

SykofizX Version 2.0 Enhancements and Updates

The major enhancements to the SykofizX application introduced in SykofizX Version 2.0 are detailed below.

1) Support For All RX Devices Including The RX5, RX6, RX7 And RX8

SykofizX now supports all RX devices. Keep in mind, however, that the digital I/O implementation on RX devices is different from the implementation on RP devices. When using the digital I/O function (e.g., controlling an external subject interface) different .rco files must be used with each device type.

The new APEX.rco should be used in place of the APE.rco when using the APE array processor emulator with RX devices. The APE.rco should still be used for RP devices. The digital I/O section of the Ex19.rpx file or the APEX.rpx file may be used as a template for adapting other custom .rco files for use with the RX devices.

2) Enhanced Error Messaging

- a. Enhanced script error messaging makes it easier to locate script error. When an error occurs the script interface is launched, the error is highlighted, and a text description of the error is provided.
- b. If a linked file is missing or the path is no longer accurate, a navigation window is launched with a message prompting the user to navigate to the requested file.

3) Experimental Design Enhancements

- a. There are now four different options for handling cases where a subject fails to respond on a given trial. The option is configured via a drop down menu in the experimental design parameter inspector of the Presentation Paradigm design wizard.
- b. The KVM subject interface configuration utility now has the capability to include .avi animations. Animations can be added to the KVM design palette. The .avi files to be used are specified in the KVM configuration utility via the FileName option in the parameter inspector.

4) Subject Interface Enhancements

- a. The ability to add user-defined parameters for use in the subject interface has been enabled.
- b. The ability to interact with .rco files from the subject interface scripts via ActiveX controls has been enabled.

4) Experimental Variables Enhancements

a. Previously, attempts to delete user-defined parameters (e.g., stimulus generation parameters) that were also experimental variables caused a variety of behaviors, often raising catastrophic failure errors or access violation errors and corrupting the .sfx experimental design.

Now, attempts to delete user-defined parameters that are also experimental variables raise a warning message that prompts the user to first delete the experimental variable in question and will not allow the user-defined parameter to be deleted until it is no longer an experimental variable. This avoids contamination of the experimental design.

b. Many users wish to specify a different "Initial Value" of the independent variable for each condition. To do this, one may now define a "place-holder" condition variable by adding a new condition based on "Initial value" under the "Track Parameters" category of the possible conditions parameters listed. This parameter can be set to a "single value" within the Define Experimental Variables wizard. Once the condition grid has been generated, the user can then edit the "Initial value" condition parameter so that the initial value changes from condition to condition.

5) Script Timing

The script "Time out" setting is controlled from an edit box at the top of each script window. Previously, changes to that value were not respected and the application defaulted to a timeout value of 10000 ms. Now the value entered is respected and it is unbounded.

6) Subject Response Timing

Timing issues related to the implementation of the "Response Window Delay" parameter specified in the Subject Response design wizard have been fixed.

7) Subject Interface Script Execution

In version 1.0, the order that the subject interface scripts were displayed in the script environment was not the order in which they were executed. Specifically:

a) System3.ScriptedSubjectInterface displayed the first five scripts in the following order:

- Library Script
- Run Begin
- Pre-Trial
- Trial Begin
- Presentation Begin

But executed the scripts in the following order:

Library Script
Run Begin
Trial Begin
Pre-Trial
Presentation Begin

The scripts are now executed in the order in which they are listed in the script environment.

b) In version 1.0, the Kvm.Keyboard_Video_Mouse script environment displayed the scripts in the following order:

Startup Script
Possible Responses Script
Alert Script
Begin Run Script
Begin Trial Script

But executed the scripts in the following order:

Startup Script
Possible Responses Script
Begin Run Script
Begin Trial Script
Alert Script

The scripts are now executed in the order in which they are listed in the script environment.

8. System 3 Stimulus Generation Modifications

Version 2.0 eliminates the need to use ActiveX controls to set .rco parameter tag values. In Version 1.0, ActiveX controls were used to set parameter tag values, as follows:

```
Error1 = RPcoX.SetTagVal("ParameterTagName", ParameterTagValue)
```

This sometimes resulted in the tag value changing on the next trial rather than on the current trial.

In Version 2.0, parameter tags values are set directly as follows:

```
ParameterTagName = ParameterTagValue
```

This eliminates the need to use the ActiveX controls and ensures that the tag values are set properly on the current trial.

In practice, this should have little influence on APE.rco based designs. It does influence the way in which the RMS level of a stimulus is estimated in other .rco based designs. See Ex05 and Ex19 for examples of how to implement the new tag-naming convention.

Changes in the way in which parameter tags are written and updated may require the default .rco parameter tag values to be reset to their default values after each experimental trial. See Ex19 for an illustration of this process.

9. Halting Data Collection

In the original SykofizX 1.0 version, during data collection, choosing halt and then re-starting a run sometimes resulted in lost trials. This has been corrected.