ERP Experiment Setup Information

These instructions provide an overview for setting up the ERP CORE experiments for data collection. Below is a brief checklist of steps, with more detailed instructions on each step following.

1. Install the experiment pack and open a pack experiment.
2. Set the desired monitor/screen resolution on the "Video" panel of the Settings tab.
3. Add and test an output port on the "Port" panel of the Settings tab.
4. Set the preferred buttons on the "Response" panel of the Settings tab.
5. In the "Hardware" parameter group on the Parameters tab, update your display hardware settings.
6. To send port output, set the Send Port Codes parameter value to "True"
7. Set names for response buttons under the "Instructions and Naming" parameter group.
8. Update the number of trials, conditions, etc. using other parameters, if desired.
9. Save the experiment (Experiment->Save Experiment) to save these settings
10. Click "Run" on the Main tab to run the experiment.
11. Check the folder "Logfiles/Experiment Name" for run data.

Note: Parameter values (e.g., button names, monitor configuration, and task settings), port settings, and response button settings are saved in the experiment (.exp) file, meaning that you need to adjust and save those settings for each experiment individually.

Minimum Presentation Version

We recommend installing the most recent version of Presentation before running the experiments (versioning is independent of licensing, so you can always update versions, and have more than one version installed at the same time). The minimum version of Presentation required to run the ERP CORE is 20.0. A warning will be displayed when the experiments are opened using an older version.

Display Settings

First, set your desired display, display resolution, and bit depth on the "Video" panel of the "Settings" tab.
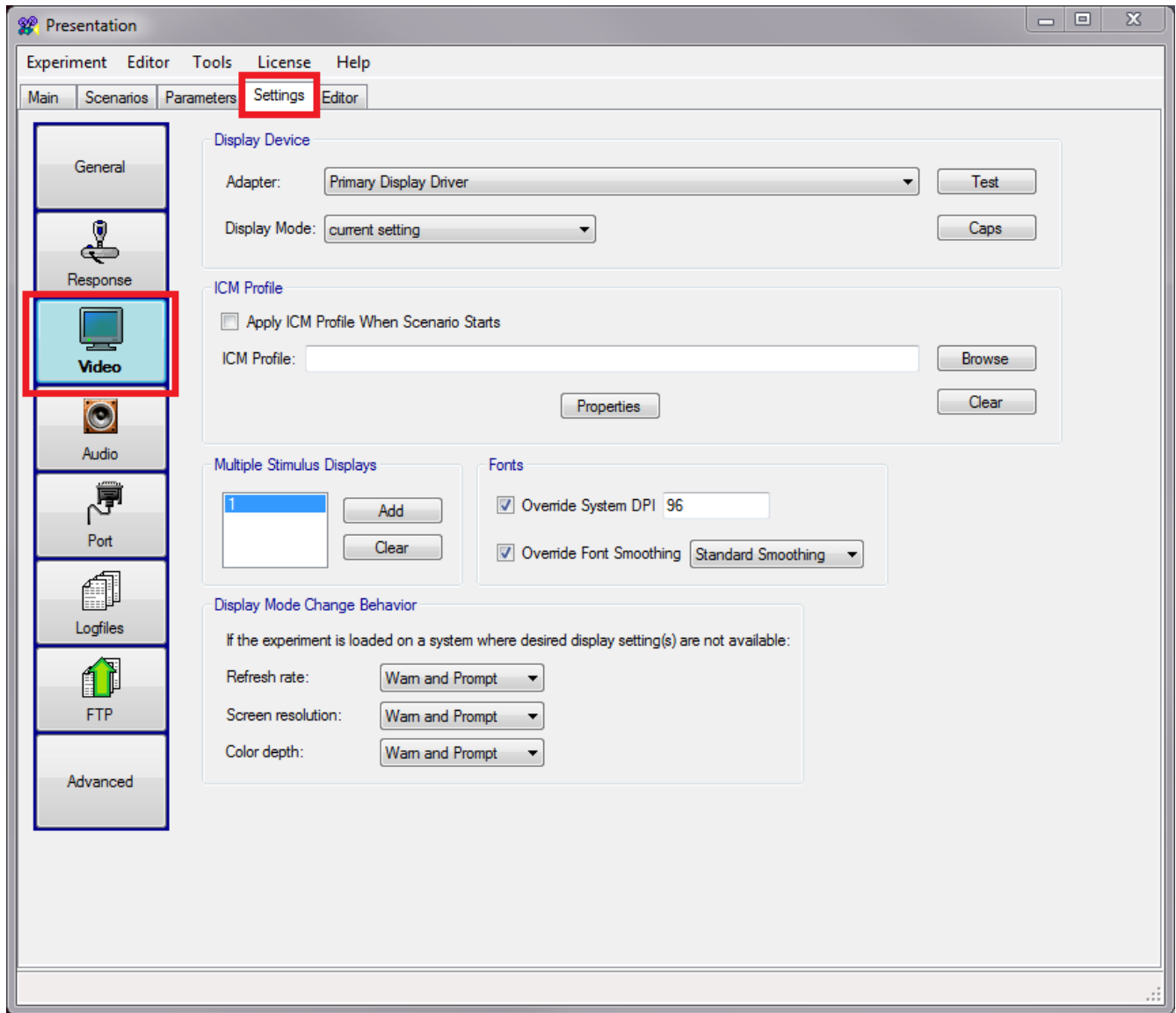

Stimulus dimensions are set in degrees of visual angle. To ensure that visual angle is calculated correctly, you

must specify the display size of the monitor and distance to the participant. Go to the Parameters tab and find the "Hardware" parameter group. Change the values of Display Height, Display Width, and Viewing Distance to match your monitor and viewing setup. Note that height/width measurements refer to the display area only, not any border or bezel on the monitor edge.
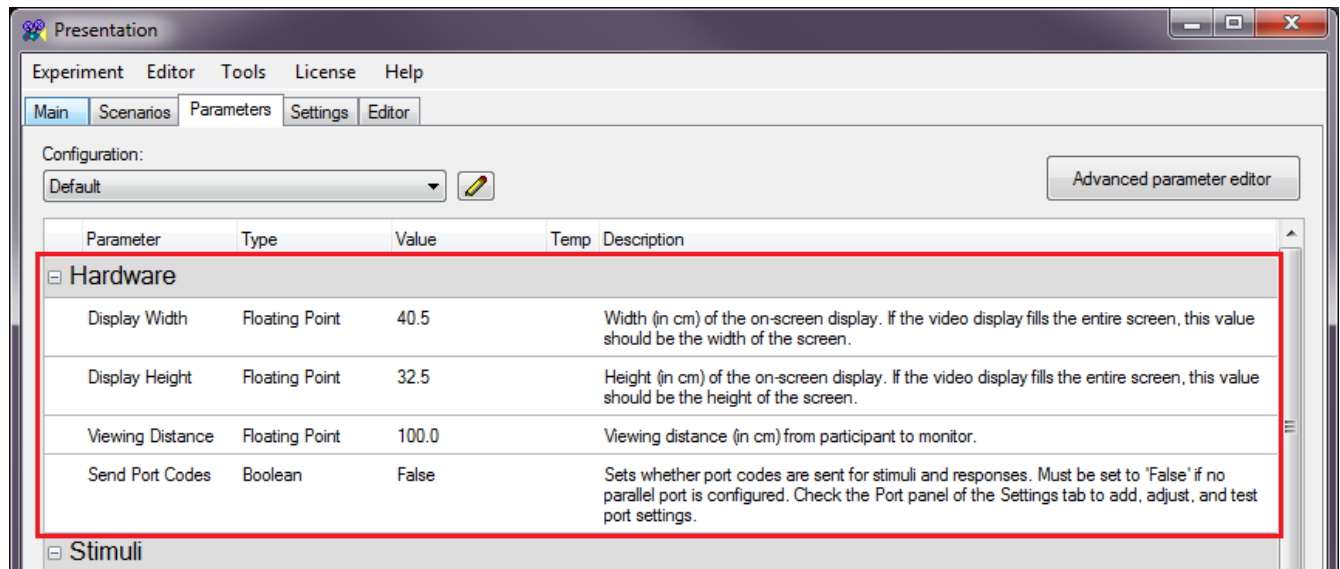
To change parameter values, click the parameter name, then enter a new value.
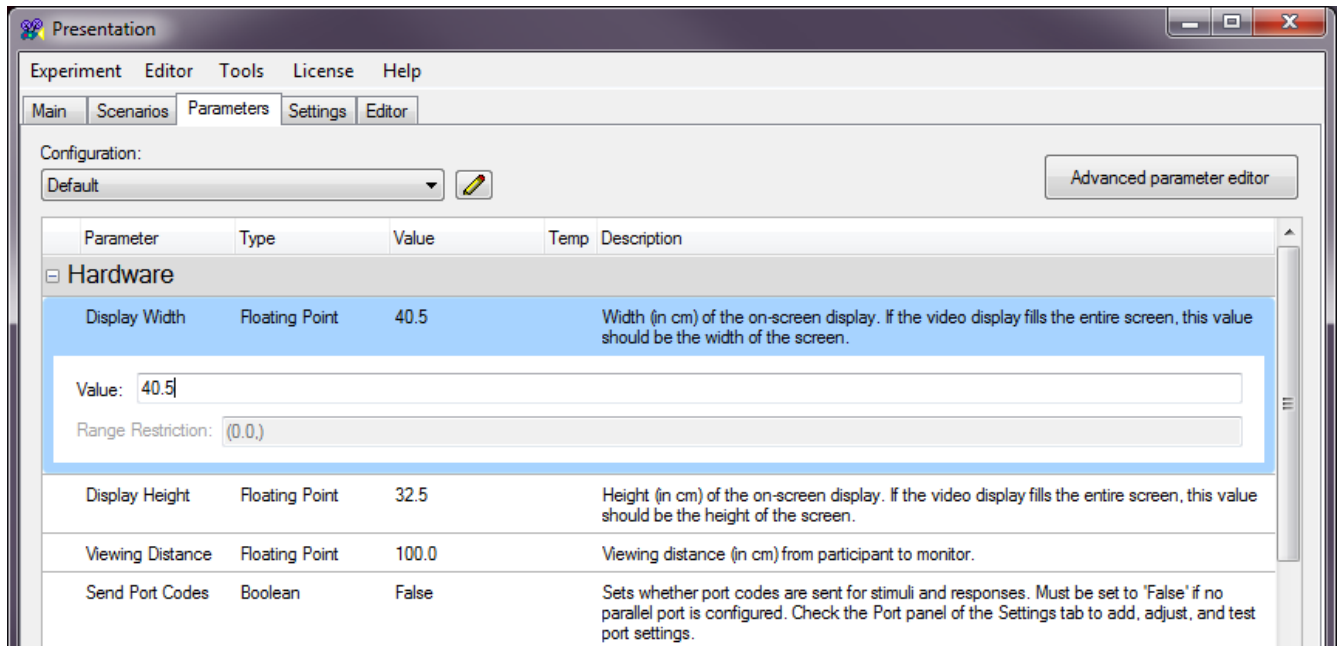
Note: Measurements refer to the display area of the monitor only, and not any bezel/border around the screen, or any area of the screen in which the display does not appear.

Monitor settings are saved in the experiment (.exp) file, so we recommend saving the experiment once you have entered them. These values also must be set independently for each experiment.

Port Output

To send port codes/triggers through the parallel port, you must configure an output port on the Port panel of the Settings tab. Click "Add" to add a new output port, adjust the settings, and send test codes. For more information about output port setup, see the Presentation documentation (Help Guide : Presentation : Hardware Interfacing : Ports : Port Output).
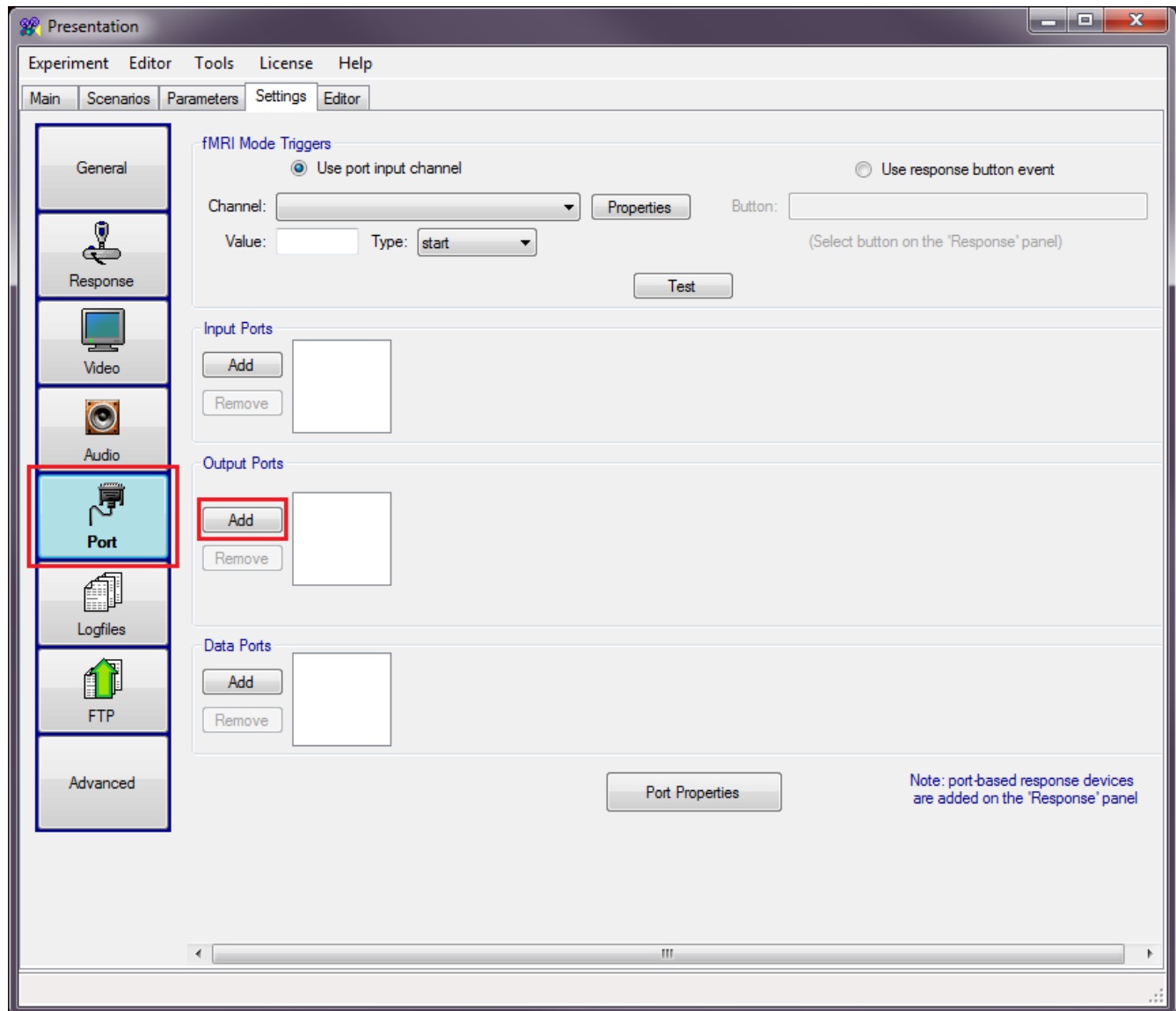
After adding and testing the output port, set the Send Port Codes value to "True", to send port codes/triggers for stimulus and response events.
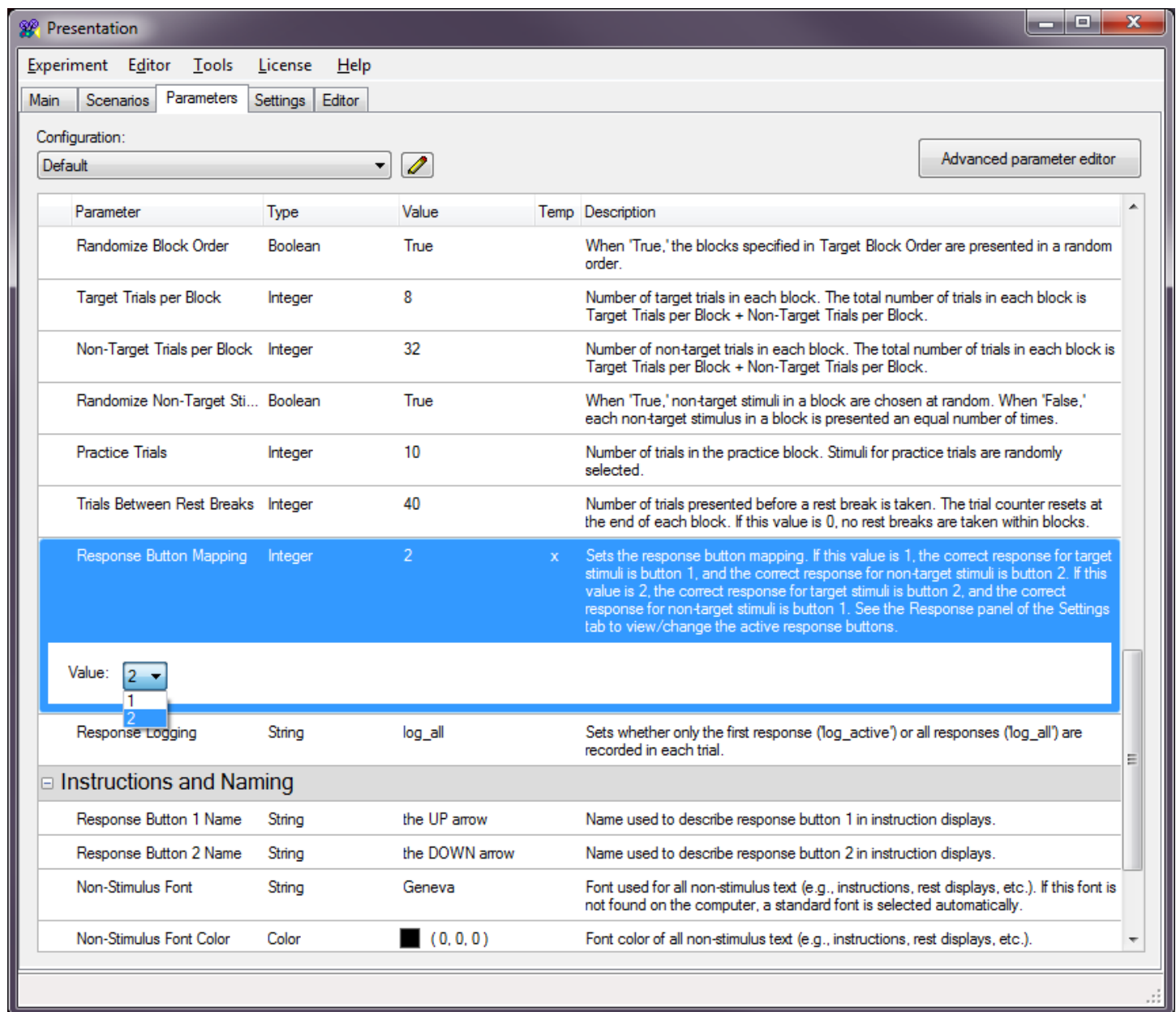
Response Buttons

Response buttons can be viewed on the "Response" panel of the Settings tab. The current buttons are shown in the "Active Buttons" window. To change the buttons, first use the "Remove" button to clear the current buttons. Then, choose the appropriate device from the "Devices" list, highlight a button, and click "Use". That button should now appear in the Active Buttons section. Make sure to add the same number of buttons that were removed.
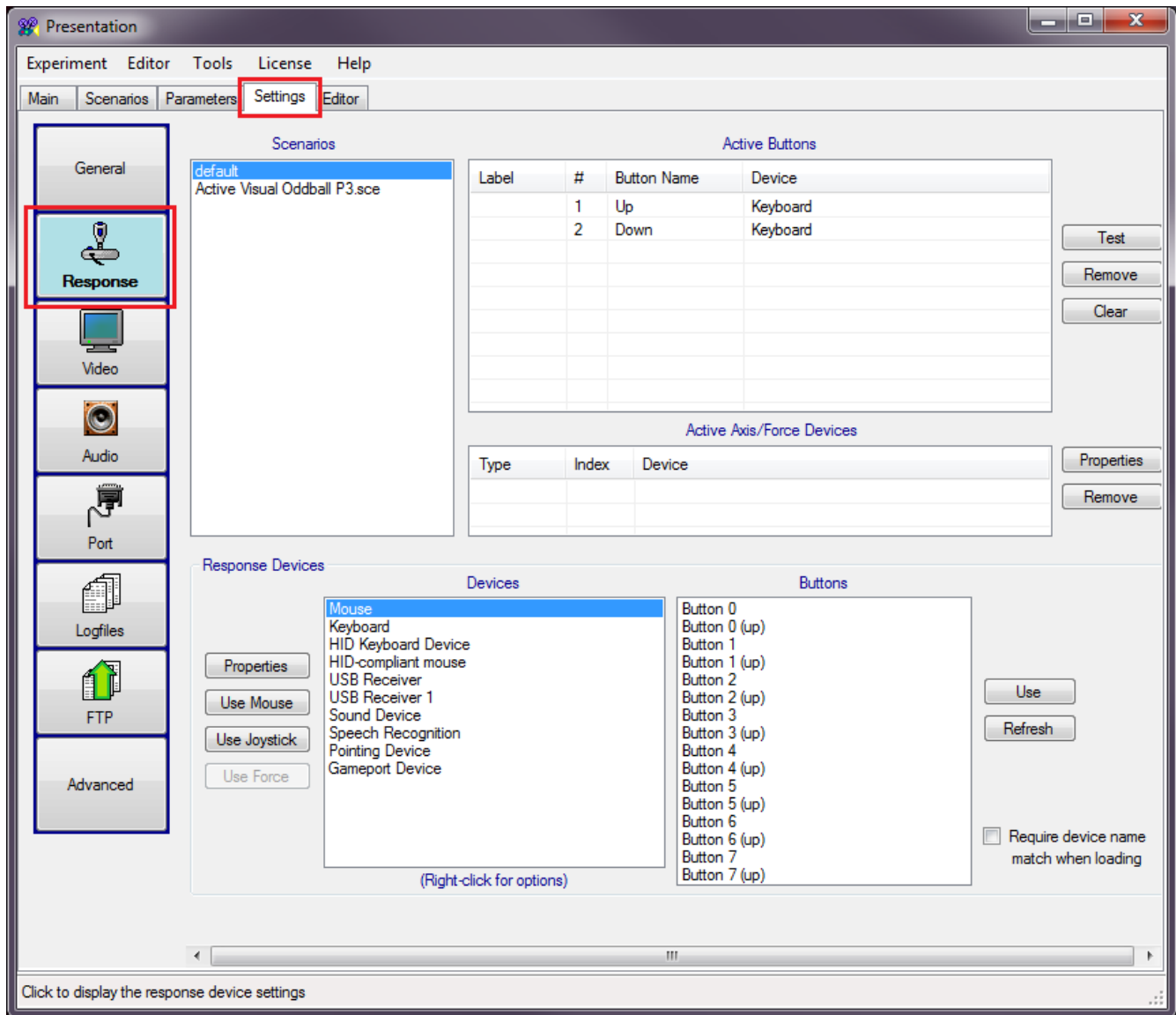
Note: After changing or updating buttons, check the Parameters tab. For on-screen instructions, the name of buttons is also specified as a parameter (see the "Instructions and Naming" parameter group), and this should be updated when the buttons are changed.

For some experiments, you may want to counterbalance which of the two buttons is used for particular responses. In the 'Trials and Conditions' parameter group, you can set which active button number is assigned to a particular condition/response with the Response Button Mapping parameter. Use the dropdown box to select a button mapping (the parameter description explains the available mappings).

To make counterbalancing button mappings across participants easier, the button mapping is set as a "Temporary" parameter. This means that you will be given the option to select the response mapping each time you run the experiment.

Configuring Task Settings

The Parameters tab is where the number of trials, stimulus sizes, colors, timing, and other aspects of the experiment can be adjusted. The ERP CORE experiments come with a default configuration of parameters to match how the reference experiments were run. If you plan to change these parameters, we recommend you create a new configuration, and adjust the values in that configuration, so that the default configuration is kept intact and can be easily referenced or checked later if necessary. To create a new configuration, click the drop-down menu under "Configuration" and click on "[New configuration]"
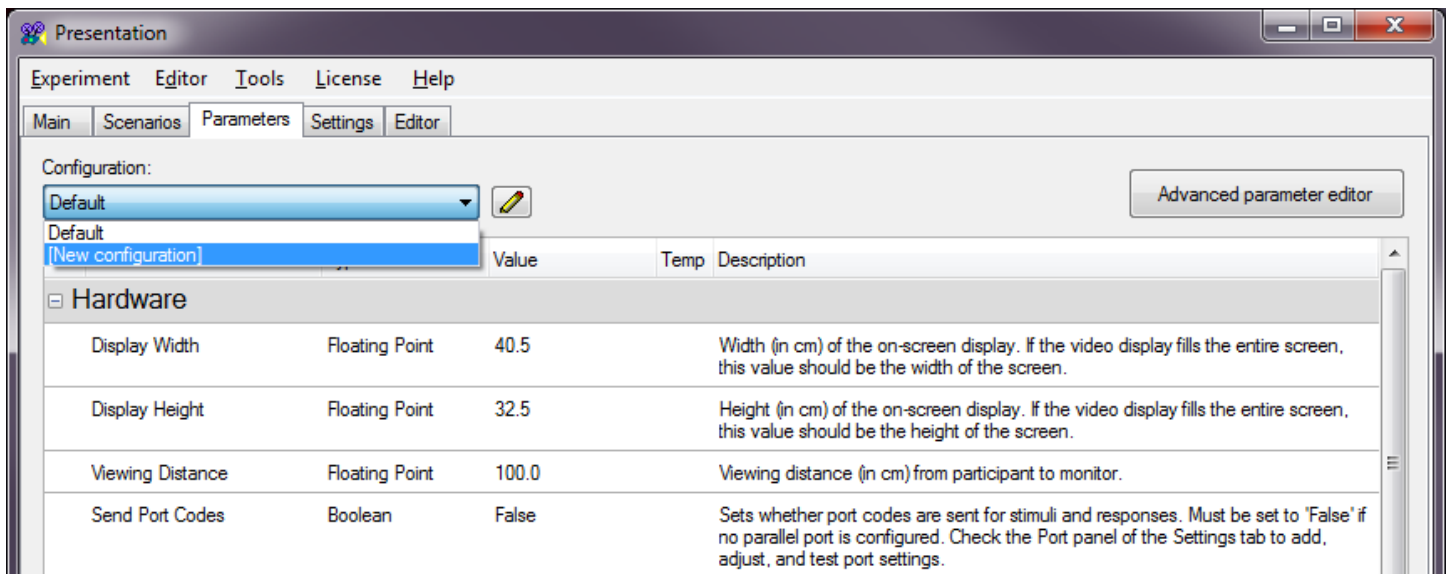
For more advanced modification options. click the "Advanced parameter editor" button in the upper right corner. From here, parameters can be turned on or off, made locked or editable, or similar. Do not delete parameters or modify the range restriction on parameters, which may result in unexpected errors. In most cases, you should not need to access the Advanced parameter editor.

Data

All experiments produce two tab-delimited text files, saved in the folder Logfiles\Experiment Name. The .log file is a standard Presentation logfile, with detailed information about all of the stimulus and response events (for more information on logfiles, see the main Presentation documentation). The .txt file contains trial-level data, such as conditions, trial number, response, accuracy, RT, etc. A description of the column headings can be found in the documentation for each experiment.