updated 2018 10 12
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= = = DEPENDENCIES = = =

Cycling74 Max 7 (developed on 7.3.*/8.0.*)
Java (64bit if Max7-64bit / 32bit if Max7-32bit)

= = = = FEATURES = = = =

- client (interface only) & processor (no interface) to off-load interface to a
second computer or all-in-one system
- automatic reconfiguration of system up to 64 inputs, 64 outputs and 16 reverb
feeds and return
- automatic detection of client and processor IP addresses on the network
- configurable multithreaded processing
- fullscreen interface with locking audio processing switch

Interface:
- system settings (I/O channels, temperature/speed of sound, Haas effect,
global system delay)
- venue/stage settings (size, stage origin)
- output channel interface (specific latency, attenuation, position, HF
damping, groups, minimal latency enable, live source attenuation enable,
distance attenuation factor)
- reverb feed channel interface (specific latency, attenuation, position, HF
damping, minimal latency enable, distance attenuation factor)
- input channel interface (specific latency, attenuation, position, height
factor, maximum speed, distance attenuation, directional HF shelving, maps,
live source attenuation)
- reverb return channel interface (specific latency, attenuation, position,
height factor, distance attenuation, directional HF shelving)
- input, output and reverb selector
- input, output and reverb naming
- manual save and autosave systems, output (including reverb feeds) and input
settings (including reverb returns)
- reloading system, output (including reverb feeds) and input settings
(including reverb returns)
- create and recall snapshots of input (including reverb returns) settings from
interface or OSC
- auto-update of files with default new features' parameters

For inputs only (not available for reverb returns):
- option to restrict input position to stage dimensions (X Y Z)
- mirror position of input relative to stage origin (X Y Z)
- limit movement speed of inputs
- offset source position (X Y Z)
- LFO on source position (X Y Z)
- jitter on source position (X Y Z)

- source position movement (X Y Z) with constant or progressive start and curvature
- global stop, pause and joystick to slow down or speed up movements

Controls:
- Lemur control of input position (not available for reverb returns)
- external OSC control (config, names, outputs, inputs // set, get, stream)
- change OSC remote IP and port with confirmation from the remote
- keyboard selection of current channel ("i" for input, "o" for output or "r" for reverb feed and return - then type number and return / Space bar to select next input Shift+Space bar to select previous input)
- keyboard shortcuts for Lemur tracker selection (1 ~ 0), deselection or reselection
- keyboard shortcuts for positioning (arrows X & Y; page up/down: Z) with modifiers (no modifiers: 0.1m, shift: 1m, ctrl: 0.01m)
- keyboard shortcuts follow X/Y/Z mirroring for selected channel
- update input position when selecting a used tracker
- update Lemur when selecting an unused tracker
- update Lemur tracker position following keyboard arrows

Position processing:
- delay calculation/position
- calculation of distances with a weighting of height (0~100%)
- minimal delay option, only curvature
- minimal delay can be enabled or not for each output or reverb feed
- level calculation/position
- full bandwidth attenuation with distance (input & reverb return parameters)
- HF shelving depending on directivity of source and relative angle to output (input & reverb return parameters)
- live source attenuation with proximity of an input to an output (radius, level, curve) (does not affect reverb feed or return channels)
- live source attenuation can be enabled or not for each output (always disabled on reverb feeds)
- air damping of high frequency with distance (output & reverb feed parameter)
- input and reverb return mutes/output and reverb feeds (only for inputs) & macros
- reverb return channels cannot send to a reverb feed channel
- speaker & reverb feed direction and muting of sources in front of the output. possibility to surround the audience with speakers
- level, height, HF damping maps for inputs/position (not available for reverb return channels)