



MINDMEDIA
NEURO AND BIOFEEDBACK SYSTEMS

BioTrace+

What's new

2015



An overview of the new functionality of
BioTrace+ 2015

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About this document

BioTrace+ V2015 is the latest release of the software platform for NeXus. This version contains new or improved functionality. It also includes general improvements for more stability, better quality, and higher performance.

Please read the BioTrace+ User Manual before more information. The BioTrace+ User Manual also describes how to update to this new version.

Visit our website for more information about BioTrace+, NeXus, or Mind Media:

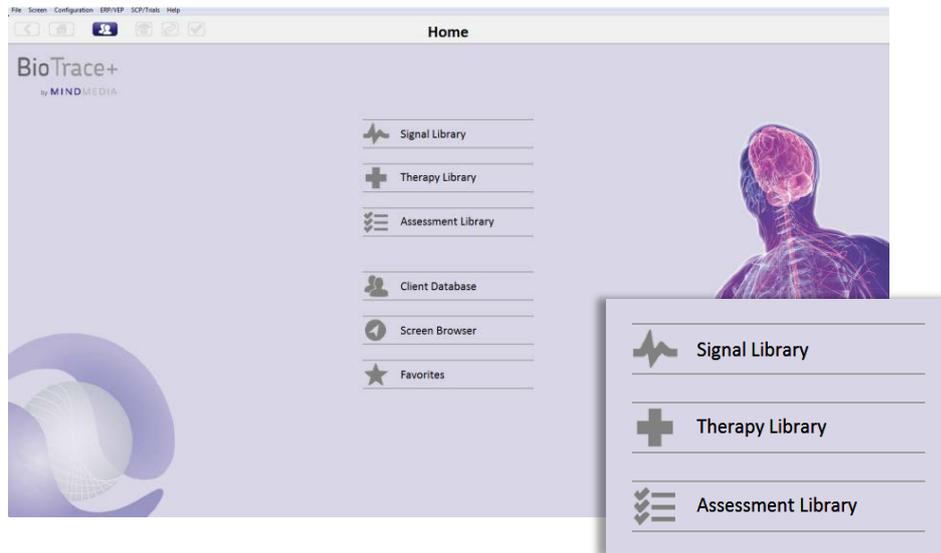
www.mindmedia.com

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New design and user interface

Brand new look-and-feel

- BioTrace+ 2015 has a brand new look-and-feel. It's designed to be as easy to use as it is versatile and powerful. *Home* contains three libraries which provide a wide range screens for signals, therapies, or assessments.



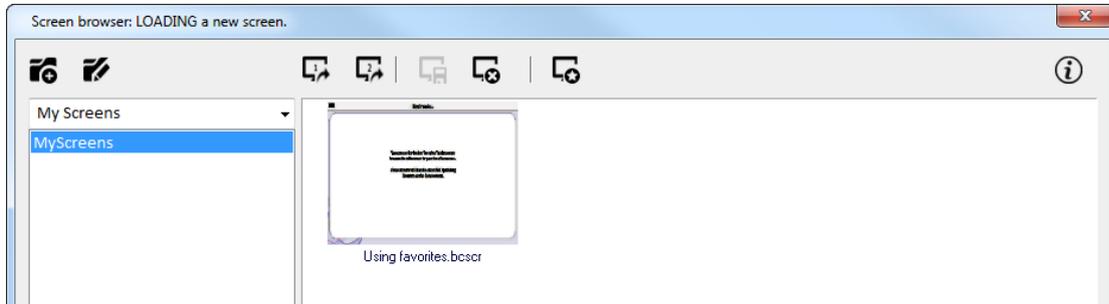
- With the new user interface you can more or less navigate the software as in a browser, by simply using buttons with icons.



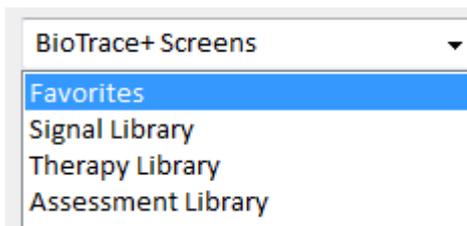
- This new version has over 300 new screens and lots of other new content.

Redesign of Screen Browser

- The Screen Browser has a new design and is always available in the all new *Session Control Bar*.



- There are two main categories. “*My Screens*” display own screens. “*BioTrace+ Screens*” show all screens which are available in BioTrace+. Choose between the several libraries or favorites.



- New functionality is added for bookmarking your favorite screens.



Redesign of Client Database

- The Client Database has a new design and is always available in the *Toolbar*.



- It is now possible to rename the session description.



Redesign of Session Control Bar

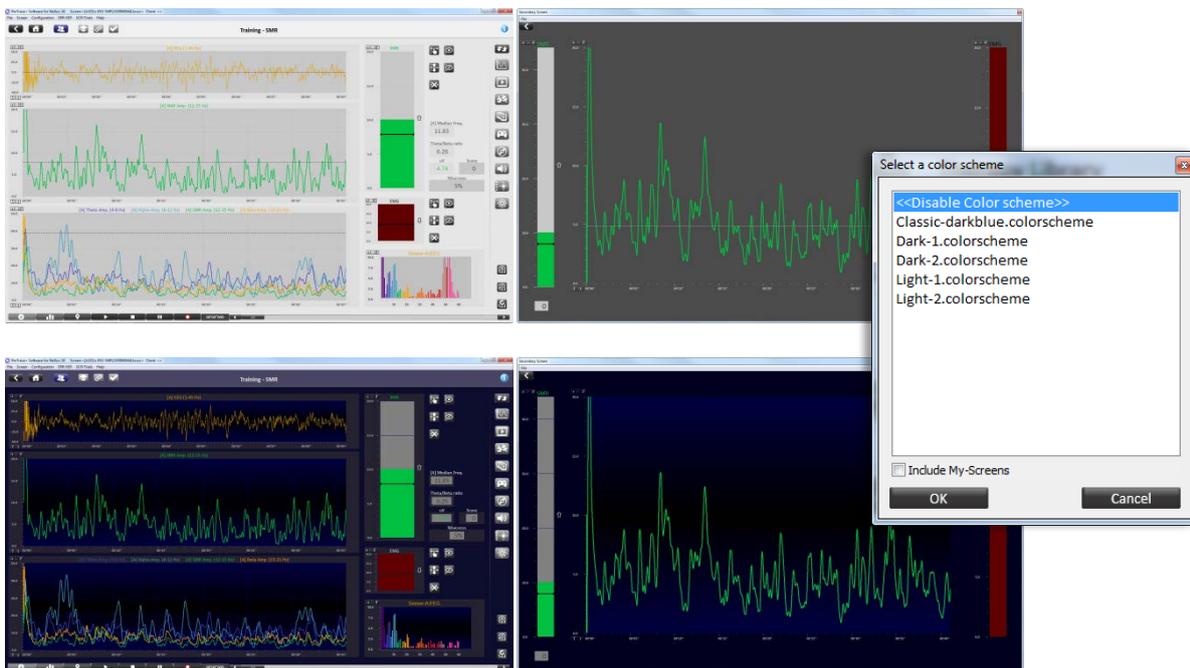
- The *Session Control Bar* is placed at the bottom of every training screen. With these buttons it is possible to control a session.



- New functions have been added like opening the Screen Browser, switch between feedback and overview mode, or add marker/event.

Color schemes

- Set various color schemes for therapist and client screens.



On-screen help

- Information buttons are added in *Toolbar*. These buttons provide more information about a specific signal, how to connect the sensor and how to perform a signal check.



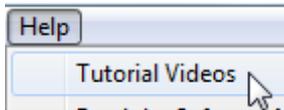
- Also added a information about the display more information about a screen.



- Added help text as tooltip when hovering over object



- It is also possible to explore our new tutorial videos.



Advanced feedback options

Added Feedback Controls

- Feedback can be controlled through action buttons. Actions can be starting a protocol or loading a feedback screen. BioTrace contains the following types of feedback controls:



Frequency Band Controls



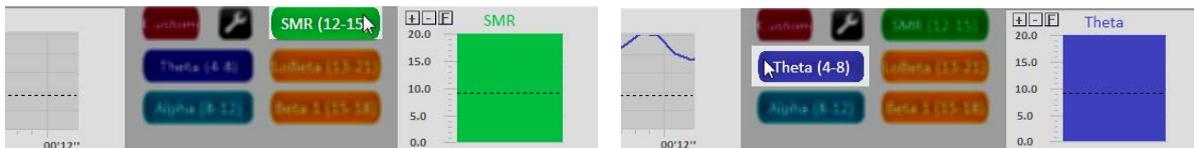
Feedback & Threshold Controls



Feedback Type Controls

Frequency bands

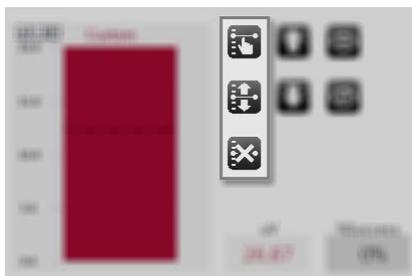
- When clicking the Frequency Band Controls, the frequency range setting is pushed to the linked objects. In this way it is easy to switch between different bands:



- Enter custom frequency range.

Thresholds & Counters

- The threshold setting controls are displayed on the right of a bargraph:

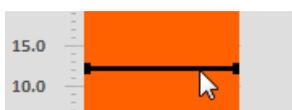


Manual threshold

Automatic threshold

Disable threshold

- Bargraph threshold redesigned



- The threshold direction controls are displayed on the right of a bar graph:



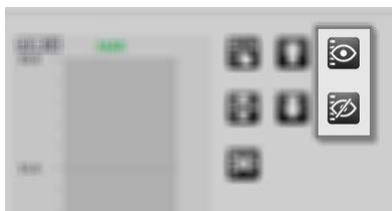
Train up

Train down

- The graph will show an arrow to indicate which reward direction is set.



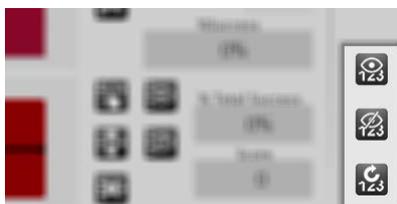
- It is possible to hide and unhide the bargraph feedback on the client screen



Show graph on client screen

Hide graph on client screen

- Control counters on the therapist and client screens. The counter controls are located in the bottom right corner of a screen:



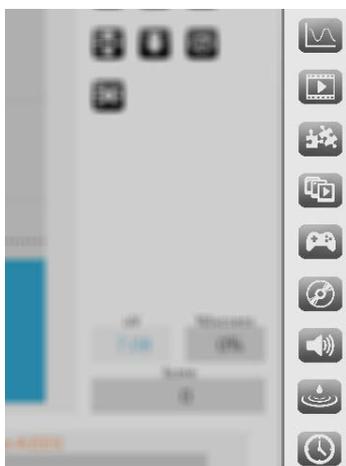
Show counter on client screen

Hide counter on client screen

Reset counter

Feedback Type

- Switch easily between various types of feedback.



Graph



Video



Puzzle



Animation



Game



Disc



Audio



Water ripple



Clock



Zoomer



Mandala



Protocol

- Change feedback content during a session.



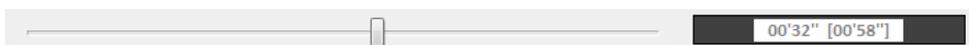
True dual screen

- True dual screen setup for single and dual monitor.

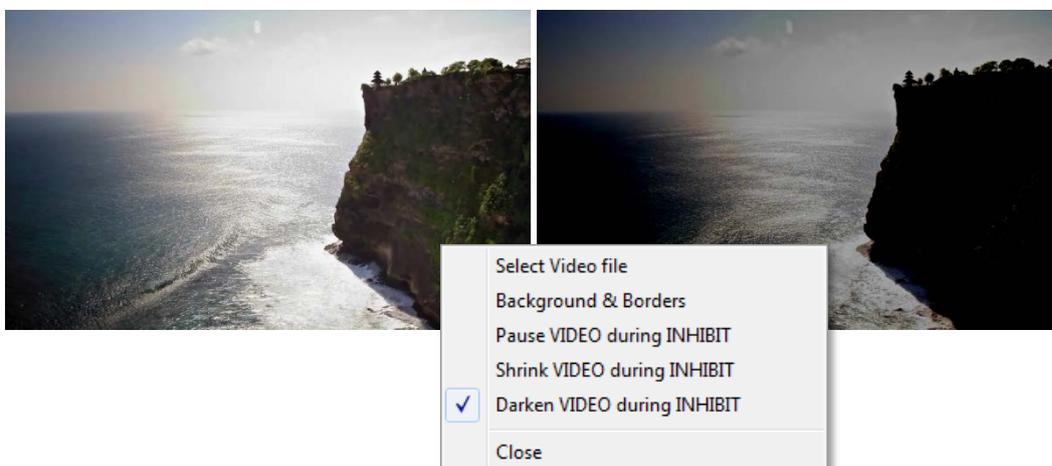


Improved video functionality

- The video selection window allows you to play the video from a specific point in time. Just drag the slider to the desired point.



- Darken (fade) the video object during inhibit added.

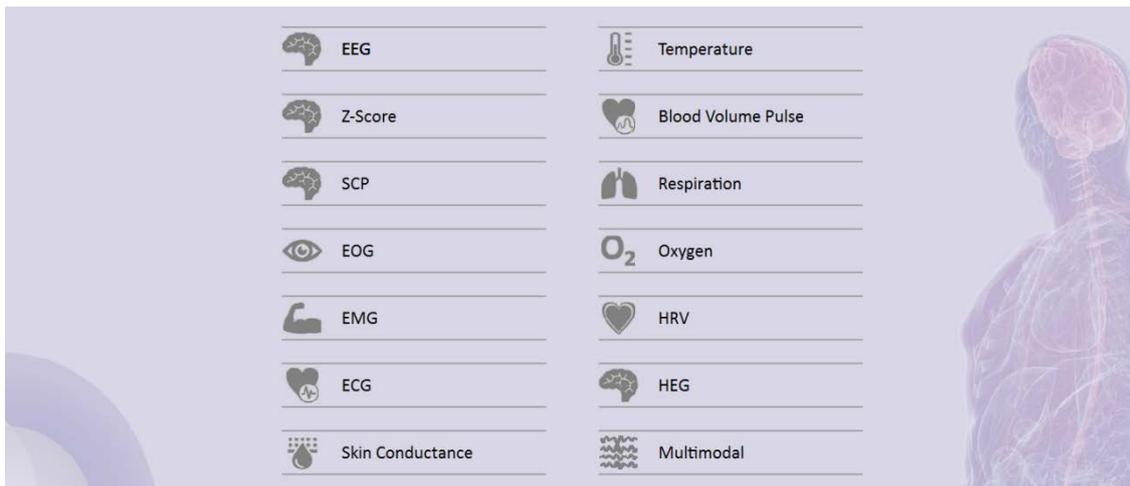


More applications

Created libraries

Signal Library

- Choose between various types of signals or modalities. All screens are standardized. Every signal contains basic, combined or multimodal screens.



- The software now differentiates between training screens and monitoring screens. These screen types are marked by the following icons:

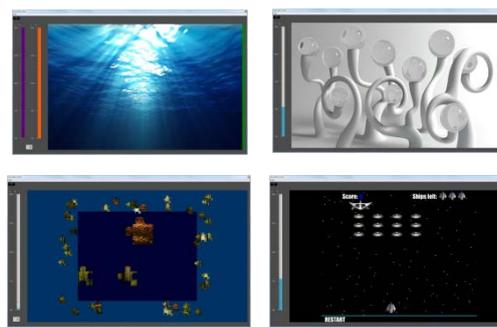


Training

Monitoring



Training - Therapist screen



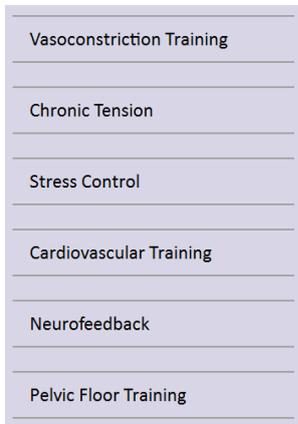
Training - Client screen(s)



Monitoring

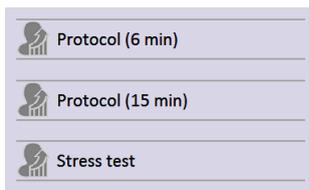
Therapy Library

- The Therapy Library provides a several screens for specific therapies or applications. This library provides a series of protocols for biofeedback and neurofeedback applications.



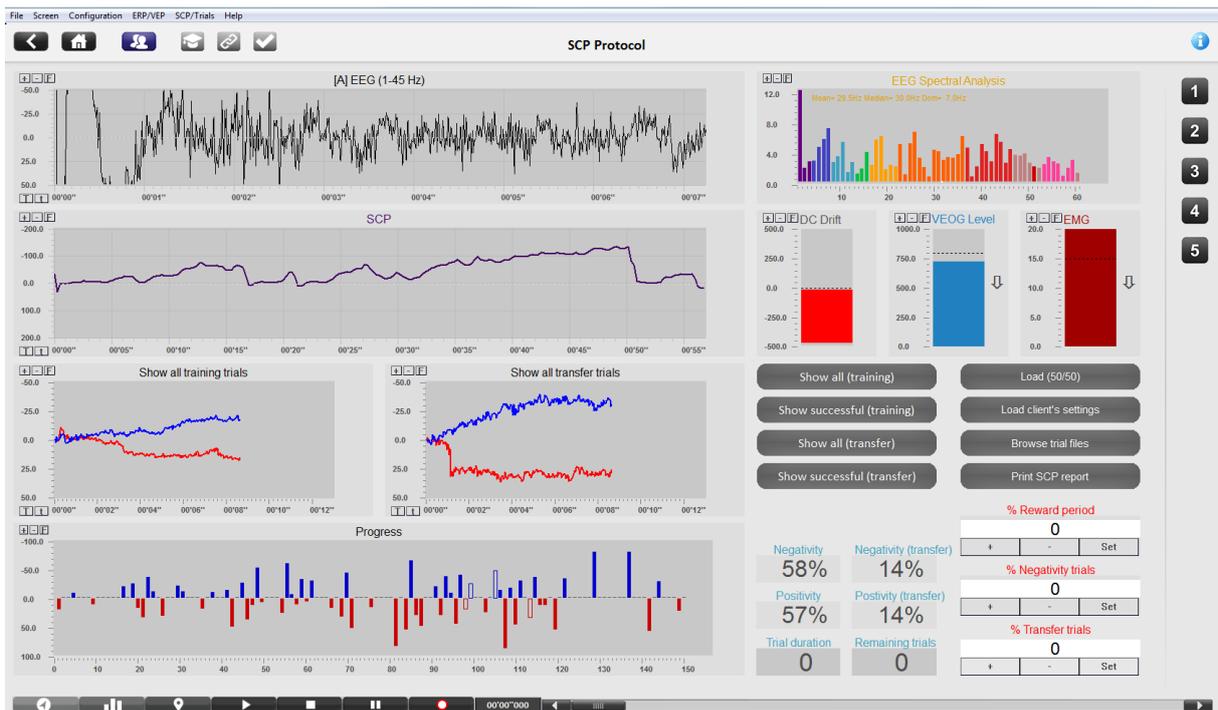
Assessment Library

- This library provides psychophysiological stress profiling protocols and stress assessment protocols.



New SCP protocol

- We have created an all new SCP protocol.



This protocol contains the following features:

- Training histogram
- Eye-movement artifact calibration
- Automatic VEOG correction
- Offset and drift correction
- SCP baseline correction
- Change / adapt trial ratio during training, by clicking a button or enter desired value manually
- Change reward period of trials during training, by clicking a button or enter desired value manually
- Show all training or transfer trials in an intra-session trend object, refreshed for every new trial
- Show only successful training or transfer trials in an intra-session trend object, refreshed for every new trial
- New SCP report functionalities
- Inter session report of all or only successful trials
- Intra session report of all or only successful trials; showing trend of all sessions for specific client
- Cue screens to prepare client for oncoming trial
- Trial editor to make it possible for you to create and save customized SCP training configuration
- Automatic repeating of failed trials
- Change client feedback screens during training
- Show SCP trial countdown on screen
- Show amount of completed trials

Developer tools

The following features are added or improved for screen development and customization:

- Redesign of Object Toolbar
- Object title can be shown inside of object
- Push object settings to multiple objects simultaneously
 - Select frequency bands for EEG screens by using buttons
 - Select up / down training by using buttons
 - Change threshold settings by using buttons
 - Select Client screens via buttons
- New and improved channel sets
 - Basic.channels
 - EEG.channels
 - EMG.channels
 - Gamma.channels
 - HEG.channels
 - Pulseoximetry.channels
 - Respiration.channels
 - SCP.channels
- Up to 512 screen objects on a screen
- New screen file format (**B**iotrace **C**ompressed **S**CReens)
- Added batch button action functionality
- Extra fine grid added
- Dynamic screen routing for using dynamic content
- Possibility to automatically show channel name as title-text.
- Use channel color as signal color
- Exclude background pull from background settings
- Added transparent PNG compatibility with RGB 1,254,1 values
- Image keep aspect ratio

System performance

The following functions have been fixed, improved, or added for more stability, better quality, and higher performance of BioTrace+:

- Buffering screen bitmaps
- Hide feedback object on client screen, while keeping feedback active
- X- or time-axis of single and dual line graph objects are now the same length
- Added overall reward counter for multi-signal screens
- About menu added
- Automatic Epoch size for amplitude calculation
- Repaint threshold on forwarded linegraph fixed
- Improved software installer and activation
- Show screen preview when hovering over button
- Change font size by system settings
- Show screen notes screen in button help text
- Show screen thumbnail of screen in button help image
- Redesign of dialog boxes
- Automatic direction (up/down) for animation
- Automatic color changing for bargraphs and zoomer objects, reward tag based
- Save all pacer settings when binding to screen, now includes auto-stepping
- Background sounds can be set to respond to inhibit all feedback
- Client screens change according to settings made on the therapist screen
- Automatic loading of demo sessions for BioTrace+ screens
- Secondary screen loaded on single monitor setup overlaps primary screen