CHARCOT CIRCLES QUICK START GUIDE

Thanks very much for your recent STUDIO ELECTRONICS / EOWAVE Charcot Circles purchase; let's "get it going 'round in circles" without further delay! Get even more circularly sharp with the CC T-Shirt.

1. Power on and patch up your Charcot Circles: CV and gate at minimum. It will boot up to a blank 16 step sequence, in **GLOBAL** mode **8** or 1/8 of the max 128 step memory per preset; the CC can store 8 banks of 16 presets.

2. Press and hold **SHIFT** then press **NOTES**; release. You are now in **NOTES** mode. Note: even though **CLEAR** (clears active preset in RAM) and **RND TRACK** (randomizer of all) don't look like it, they are sub-functions of **NOTES** mode; **NOTES** mode will not be exited by pressing either while holding shift again. In **LOAD** mode, **CLEAR** functions similarly—it is a shared sub-function—but erases the entire preset in RAM, not just the track you have selected, of which there can be 1-8.

3. Press **PLAY**. You are still in **NOTES** mode so press notes (pads) on individually to activate steps, or run the flat tip of you finger along the pads until satisfied with the amount of notes/steps switched on. It can be helpful to think of the outside ring of red light notes as 1/8 notes and the inside white ring as the 1/16 note accents.

4. Press and hold individual notes (pads) and rotate encoder to change pitches (this can also be accomplished in **KEY** more with the sequence stopped for a more systematic sequencing approach). Shorten length of default 16 step sequence by setting reset point—last note in sequence—by holding last note desired note and pressing encoder once (you are still in **NOTES** mode).

5. Press and hold **SHIFT** then press **LENGTH**; release. Press note(s) and rotate encoder to change durations (slurs notes if a filter is controlled by an envelope).

6. Press and hold **SHIFT** then press **GLOBAL**; release. The Global mode opens up the functionality and fascination dramatically (so it will be detailed just below, and nearly in full measure).

GLOBAL DIRECTIONS

> Forward direction
< Backward direction
<> Pendulum
RND (Random) Selects a design-less firing of notes; can be very effectively paired with the **RND TRAK** sub-feature/function in **NOTES** mode.

GLOBAL MODES

8 - 1/8 of memory: 16 step, single track sequence per preset. 8 CVs/8 gates with **BBox.**
4 - 1/4 of memory: 32 step, 2 track sequence per preset. 4 CVs/4 gates with **BBox**.
2 - 1/2 of memory: 64 step, 4 track sequence per preset. 2 CVs/2 gates with **BBox**.
1 - Full memory: 128 step, 8 track sequence per preset. (1 CV/1gate)

BBox (Breakout Box) is a 8hp expander module for the CC.

GLOBAL SUB FUNCTIONS

To access and change values for Global sub-functions **TUNE**, **SCALE**, **GLIDE**, **CHAN**, **SYNC**, press and hold relevant pad, then turn encoder to set value.
TUNE: Tunes the CV output; hold the pad and turn encoder to adjust the overall tuning.
SCALE: Sets one of sixteen scales; default is chromatic.
LEGATO: Sets the legato; only legato notes will glide (press on and off). Use **LENGTH** mode to overlap notes.
GLIDE: On/off & speed. Hold the pad and turn the encoder to adjust the glide time.
CHAN (Channel): Sets the base MIDI channel—you only can change the base midi channel, other tracks add that base channel # to their track number like so: if Base MIDI CH is 1, TK 1 -> CH1, TK2-> CH2... TK8-> CH8. If base MIDI CH is 4, TK 1 -> CH4, TK2-> CH5... TK8-> CH12. If base MIDI CH is 6, TK 1 -> CH6, TK2-> CH7, TK8-> CH14, and so on.
SYNC: Surrenders sequencer to external clock.

7. To edit a multi track preset (you're still in **GLOBAL**) press **4**, that will provide you with two 16 step tracks, the 1st one you have been editing (track 1), and track two. It's best you stop the CC from playing at this point, so press **PLAY** if your sequence is running; now press and hold **SHIFT**, and then press **TRACK**; release and rotate the encoder to track 2's position (the **LENGTH** pad); there are 8 tracks available per preset—all in the red LED district, or the outer ring.

8. Press and hold **SHIFT** then press **TRK PLAY**; release. You are now is TRACK PLAY mode—the Circles most expressive performance mode. Disable track 1 for the time being by pressing **NOTES** (track 1s location) so the focus can shift to track 2. Now return to the **NOTES** mode by pressing and holding **SHIFT** then pressing **NOTES** (and releasing). Remember, always know what mode you are in. Mode is determined by pressing **SHIFT** and seeing which mode is illuminated by the single LED.

9. Repeat steps 3-5.

10. Press and hold **SHIFT** then press **SAVE** (release) to and store the preset where you are by pressing the encoder, or to choose another location via the encoder, rotate to one of 16 possible locations and press.

11. To create a 4 track preset, press and hold **SHIFT** then press **GLOBAL**; release. Select **2** mode (**KEY**) pad. Press and hold **SHIFT** then press **TRK PLAY**; release. Disable tracks 1, and 2 by pressing **NOTES** and **LENGTH** pads (1 and 2 track locations). Also disable track 4 by pressing **GLOBAL** (track 4's location). Track 3 is now the only active track.

12. Press and hold **SHIFT** then press **TRACK**; release. Rotate encoder to **TOUCH** pad (track 3's location).

13. Repeat steps 3-5.

14. Disable track 3 (**TOUCH**).

15. Enable track 4 (**GLOBAL**).

16. Press and hold **SHIFT** then press **TRACK**; release. Rotate encoder counter-clockwise until **GLOBAL** is illuminated. You are now editing track 4.

17. Repeat steps 2-5.

18. To create an 8 track preset, press and hold **SHIFT** then press **GLOBAL**; release. Select **1** mode (**SHUFFLE**) pad. Press and hold **SHIFT** then press **TRK PLAY**; release. Disable tracks 2-8. Track 1 is now the only active track.

19. Press and hold **SHIFT** then press **TRACK**; release. Rotate encoder to **NOTES** pad (track 1s location).

20. Repeat steps 2-5.

21. When track 1 is programmed, disable it in **TRK PLAY** and enable track 2. Return to **NOTES** mode and program track 2. Follow this pattern until track 8 is programmed and then enable all tracks at will.

MORE CHARCOT ESSENTIALS AND RESTATEMENTS

To enter a mode, press and hold shift and then press mode, and release.

Pad 1. **NOTES** (steps): Tap on or off to arm notes. 1/8 notes reside on the outside circle, 1/16 notes inner. Press and hold a step, turn the encoder to change the pitch. Set track length/reset point by pressing and holding any of the 16 steps, and then pressing encoder: defaults to 16th step length. **CLEAR** (active preset RAM clear) and **RND TRACK** (master randomizer) are **NOTES** sub-functions: press either while holding **SHIFT**. Again, **CLEAR** functions similarly in **LOAD** mode—it is a shared sub-function—but erases the entire preset in RAM—your best bet when starting from scratch—not just the active track, of which there can be 1-8.

Pad 2. **VEL** (Velocity): Sets velocity value. Press and hold a step, turn the encoder to change the amount.

Pad 3. **LENGTH**: Sets length of individual step—think of it as sustain. Press and hold a step, turn the encoder to increase the length to up to 16th steps.

Pad 4. **RETRIG** (Retrigger): Sets the amount of times the step will be repeated. Press and hold a step, turn the encoder to set the number of repeats, which can be near infinity-like.

Pad 5. **TOUCH**: Pressure sensitive "Key" mode—at this point a stepping Theremin.

Pad 6. **KEY**: With sequence stopped, individual control of notes which sustain while pressed let you "walk through" your sequence without tempo; also sets note range/reset point for track 1 only: select one of the 16 pads for the start note, and another for the end. Translates to a fair amount of spontaneity and structural freedom. Notes must be activated in **NOTES** mode to audition playback after editing.

Pad 7. **GLOBAL**: Sets direction: **>** : forward, **<** : reverse, **< >**: forward and reverse, (symbols are flipped by the way), **RND**: random, **SYNC**: surrenders the Circles to external clocking. **TUNE**, **SCALE**, **GLIDE**, **CHAN**, **SYNC** are all addressed here. See "GLOBAL SUB FUNCTIONS " at the top of pg. 2.

Pad 8. **SHUFFLE**: Sets swing before or after note.

Pad 9. **LOAD**: Loads preset into RAM by turning encoder, or selecting preset.

Pad 10. **SAVE**: Saves presets to 128 locations: 8 banks of 16 presets. Press the encoder to validate your choice.

Pad 11. **BANK**: Selects 1 of 8.

Pad 12. **TRK** (TRACK) **PLAY**: Selects which tracks are played together or not—sets the editing/performance mode for tracks: enable, mute, or edit.

Pad 13. **RND TRK** (Random Track): Sub-function of **NOTES** mode. Randomizes entire sequence not just direction. Continued presses produce ever more chaotic results.

Pad 14. **CLEAR**: Sub-function of **NOTES/LOAD** modes. Clears the active preset's tracks while in NOTES mode; clears the entire preset in **LOAD** mode.

Pad 15. **TRACK** (Groups of 1-128 steps): Selects track to be edited on outer circle—mute track on inner circle.

Pad 16. **TRANSP** (Transpose): Each pressure pad changes key, or turning encoder in Transpose mode changes key.

SHIFT: Press and hold for selecting feature set mode; pressed together with **PLAY** will activate record.

Breakout box (BBox) allows for 4x multichannel/mult-CV use.
Up to 2 breakout boxes can be connected to generate up to 8 CVs and 8 gate outputs.

Pad Location Shortlist

NOTES =1
LENGTH = 2
TOUCH = 3
GLOBAL = 4
LOAD = 5
BANK = 6
RND TRK = 7
TRACK = 8

UPDATING YOUR CHARCOT CIRCLES FIRMWARE

1. Connect the module with a mini usb cable to your computer.

2. Press simultaneously on SHIFT/PLAY/ENCODER—puts Circles into OS update mode.

3. Download HIDBootloader:
http://studioelectronics.com/assets/boomstar-modular/charcot-circles/HIDB/HIDBootloader.Mac.zip
http://studioelectronics.com/assets/boomstar-modular/charcot-circles/HIDB/HIDBootloader.PC.zip

4. Launch OS appropriate HIDBootloader.

« Device Attached.
Connecting… » must then show on screen.

5. Download newest firmware .zip (this document will always reflect the latest OS):
http://www.studioelectronics.com/assets/boomstar-modular/charcot-circles/os/Charcot-Circles-USB-OS_1.1.hex.zip

5. Install firmware (OS), after unarchiving/unzipping if necessary Charcot-Circles-USB-OS_1.1.hex - click on file import icon (1st icon, top left).

6. Program device - click on transfer icon (2nd icon).

7. Reset device - click on reset icon (3rd icon).

8. Quit HIDBootloader and you're done.

If you have any questions contact: info@eowave.com   support@studioelectronics.com

MIDI INTERFACE WITH MAX 7

1. Connect the module with a mini usb cable to your computer.

2. Download Circles Sequence Transfer Presentation: http://studioelectronics.com/assets/boomstar-modular/charcot-circles/Max7/circles_seq_transfer.maxpat.zip.

3. Un-archive and open "circles_seq_transfer.maxpat".

3. Import MIDI file(s).

4. Select MIDI device.

5. Select track 1-8 using up/down arrow. Up to 8 tracks per preset.

6. Dump file(s) into track(s). 1=1 16 step pattern, 2=1 32 step pattern, 4=1 64 step pattern, 8=1 128 step pattern.

7. Save pattern/preset on device.

8. Contact us; can be tricky at 1st: studioelectronics@sbcglobal.net

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