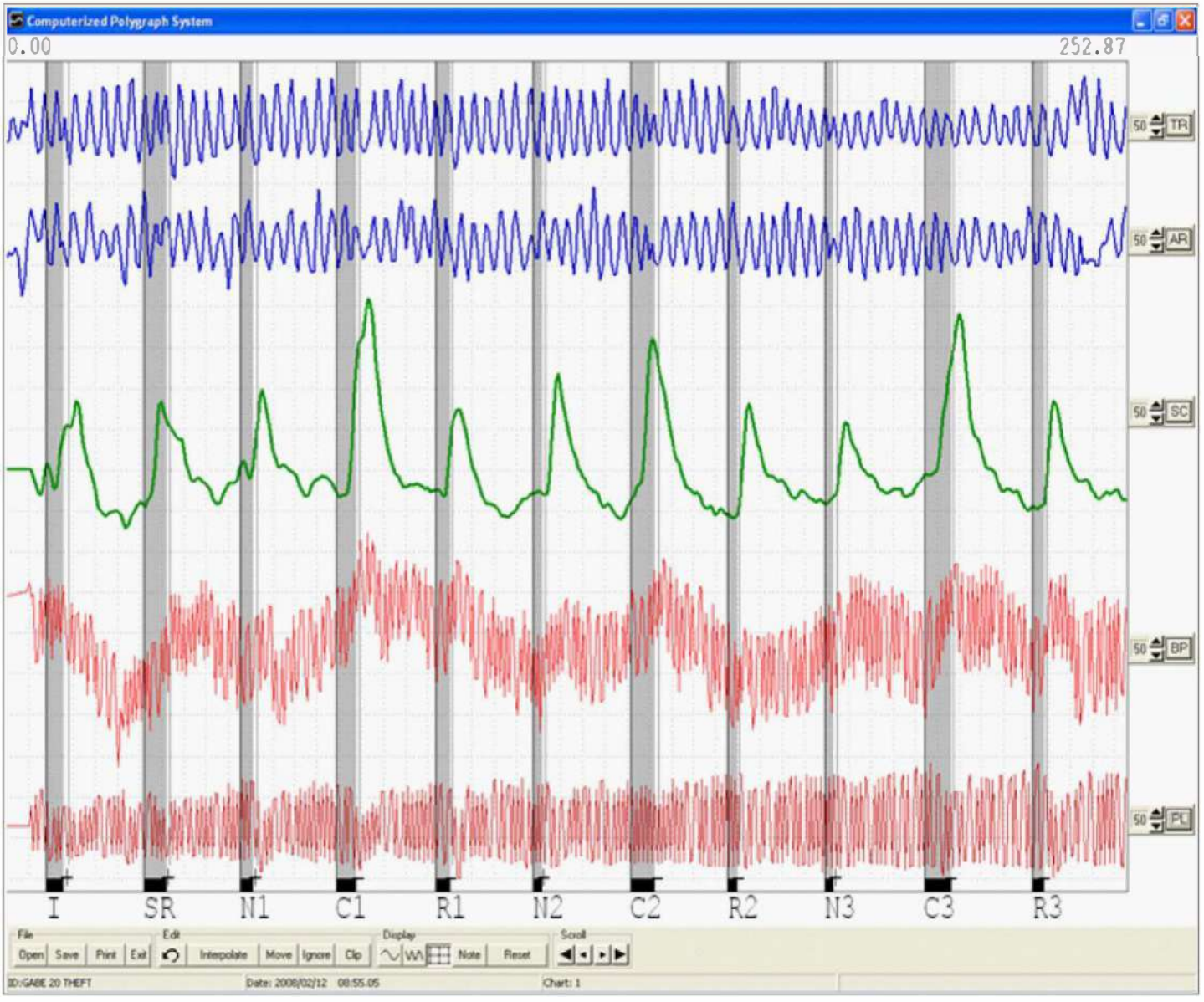


When both the cardio and SC channels are detrended, as shown in the next figure, the individual reactions are more readily apparent. Detrending a tracing improves its visual appearance, and it is especially useful for editing or numerical evaluations. However, it has no effect on probability or response magnitude analyses. **Figure shown on next page.**

DISTRIBUIDOR AUTORIZADO POLYSCAN IPS:

Email: poligrafo.co@gmail.com | www.poligrafo. com | Phone: +(34) 916-308-945, +(34) 680-191-392

Dirección: calle Peru, Nº8, 28290 Las Rozas, Madrid, España



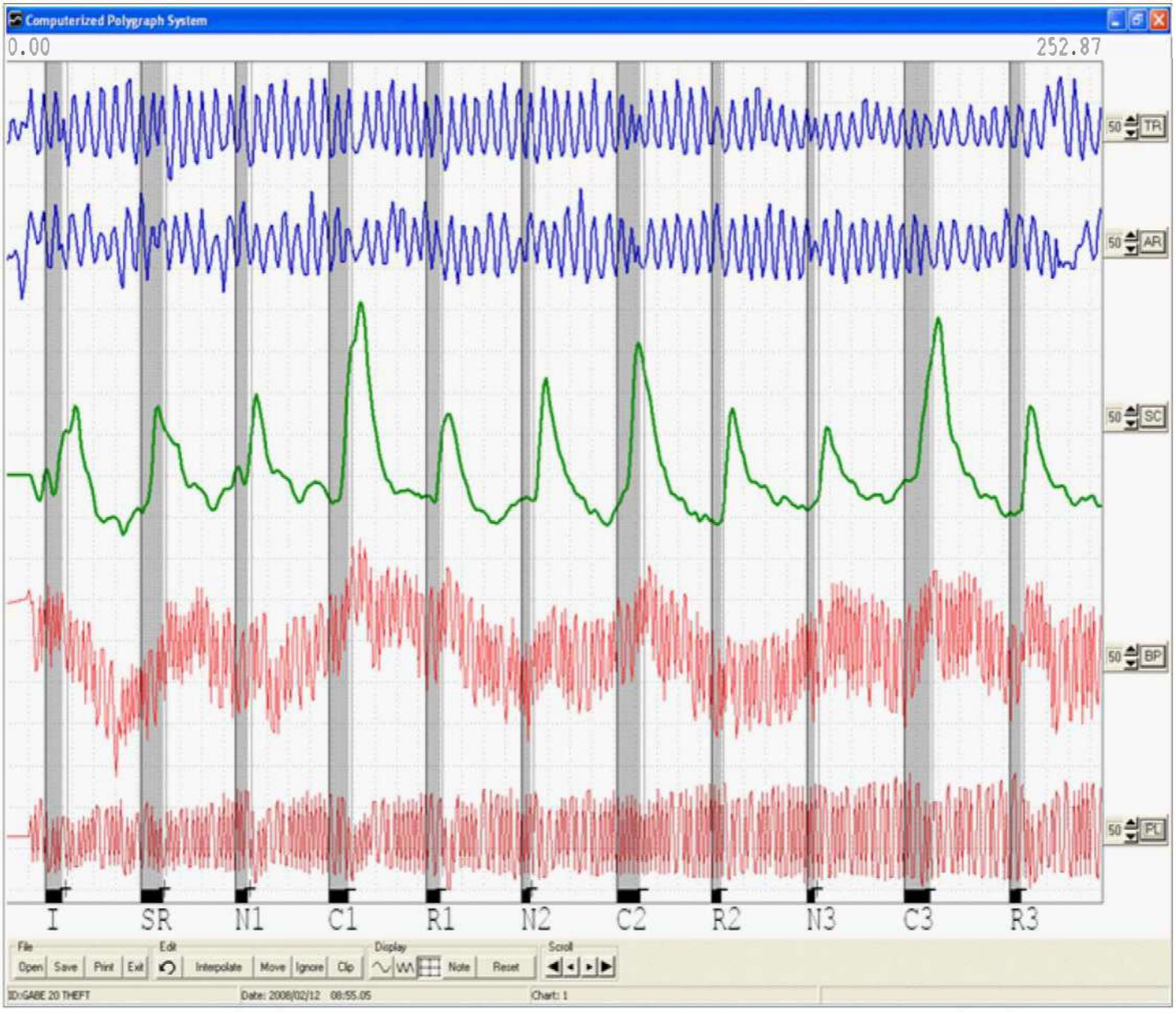
Question: What does the filter function on the Cardio channel do?

Answer: The Filter feature allows the examiner to remove baseline (slow) changes from the cardio tracing. It is easier to see changes in amplitude of the pulses when the filter is enabled than when it is not. The filter has no effect on computer probability analysis of the BP signal. This feature has been reported as a secondary diagnostic cardiograph criteria and is exclusive to CPS. **Example on next page:**

DISTRIBUIDOR AUTORIZADO POLYSCAN IPS:

Email: poligrafo.co@gmail.com | www.poligrafo. com | Phone: +(34) 916-308-945, +(34) 680-191-392

Dirección: calle Peru, Nº8, 28290 Las Rozas, Madrid, España



Question: What does the filter function on the Cardio channel do?

Answer: The Filter feature allows the examiner to remove baseline (slow) changes from the cardio tracing. It is easier to see changes in amplitude of the pulses when the filter is enabled than when it is not. The filter has no effect on computer probability analysis of the BP signal. This feature has been reported as a secondary diagnostic cardiograph criteria and is exclusive to CPS. **Example on next page:**

DISTRIBUIDOR AUTORIZADO POLYSCAN IPS:

Email: poligrafo.co@gmail.com | www.poligrafo. com | Phone: +(34) 916-308-945, +(34) 680-191-392 Dirección: calle Peru, Nº8, 28290 Las Rozas, Madrid, España