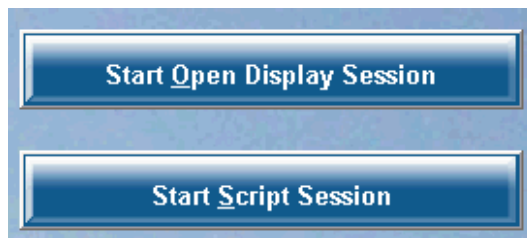
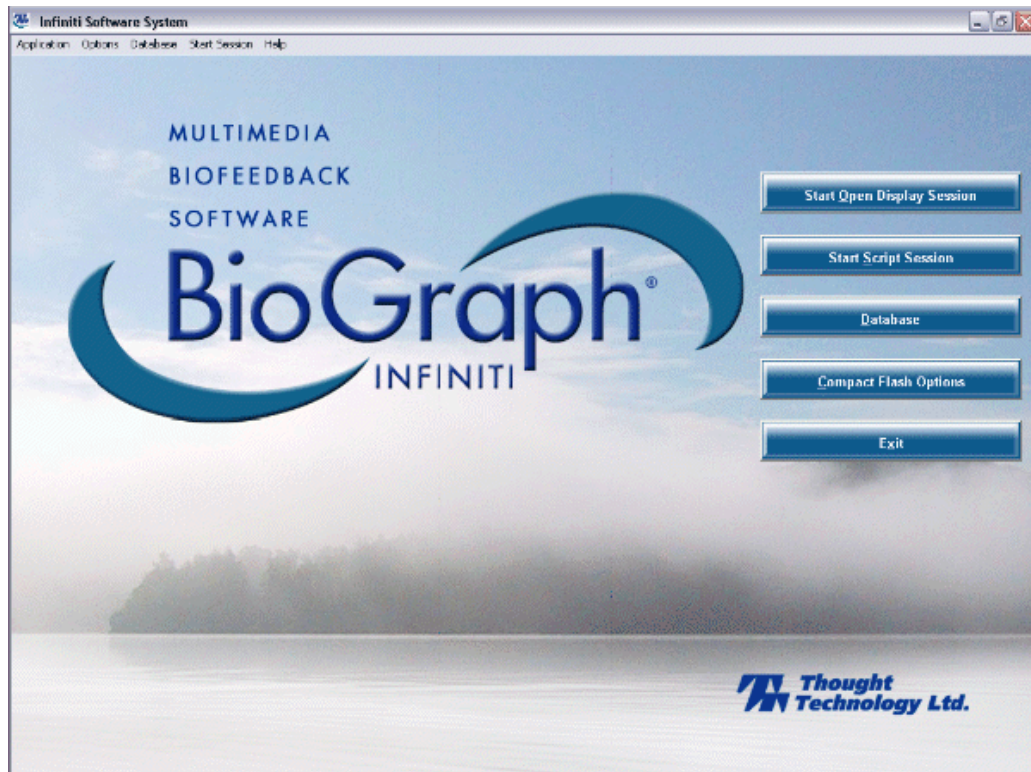


BG Infiniti 3.0: Key New Features

BioGraph Infiniti Main Application

Start Session sequence – Shorter Start sequence

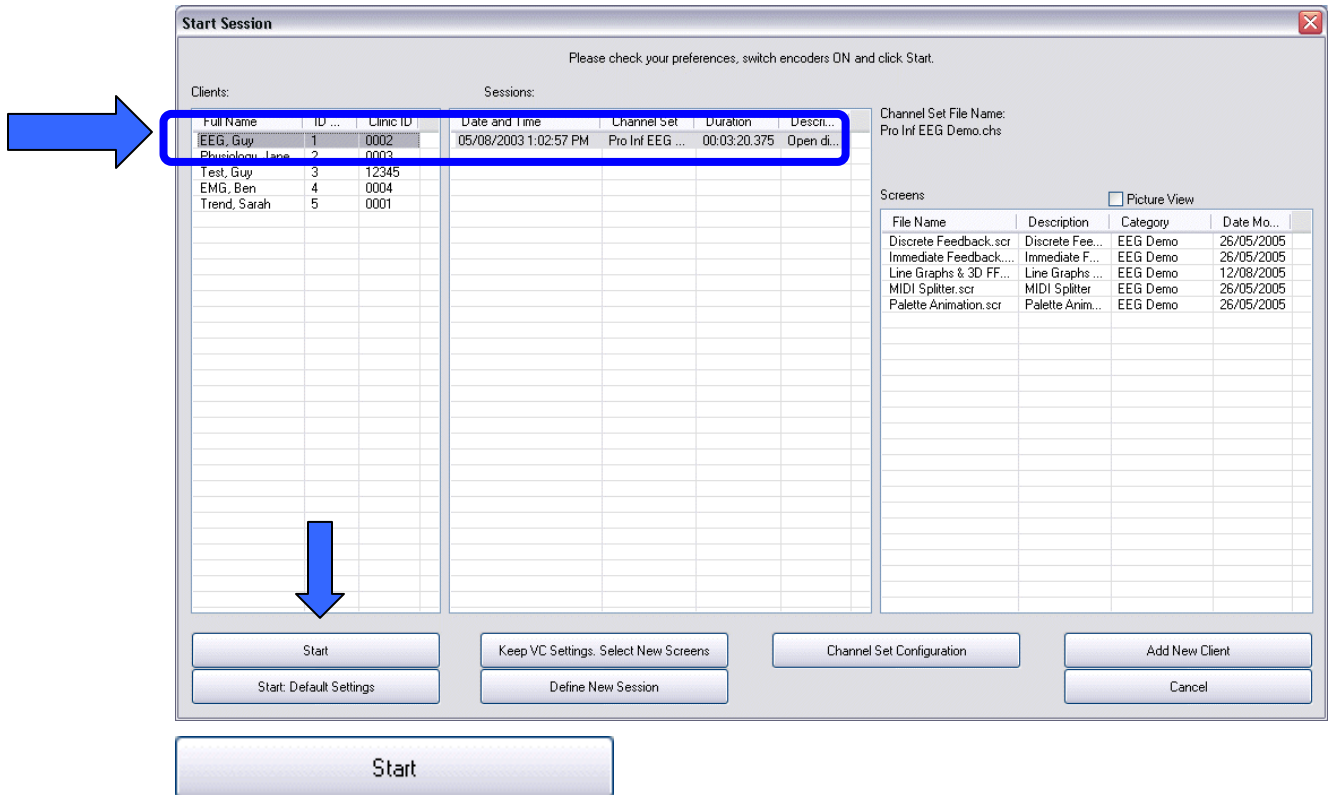
- The session start user interface now allows clinicians to start a session using the settings from any previously recorded session. When starting a session, simply click on the *Start Open Display Session* or *Start Script Session* button on the Main Menu screen:



← Launches the recording mode for an *Open Display* session.

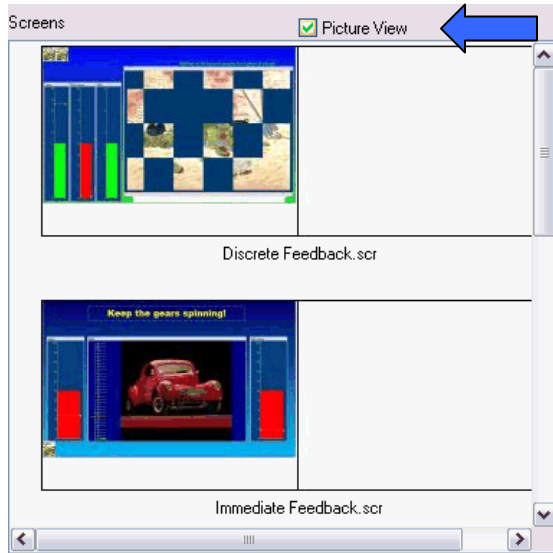
← Launches the recording mode for a *Script* session.

In the Start Session screen, click on a *Client Name*, click on the session you want to copy the settings from and click *Start*.



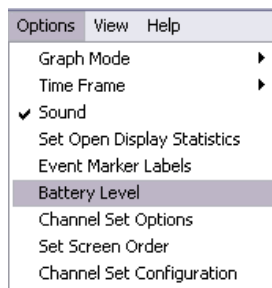
Start Session sequence – Option to see screen thumbnails

- A redesigned session start user interface shows a thumbnail image of all the display screens on your system to facilitate session configuration. The thumbnails show 1 to 5 screens for an open display session and all the screens used by a script session. In the Start Session screen, click the *Picture View* option to see the screen list as thumbnails with screen names appearing below the image:

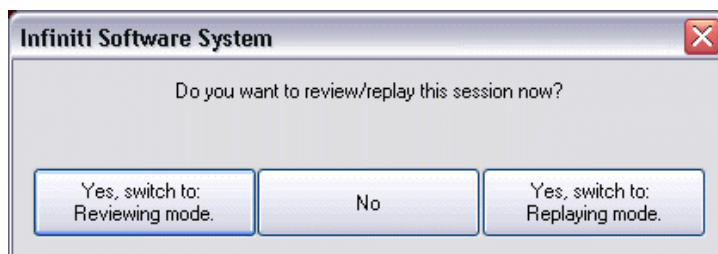


Start Session sequence – Faster access

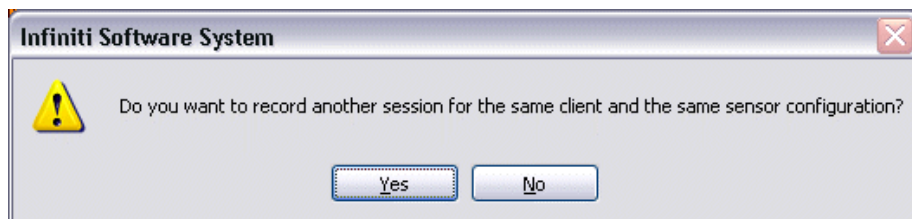
- The session start interface was streamlined to dramatically reduce the number of clicks. The *Channel Set Options* and *Battery Level* function are now available as menu items:



- After recording a session, the program allows you to rapidly switch to the review or to the replay mode.

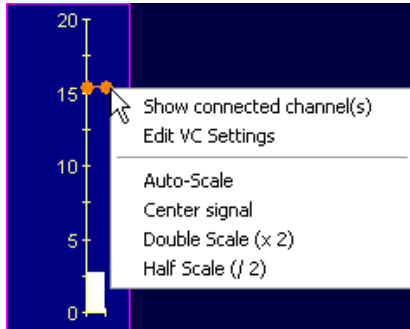


- When exiting the review mode, the program asks if you want to return to the recording screen:



Screen instruments – Auto-scaling and centering functions

- All scale-based screen instruments have right click menu options for auto scaling and centering, as well as for rapidly increasing or decreasing the scale:



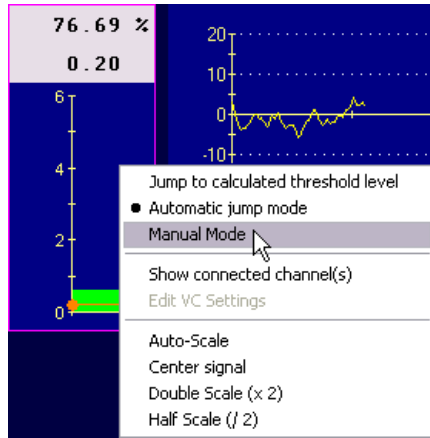
New Feedback options: DVD Instrument

- A new DVD feedback instrument allows users to control up to 4 independent playback actions from feedback conditions. Actions include Playback ON/OFF, Sound Low/High, Image Zoom In/Out and Image Size Grow/Shrink. The instrument also allows the user to click DVD menu items and select different DVD chapters while recording.



Auto-threshold – Manual/Automatic jump toggle

- The *Percentage Instrument* allows you to rapidly toggle between a manual threshold and an automatic threshold mode, on the fly:



Script Sessions – Edit Step Duration

- Prior to starting a script session, the *Edit Script Settings* dialog box allows you to modify the default duration of any selected step. New options to modify all steps with the *Same Step Duration* or with *Same Step Screen* make this process easier:

Step	Number	Description	Duration	Screen File Name
	1	Instructions	0.000	Signal verification.scr
	2	Period 1	30.000	Alpha enhancement.scr
	3	Period 2	60.000	Alpha enhancement.scr
	4	Period 3	60.000	Alpha enhancement.scr
	5	Period 4	60.000	Alpha enhancement.scr
	6	Period 5	60.000	Alpha enhancement.scr

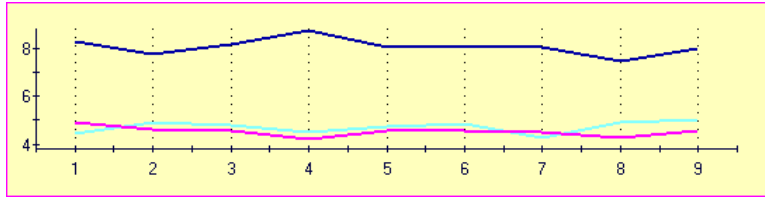
Script sessions – Edit VC Settings button in activity statistic popup

- The *Edit VC Settings* button allows you to make changes to the session's virtual channel settings between activities. This would be useful, for example, if you need to adjust the threshold value, in a percentage over threshold computation, based on the mean that was just calculated during a baseline activity:

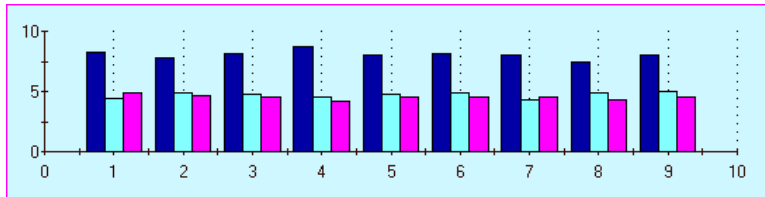
1	Initial Baseline	3	Baseline Recording	Mean SL-D (Micro-Siemens)	2.85
1	Initial Baseline	3	Baseline Recording	Mean Temp-E (Deg)	33.59
1	Initial Baseline	3	Baseline Recording	Mean BVP-B HR (Beats/min)	93.76
1	Initial Baseline	3	Baseline Recording	Mean EMG-C	9.19
1	Initial Baseline	3	Baseline Recording	Mean Resp-F Rate (Breaths/min)	14.38

Histogram instrument – Real-time & off-line trending

- A modified histogram instrument allows you to plot 1 to 8 epoch-based statistics on a real-time trend graph. The graph instrument can show lines or bars and the epoch duration can be modified on the fly.

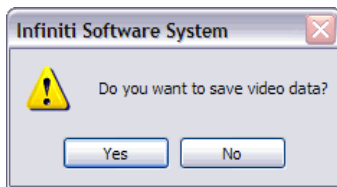


- The same instrument can be used in review mode for a quick assessment and there's an option in the session report dialog to include this graph in the printout:



Saving Sessions – Option to Delete Video

- After recording a session with synchronized video data, the program gives you the option to discard the video data at saving time. This is useful if you don't really need the video data as it takes a lot of hard drive space:



Client Database – Trending Open Display sessions

- The trend report function allows you to trend across two or more open display sessions, as long as they were recorded using the same channel set.

Client Database – Session Review & Data Export

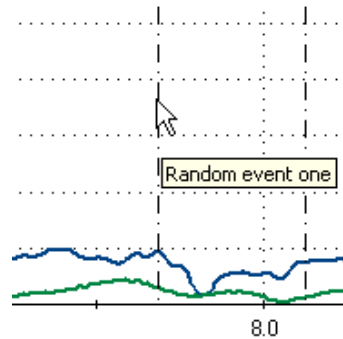
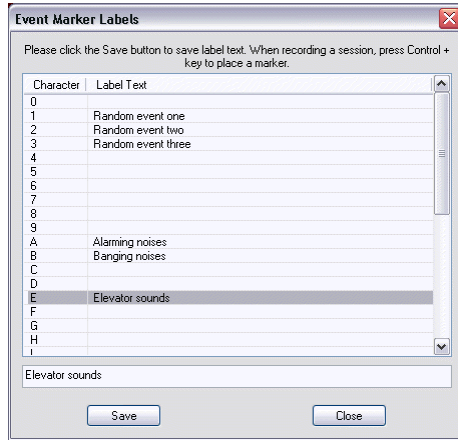
- Data can now be exported from an open display session using a different channel set from the one that was used to record it, as long as both channel sets have the same encoder & sensor configuration.

Script Editor – Convert Script

- A *Convert Script* function allows users to convert a script to a channel set different from the one originally associated to it. This allows script sessions to be reviewed, and data to be exported, using a different channel set from the one that was used to record it, as long as both channel sets have the same encoder & sensor configuration.

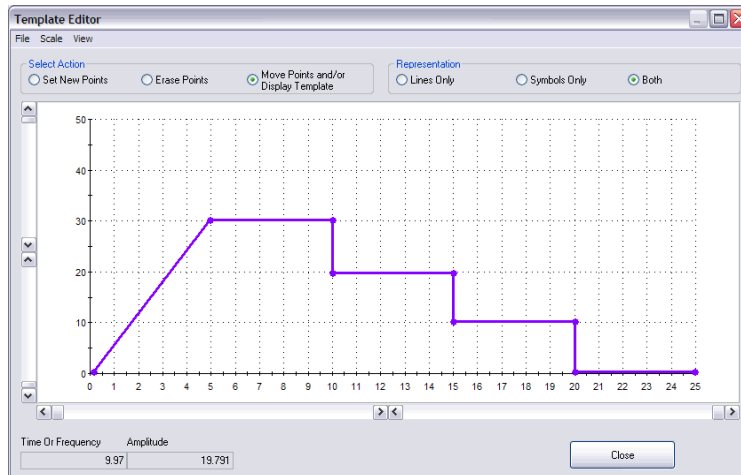
Recording Sessions – Pre-Defined Event Markers

- A new feature allows you to pre-define a list of event marker labels and assign them to keyboard keys. While recording, simply press CTRL plus a key to place a marker with that label:

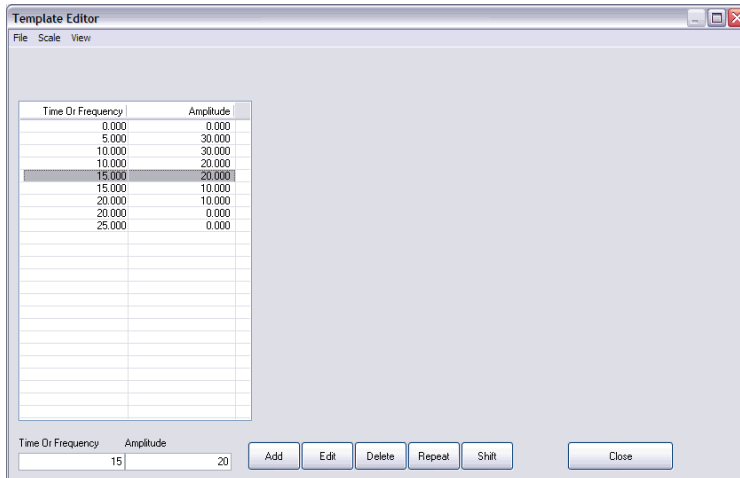


Screen Editor – Templates

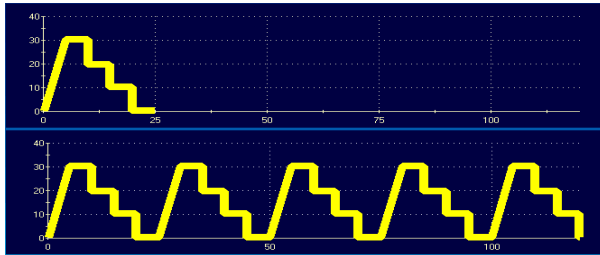
- The template editor was completely redesigned to include more powerful features: You can now toggle between a graphical and a numerical display.



- In the table view, you can copy and paste sections of template.

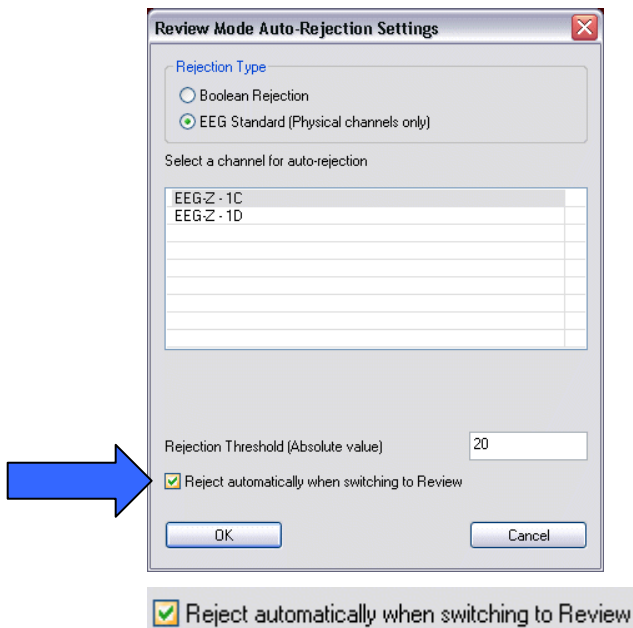


- Once a template is designed, you can define whether it should be drawn only once (absolute time-base) or *Cycled* until the end of the session (relative time-base):



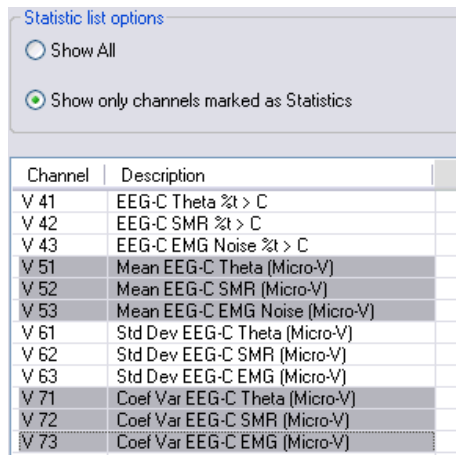
Reviewing Sessions - Auto rejection settings

- A new option to *Reject automatically when switching to Review* mode allows you to define automatic artifact rejection settings and run them automatically when switching to the review mode:



Reviewing Sessions - Statistics

- When reviewing open display sessions, an option to *Show All* or *Show only Statistics* helps you find the relevant statistical channels with ease:



Script Editor – Onset and Release Time

- A new calculation method allows you to define *Onset* time and *Release* Time calculations from selected virtual channels. This is most often useful for EMG Work/Rest activities.

BioGraph Ininiti V3.0: other new features...

- **Support for MyoTrac 3 device.** Note: Although the MyoTrac 3 device uses MyoScan sensors, because it performs an RMS conversion and resamples the EMG, internally, the actual signal we get from the MyoTrac 3 is EMG RMS at 32 samples per second. Also, version 3.0 does not support the zero crossings that are sent out by the device.
- **Line graphs – Templates:** If a template is defined with a “relative” time scale, the Reset button will re-start every time it is clicked.
- **Settings instrument:** When recording a session with a screen that includes settings instruments, the cut-off frequencies that are saved with the session data are the last ones shown on the settings instrument, instead of the client or default values.
- **Settings instrument:** The Settings instrument can be connected to a comparator channel and the comparator value can be modified on the fly. This can be useful to third-party game developers because the comparator channel can be used as a virtual threshold.

- **The maximum session duration is now only limited by available hard drive space.** *Note: Reviewing extra long sessions might take a very long time to process. Processing time depends on session duration, number of sensors, sampling rates and how full the channel set is.*
- **The maximum refresh rate was increased from 8 times per second to 16 times per second.** *Note: The actual refresh rate on any particular computer is a function of available computer power and complexity of signal processing (channel set + # of screen instruments). Even if the maximum is set to 16 times per second, the actual rate might be less than that.*
- **A new prototype “Lissajous” instrument was added to the screen editor.** The requirements for this instrument came from Siegfried Othmer. It has two amplitude scales, one horizontal and one vertical. It is designed to demonstrate phase between two identical EEG frequencies (ex 8 Hz for EEG 1 & EEG 2) but it can be used with other signal types (ex for quadrant type feedback).
- **Review mode - Statistics pop-up:** The activity and step descriptions are shown instead of just numbers.
- **Script Editor: *Test Script* function shows the screen thumbnails** instead of just the screen names.
- **Script Editor: *Progress Bars* also show the actual durations for each step, activity & script.**
- **Editors: A “Date Modified” column** was added to the tables to facilitate the task of locating files under development.
- **Editors: All three editors now make a copy of the original files when editing.** The original file is only overwritten when the user saves the changes.
- **Filled Line graphs can now be defined with a template.**
- **Channel Set editor: Two new prototype Synchronized Event algorithms** were added: “***Step Start Event Average***” and “***Synchronize Event from Comparator***”.

- **The Coherence algorithm was changed to match the one from Bob Thatcher's NeuroGuide database.**
- **Review mode – line graphs:** New data export option: Shift Key and drag “Export Segment Physical and Virtual Channel Data”.
- **Client Database:** When a session was recorded for a selected client and the database screen is accessed after saving, **the client's name is remembered and already selected in the table.**
- **Screen Editor – Bar graphs:** Added an option to “*Invert Signal*” to show a positive value on the negative scale. **This is useful to create “Mind Mirror” type displays.**

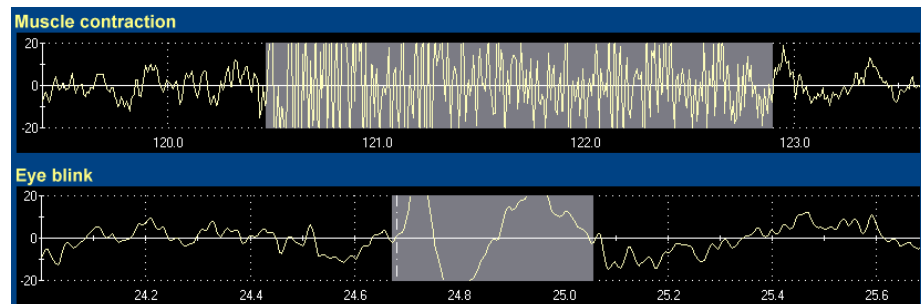


Top 5 New Features in BioGraph Infiniti version 2.5:

- ✓ **Automatic EEG Artifact Rejection**
- ✓ **Streamlined User Interface - more user-friendly startup sequence & simplified session settings to maximize ease of use**
- ✓ **Global Notch Filter Options for Better Quality Signals**
- ✓ **New Epoch Statistics**
- ✓ **Improved Database Management Options**

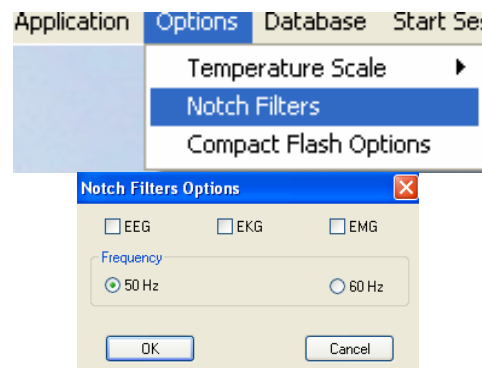
Automatic EEG Artifact Rejection

Cleanly remove anomalies created by eye blinks and muscle contractions from all raw recorded EEG signals to provide reliable statistics. The system automatically places segments over artifacts, which you can review and manually correct, as necessary.



Global Notch Filter Option for Better Signal Quality

You can set the notch filter to 50 or 60 Hertz in the same fashion as it is possible to set the temperature scale to Celsius or Fahrenheit. This allows you to define a 50 or 60Hz notch filter for all EEG, EKG or raw EMG signals, globally, without requiring a notch filter channel in the channel set.



New Epoch Statistics

Show Client Progress as you go. Compute any statistic over a user-defined epoch, for example, every 10 seconds, instead of computing the statistic over a whole session. This is most useful with the Histogram instrument to show real-time trend graphs while recording. Another option is to simply show the epoch statistics in numeric values, which refresh after each epoch.

Improved Database Functions to Simplify Your Work

1. Expanded session data Import/Export functions including ability to transfer single sessions between systems

- Export a single selected session or multiple selected sessions. This feature is useful when working from multiple or remote clinical training sites. It is also useful to transfer a session that was recorded in the wrong client file.
- When downloading sessions from a Compact Flash card (connected to a CF Card Reader), you can save the session data to an existing or a new Client file in the database.



2. Session File Compression/Decompression - Smaller Data Files

- It is now possible to compress session data to save space. This is important for long sessions using multiple channels of data recorded at over 2000 samples per second.
- Using the Session Compression option, you can save hard-drive space by choosing to compress the raw sensor data and video information for selected sessions.
- You can easily decompress these sessions for reviewing or replaying. Choose "Delete Video Data Only" after reviewing a session that has a video file, to free even more precious megabytes of hard drive space.

3. Export Time and Event Markers with Data

- For researchers who need to export data to other software, the TTL Standard, exports your session data with time and event marker columns.

Other New Features in Biograph Infiniti Version 2.5

Improved Reporting Functions

Event Markers

- Event Markers are automatically labeled sequentially, when you press the Space Bar, e.g. M1, M2 etc. In review mode, when you place the mouse cursor over the event markers, you will now see a label.

Clinic ID on Reports

- Prints Clinic ID in addition to Client ID numbers in Reports

Improved Session Notes Dialogue Box

- Automatically skips to next line when going over the edge of the box

More Screen Time Scales

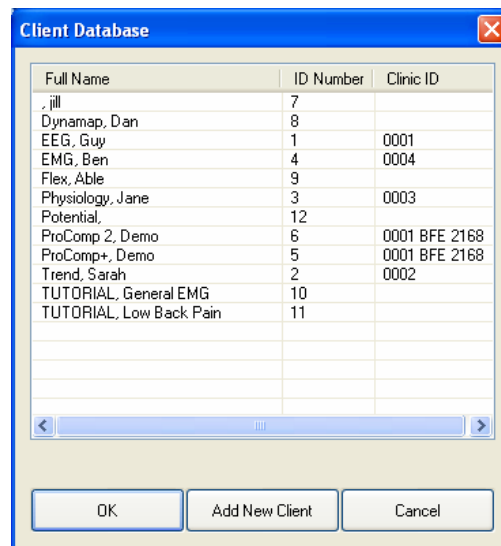
- 1,2,5,10,30 seconds and 1,2, 5,10,30 and 60 minutes..

Easier Virtual Channel Editing While Running a Client

- Quickly change virtual channel settings, such as averaging, bandpass and thresholds, by pressing pause, changing the values and resume the session.

Client Database Popup

- When you start a session, the Client Database Popup now shows the "Clinic ID Number" in addition to the client name and software-generated ID number.



Hiding Instruments

- Highlight the instrument to choose which instrument to hide, instead of from the drop down list.

Encoder Status Messages

- A number of new messages have been added to let you know the status of your encoder. These new messages let you know which encoder was

detected, and the protocol that was selected. If you make a mistake in your selection of the wrong channel set for the encoder, not turning on the power or not connecting the USB or fiber optic cable, the software will help you start again quickly.

EMG Just Got Better

- MyoScan-Pro sensors: automatically zero negative readings from Myoscan-Pro sensors, even after zeroing.

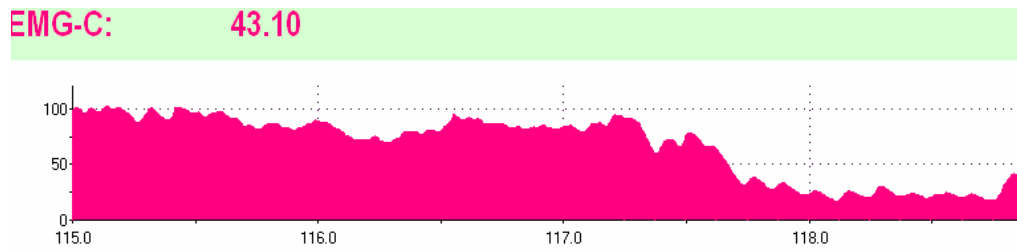
What are the New Features in the Developer Tools?

What's New in the Screen Editor?

Screen Editor now accessible in Review, Replay and Record mode from Biograph Infiniti main application, with one simple click. Change anything in your screen while running a session. Simply Stop, click on Screen and Screen Editor and you are editing the screen. When finished click "Save as" or close and you are back to your session.

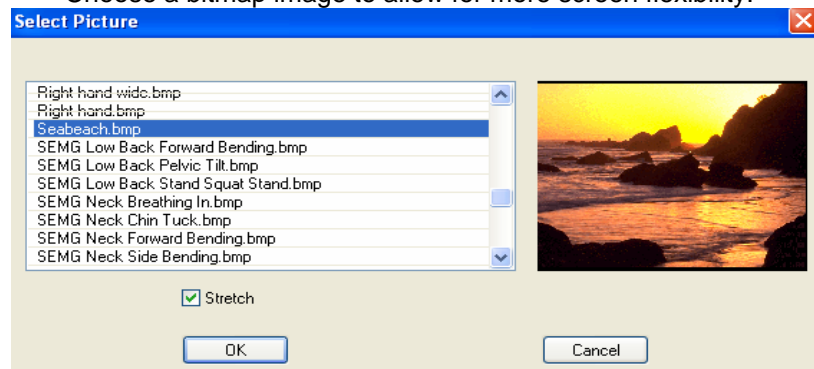
Filled Linegraphs for Easier Viewing

- Provides you with all the feedback options a regular line-graph instrument does, with the added benefit of an easy-to-see signal line. An image is worth a thousand words...



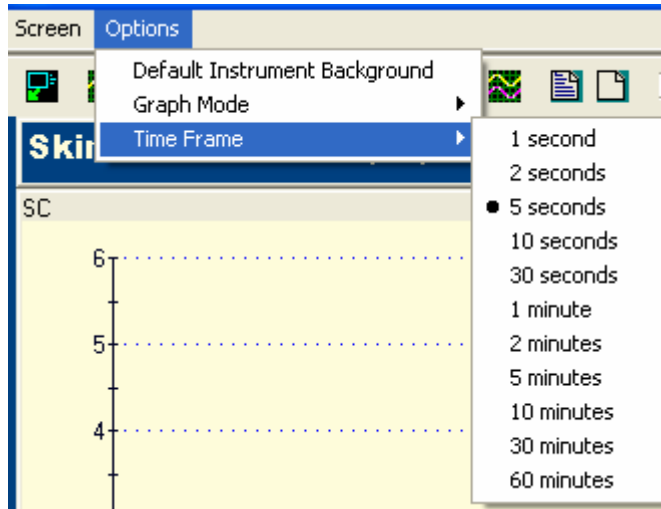
Bitmap instruments

- Choose a bitmap image to allow for more screen flexibility.



New Default Time Scale Setting

- The screen editor allows you to specify a Default time scale setting on every screen. When recording sessions, each screen is loaded with its own time scale setting, which reduces time scale adjustments. The Time Scale drop down list also includes more time scale options.



Histogram 2D and 3D features:

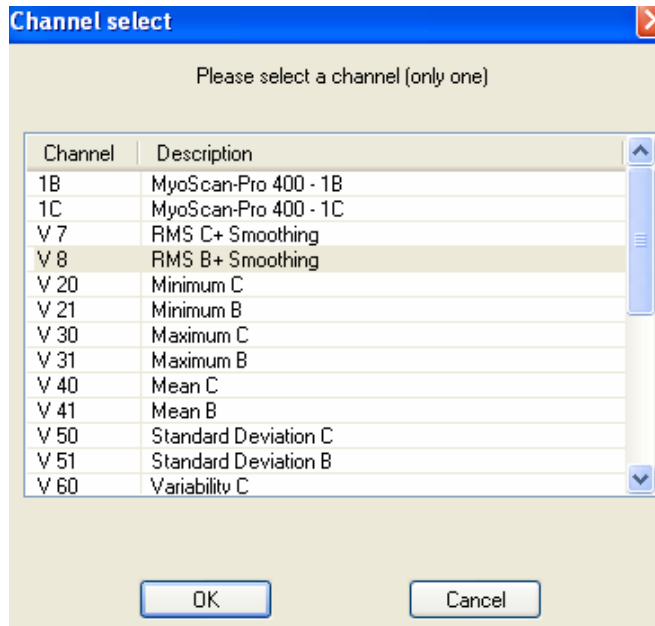
- Histogram now has 2D and 3D features which allows the bars to appear flat like ribbons or 3D like wooden blocks.

Improved AVI and Palette Animation Instrument Interfacing

- Connect an AVI or Palette Animation Instrument to any Boolean channel for direct control from a Bar Graph or a Link instrument. This allows you to set the animation to play forward, backward, start and stop when any numbers of conditions are met together.

Channel Select Pop Up Screen

- Channel numbers now appear in the channel select popup of the Screen Editor

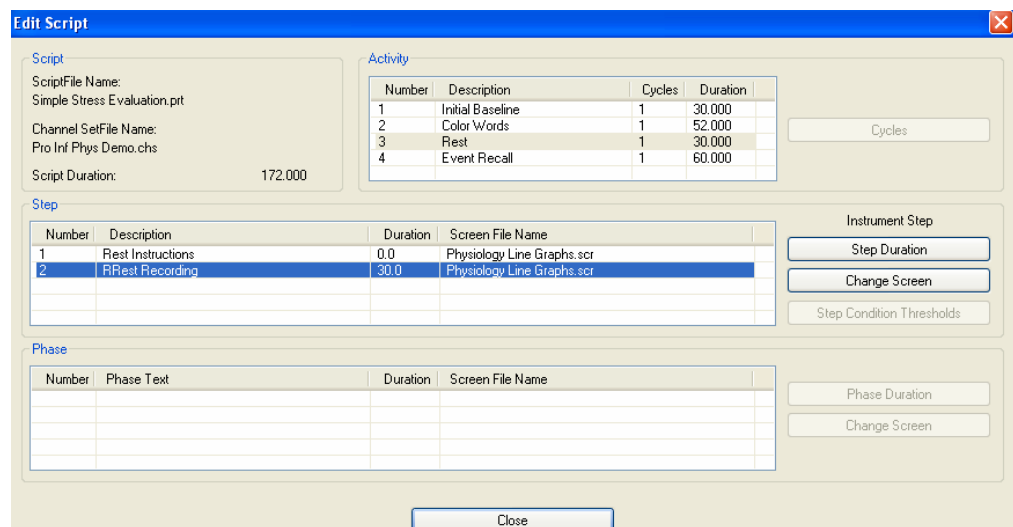


Simplified Script Building and Editing

More power for script developers both using the Editor and directly from the main application.

Edit Script Settings directly from the BioGraph Infiniti Software:

- **Select a different display screen for the selected step.** This makes building your own scripts even easier! Now have the ability to provide more variety to your clients without having to learn how to create your own scripts. Simply use an existing script and choose a new display screen.



- Before running a script directly from the BioGraph Infiniti software you can



now **Modify a conditional step threshold value**

- **Script Sessions:** At the end of the session all information will remain on screen, so data displayed as histograms and review counters can be noted.

Script Editor Improvements :

- Conditional Step allows you to jump to the end of the script, not just to the previous activity, when conditions are met.
- You can now view all steps, including instructional steps in the timeline
- Using the timeline at the bottom, the user can now double click and open the selected activity/step/phase
- Using **Conditional Steps**, you can build a script that monitors a specific value and starts recording (un-pauses) **ONLY** when that condition is met.
- With the **new TTL Foot Switch**, you can build a script that will wait for you to press the switch in order to move from activity to activity.