EigenD System Release Notes

Eigenlabs Ltd.
+44 (0) 1392 823000
support@eigenlabs.com

Release: **2.0.46-experimental**
Release Category: Experimental
Download location: http://www.eigenlabs.com/downloads/releases

Release Chronology:

- Release 2.0.32 9th December 2011
- Release 2.0.33 21st December 2011
- Release 2.0.34 6th January 2012
- Release 2.0.35 19th January 2012
- Release 2.0.36 17th February 2012
- Release 2.0.38 16th March 2012
- Release 2.0.40 30th March 2012
- Release 2.0.42 1st April 2012
- Release 2.0.44 5st April 2012
- Release 2.0.46 13th April 2012

Contents:

1 – Introduction

The 2.0 series of EigenD is the first to include the Workbench, a graphical utility for manipulating setups.

Starting from 2.0.36, on the Mac, the /Applications/EigenD link is no longer updated except on stable releases. You can access testing and experimental relases via the /Applications/Eigenlabs directory.

As with the 1.4 release, the core elements of 2.0 are built from the open source EigenD repository which can be found on github:

https://github.com/Eigenlabs/EigenD

Starting from 2.0, we are dropping support for Mac OS 10.4 EigenD now requires Leopard or newer.

Many aspects of EigenD have changed. In the past, quite a few functions depended on the Belcanto interpeter to work. Most of these have been re-architected so that they are more intuitive in a GUI environment, while retaining the ability to configure every aspect of EigenD using Belcanto.

Not all agents have been thoroughly tested yet, this is an ongoing process as new full-featured factory setups are being rebuilt for each instrument.

This release contain an initial collection of factory setups but due to their novelty, it is not advised for use in any rehearsal or live situations.

Because this is an experimental release, please be aware that setups created with this release may not be usable in subsequent releases. This will remain the case until the 2.0 series enters the testing phase.

This release introduces an experimental first version of the new Fingerer agent which allows groups of keys to be fingered in monophonic fashion, in the same way as valved instruments. It also provides interesting additions that still allow for polyphonic playing. We invite everyone to try out its current features and behaviour to help us fine-tune the final functionalities. The Fingerer documentation can be found on the wiki:
http://www.eigenlabs.com/wiki/2.0/Fingerer/

The Illuminator agent is also new in this release and provides an easy way to set up lighting patterns on the Eigenharp keyboards. Its documentation can also be found on the wiki:
http://www.eigenlabs.com/wiki/2.0/Illuminator/

Starting with release 2.0.38 and 2.0.40, we are skipping odd release numbers to allow for intermediate test releases and make it easier for people to build their own releases from the GPL source tree.

2 – Bugs fixed in this release

- Release 2.0.46-experimental
  - EigenD
    - Regression fixes to per-note MIDI CC data and host automation data
    - Fix for keygroup outputs sometimes not being visible after reloading setup
    - Fix for Alpha and Tau sometimes not being detected after loading a new setup
    - Various stability improvements
  - Workbench
    - Fix for agents disappearing when loading a different setup
    - More reliable wire repainting
    - Fixes for various crashes while switching setups

- Release 2.0.44-experimental
  - EigenD
    - More installer changes.
    - Add enclosing rig name to names in EigenD's Window menu.
    - Clocking fixes to improve latency.
    - Ensure EigenBrowser captions and panes update correctly.
    - Tau setup fixes.
  - Workbench
    - Stability improvements, especially with respect to switching setups.
- Release 2.0.42-experimental
  - EigenD
    - Fixed problem introduced in last release where the interpreter in a new setup (as opposed to a setup loaded from a file) didn't start up properly.
    - Fixed the headphone control in the Tau setup.
    - Fixed OSC output event end data structure
    - More stability improvements.
- Release 2.0.40-experimental
  - EigenD
    - Stability improvements, especially with respect to switching setups.
    - Changed installer test to copy better with symlinks and improve Lion compatibilty.

- Workbench
    - Stability Improvements.

- Release 2.0.38-experimental
    - EigenD
        - Audio ports couldn't be browser correctly in EigenBrowser and Workbench
        - Keygroup mode key wasn't behaving correctly when relatively positioned
        - Keygroup blink could sometimes not light up all the keys
        - Scaler tonic lights with negative offsets were not displaying correctly
        - The Console Mixer agent could behave wrongly with talkers
        - Effect channels of the Console Mixer agent weren't properly propagating their names
        - Drummer agent wouldn't properly restore
        - Rigs now behave correctly when a dramatic change happens to their channel structure
        - Ultra talkers (talkers changing other talkers) weren't behaving correctly
        - Rigs clean up improvements
        - Keygroup mode key wasn't working when another key was held down
        - Scale definitions weren't always consistently formatted in the Scaler agent
        - Many agent fixes related to the new key data stream format
        - MIDI clock agents wouldn't start running inside Rigs
        - The clocking relationship inside Rigs wasn't correct
    - Workbench
        - Agents could be left in move mode in certain situations
        - Keygroup mapping editor stability improvements
        - Large setups could cause the Workbench layout to not restore on Windows
        - Spurious loose pins (blue dots) couldn't be deleted
        - The position of agents would sometimes not be saved
    - Stage
        - The agent browser would collapse to the first level after creating a widget

- Release 2.0.36-experimental
    - EigenD
        - Fix bug reporter.
        - Merge Bug fixes from 1.4.12.
        - Various key number stream related fixes. All Agents have now been brought into the new world.

        - Expose more setup in a workbench friendly way.
        - Talkers and Mode keys were not using the activation thresholds set in the keyboard agent.

    - Workbench

        - Stability Improvements.
        - Property Editors react to background changes.

- Release 2.0.35-experimental

    - EigenD

        - Fix bug reporter.

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    - Workbench

        - Stability Improvements.

- Release 2.0.34-experimental

    - EigenD

        - Merged Bug fixes from 1.4 up to 1.4.11

    - Workbench

        - Stability Improvements.

- Release 2.0.33-experimental

    - Eigend

        - Various stability improvements.
        - Deleting takes from scheduler didn't behave correctly when triggered from recorder.
        - Fix to damper pedal in particular with the AHDSR agent
        - Blank agent names were shown in load process.
        - Fixes to talkers.
        - Fix to set verb.
        - The state of console mixer send channels wasn't saved.
        - The arranger clear all feature didn't clear the persistent state.
        - Connections for Stage widgets are now hidden in Workbench.
        - Fixes to creation and deletion of kgroup outputs.
        - Fix to recorder take names so that they work correctly with recorders inside rigs.
        - Fix to make retargeting of Stage widgets work again.

- Workbench
    - Crashes caused by loophole allowing apparent connection of same wire to inputs on more than one agent.
    - Crash when delete Kgroup Output.
    - Crash when delete main Kgroup.
    - Wire becomes invisible when input and output points are exactly vertically aligned.
    - Rig renaming does not change tab name.
    - Crash after renaming rig and clicking on existing tab for that rig.
    - Changing multiple “using” channel numbers in the property editor only changes some.
    - Deleting a rig with an open tab should cause the tab to be removed.
    - When creating wires they sometimes connect to agent ports which are not near to the mouse pointer.
    - Multi-select tool only works on top left corner of agents.
    - Agents which move automatically when obscured by expanding an agent move back even when a port is contracted on the obscuring agent.
    - Dragging a wire from a reversed connection (a light output for example) requires the drag to start exactly osn the pin rather than anywhere in the box as is the case for other ports.
    - Show/hide metronome and controller wires setting should be persistent.

3 – Bugs and known issues in this release

- EigenD
    - EigenD should prompt user to save setup before quitting.
    - The example setups contain only a subset of the factory setups from EigenD 1
- Workbench
    - Cannot close tabs other than by deleting rig or restarting Workbench
    - Highlighting of wires isn't always predictable.
    - Sometimes impossible to grab a wire (usually happens when several wires follow the same path to the right of a hook).
    - Property editor requires better layout and various improvements.
    - Pasting into property editor text fields doesn't enable the 'set ' button.
    - Editing a wire containing numerous connections which is routed over a hook, can lead to some of the connections becoming detached from a hook.
    - Automatically moved boxes do not remember more than one level of position.
    - Wiring trunks is fiddly.
    - Buffer size incorrectly shown as zero.

4 – Changes and Improvements

- Release 2.0.40-experimental
  - EigenD
    - HTTP support in the new Illuminator agent, full details in the wiki: http://www.eigenlabs.com/wiki/2.0/Illuminator/
- Release 2.0.38-experimental
  - EigenD
    - Fully functioning factory setups are now included for Alpha, Tau and Pico
    - Example modular synth setups for Alpha, Tau and Pico
    - New Fingerer agent
    - New Illuminator agent
    - Keygroup outputs can now be individually enabled or toggled through Belcanto
    - Alpha and Tau debouncing system is now configurable:
      The default is 20000 us.
      This seems to cause missing key presses quite easily with stickier keys (ie, coefficient of friction between finger and key is high) The same effect seems to happen on other keyboards, to greater or lesser extent. For instruments with maple keys, setting this to 25000 or higher should help. The maximum is 31500 (31.5ms). Below is a Belcanto example to change the debounce delay:

      ```
      keyboard 1 debounce to 25000 set
      ```

    - The note player has been extracted from the Recorder agent into a new Player agent
    - Improvements to Recorder agent auxiliary port name linking
    - Added a fixed Controller Input to the Recorder agent
    - Port cleanups and naming improvements to Ranger, Shaper, Arranger, Audio, Stringer agents
    - Controller agent now automatically discovers its feedback input
    - Generic dialog handler for Return and Escape keys
    - Alpha, Tau and Pico startup behaviour is more efficient
    - Added a modifier input to the scaler which is acting as a fixed range pitch bend, currently used by the Fingerer agent
    - Added support for strip controllers to prototype OSC Output agent
    - EigenBrowser could sometimes fail to display its data
  - Workbench
    - More consistent naming of channels and filters
    - GUI layout improvements
    - Increased the maximum dimensions of the Workbench window

- Stage
  - The widget increments are now useful by default

- Release 2.0.36-experimental
  - EigenD
    - Testing and experimental releases no longer update the top level EigenD link in Applications on the Mac.
    - EigenD now allows agents to coin their own words.
    - New save button to save over the current setup, if it's not a factory setup.
    - Now useless activation signals have been removed.
    - StringEnum data type for small fixed choices, with dropdown support in Workbench.
    - Factory setups and Example setups are now separated into different top level menus.
    - Connect verb now has channel support.

      The connection properties exposed by workbench can now be set in the belcanto connect verb.

      This is part of ongoing work.

    - Improved key group mapping.

      The key group now maintains completely separate mappings for musical and physical keys. Workbench supports this with a specialised editor.

  - Workbench
    - Keyboard shortcuts for tools.

      There are now keyboard shortcuts for the various workbench tools.

    - Improved key group mapping.

      The property editor dialog for key groups now has a special editor for working with key group mappings.

- Release 2.0.35-experimental
  - EigenD
    - Key stream from keyboard now has keys arranged in one musical course instead of the courses mirroring the physical layout.
    - Changed Kgroup to Keygroup.
    - Agents now occupy relocatable directories.
    - EigenD includes enough headers and import libraries to build Agents without needing the full source.

        - Reference build scripts included for building Agents.

- Release 2.0.34-experimental

    - Workbench
        - Sticky Hooks. Hooks can now be made 'sticky' by clicking on them again with the Hook Tool. Wires between two sticky hooks are considered to be under tension and follow a straight line. You can toggle a hook between sticky and normal behaviour with the Hook Tool.

- Release 2.0.33-experimental

    - Eigend

        - Rigs can be connected up at the top level. It is no longer necessary to wire up all the ports individually.
        - There is now a geometrical and a musical layout for kgroups. The talkers are tied to the geometrical layout and not to the musical. By defining courses you change the order of the musical layout and the geometrical layout adapts by taking the bounding shape for each row. This means that if you keep a keygroup of the same surrounding shape, you can rearrange the keys in any order and the talkers will remain at the same spot.
        - Light signals are now also coordinates and can be either geometrical and musical.
        - Plumber does not rely on names of ports to determine what to connect.
        - Added a chooser port to Kgroups. Setting the value of this port to the number of a course allows the Kgroup to be switched into choose mode from Workbench.
        - Changing the name of an auxiliary input (or auxiliary output) on a recorder changes the name of the corresponding output (or input).
        - Default talker key colour exposed, so that it can be set in Workbench.
        - Plumber refactored to allow controller connections to be made across rig boundaries.
        - Updated example setup.
        - Implemented re-do on talkers.
        - Included example modular synth setup.
        - Kgroup slaving is now done explicitly by connecting the 'enabled' port for each output as opposed to previously connecting kgroups as a whole. This means that the order and name of outputs can change without losing the slave relationship.
        - Kgroup course offset values less than 5000 are now interpreted as steps, above they're interpreted as notes, starting from 10000 as a baseline.
        - Initial implementation of scaler a light output that highlights the tonics of the active scale in green, this will be improved upon and become configurable.
        - Post load operations on rigs are now done at the end of the entire setup load instead of at the end of the rig load.
        - AU/VST and MIDI routing matrix parameter 16 isn't a special 'key number' parameter anymore. Any parameter input can behave as such by simply connecting a key signal into it.
        - Added missing names container ports so that they appear correctly in

Workbench.

- Workbench
  - Wire hit detection speeded up.
  - Delay after moving connected agents or groups of agents removed.
  - Whether a port is displayed as an input or an output is no longer determined by the name of the port, so the red and green pins don't move or change colour is you change the name of a port.
  - The Alpha Keyboard no longer also appears as a port of the Alpha Manager.