soundhack SPIRATONE

soundhack
tELHARMONIC

GATE OUT

FM IN

N OUT H OUT P OUT

TONIC

INTERVAL

DEGREE

CENTROID

FLUX

INTRVL D-GATE DEGREE TH-LOCK CNTRD

MAKE NOISE

MAKE NOISE

v. 2.3

Spiratone

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes / modifications not approved by the Make Noise Co. could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Make Noise warrants this product to be free of defects in materials or construction for a period of one year from the date of purchase (proof of purchase/invoice required).
Malfunction resulting from wrong power supply voltages, backwards or reversed eurorack bus board cable connection, abuse of the product or any other causes determined by Make Noise to be the fault of the user are not covered by this warranty, and normal service rates will apply.

During the warranty period, any defective products will be repaired or replaced, at the option of Make Noise, on a return-to-Make Noise basis with the customer paying the transit cost to Make Noise. Please contact technical@makenoisemusic.com for Return To Manufacturer Authorization.

Make Noise implies and accepts no responsibility for harm to person or apparatus caused through operation of this product.

Please contact technical@makenoisemusic.com with any questions, needs & comments, otherwise...
go MAKE NOISE!

http://www.makenoisemusic.com

About This Manual:
Written by Tony Roland
Edited by Walker Farrell
Illustrated by W.Lee Coleman

THANK YOU:

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DSP Wizard:	Tom Erbe; www.soundhack.com
Beta Analysts:	Devin Booze, Lee Coleman, Walker Farrell
Test Subjects:	James Cigler
Spiritual Advisor:	Richard Devine

Electrocution hazard!

Always turn the Eurorack case off and unplug the power cord before plugging or un-plugging any Eurorack bus board connection cable cable.
Do not touch any electrical terminals when attaching any Eurorack bus board cable.

The Make Noise Spiratone is an electronic music module requiring 139mA of +12VDC and 10mA of -12VDC regulated voltages and a properly formatted distribution receptacle to operate. It must be properly installed into a Eurorack format modular synthesizer system case.

Go to http://www.makenoisemusic.com/systems.shtml for examples of Eurorack Systems and Cases.

To install, find 14HP in your Eurorack synthesizer case, confirm proper installation of included eurorack bus board connector cable on backside of module (see picture below), plug the bus board connector cable into the Eurorack style bus board, minding the polarity so that the RED stripe on the cable is oriented to the NEGATIVE 12 Volt line on both the module and the bus board. On the Make Noise 6U or 3U Busboard, the negative 12 Volt line is indicated by the white stripe.
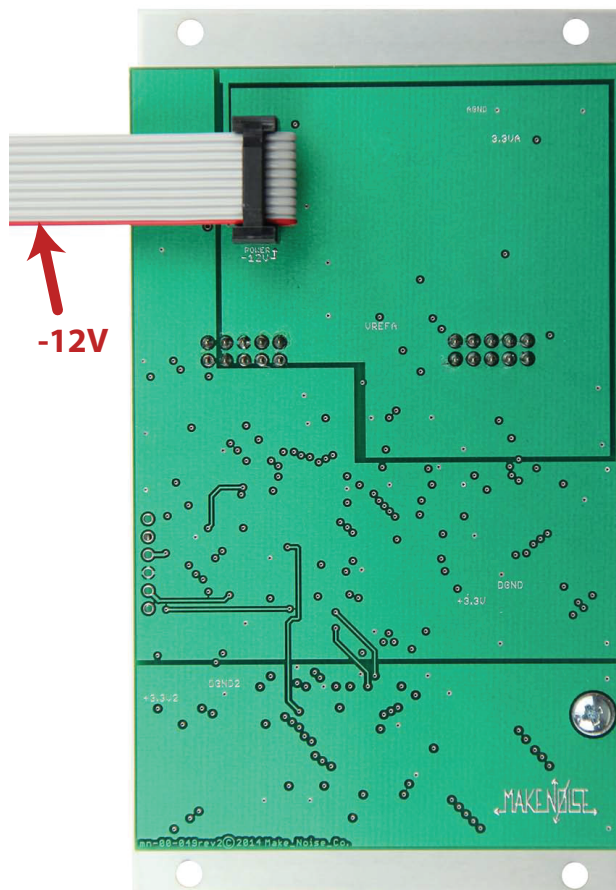

Please refer to your case manufacturers' specifications for location of the negative supply.

The {Spiratone} is a form of Shepard Tone generator. It is a sonic barber pole that creates the auditory illusion of a tone that continually ascends or descends in pitch, yet ultimately seems to get no higher or lower. It was inspired by Jean-Claude Risset's "Computer Suite from Little Boy: Fall," 1968 and James Tenney's "For Ann (rising)," 1969.

It occupies the same space as the tELHARMONIC.

To find the {Spiratone} on the tELHARMONIC:
With nothing patched to D-Gate, [HOLD] H-LOCK for 5 seconds. The sound will dramatically change and you should now hear a Shepard Tone in the H or P Output(s).
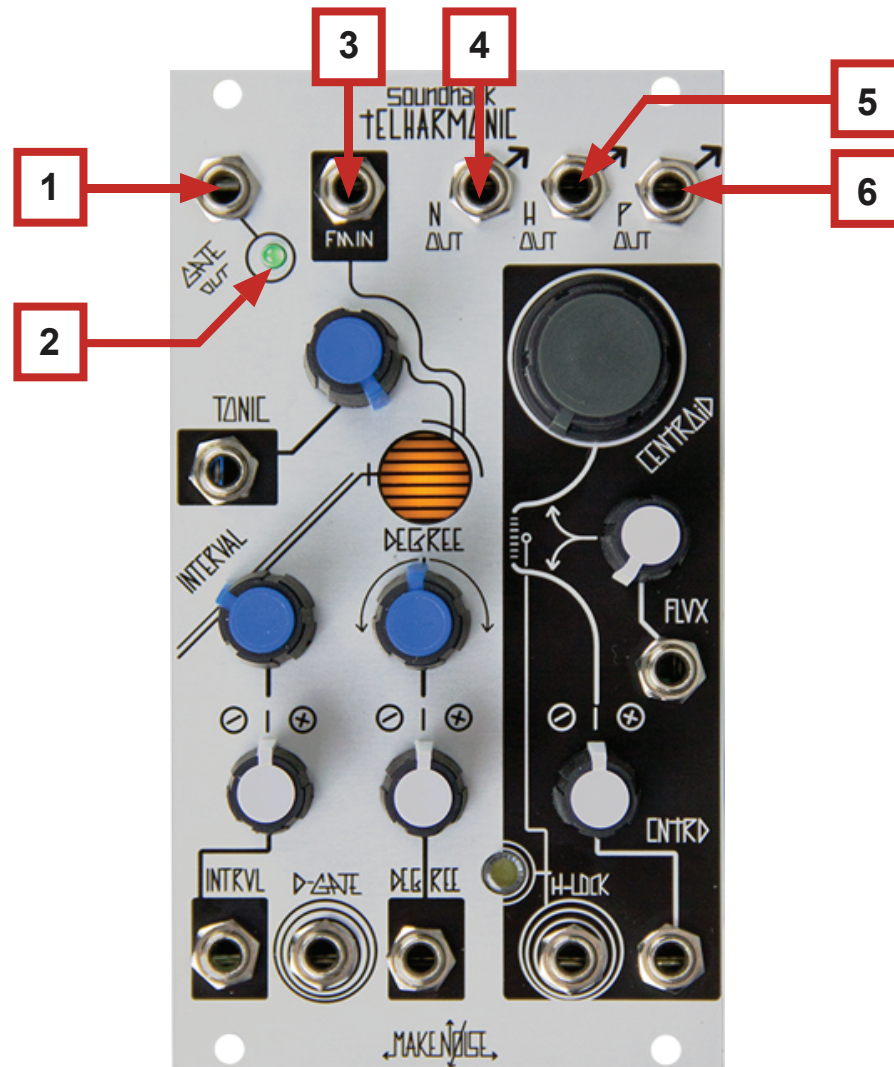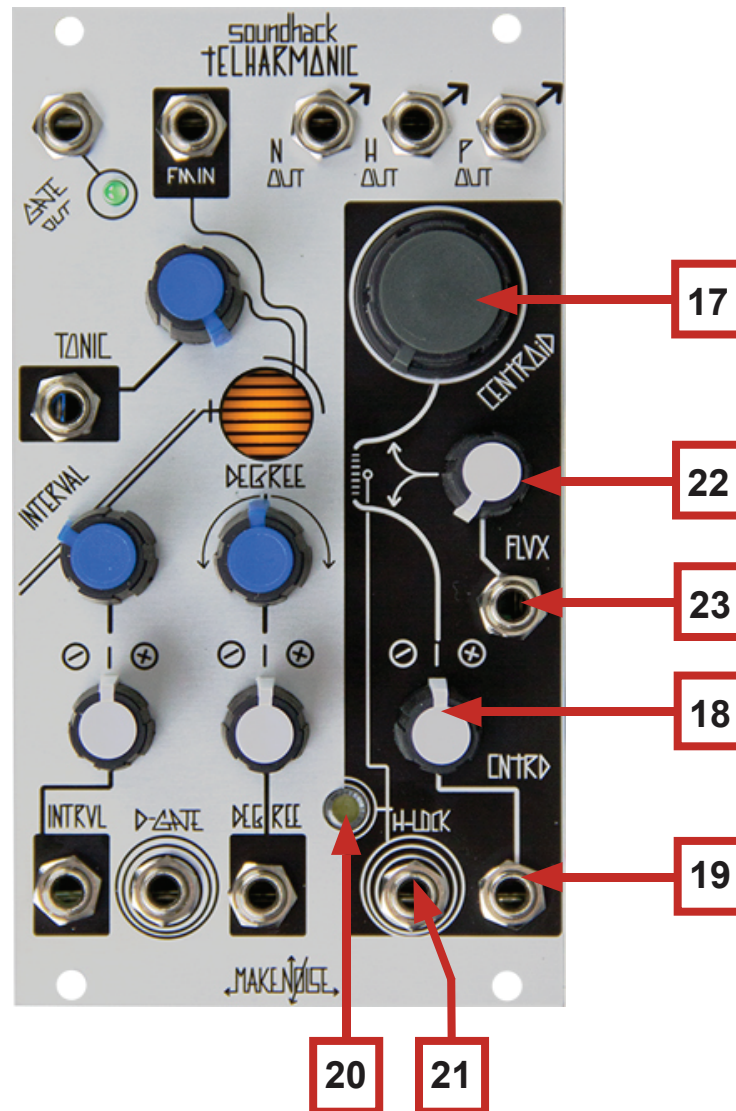
{Spiratone} Panel Controls

1. GATE OUT: outputs Gate signal at each change in DEGREE. DC-coupled, 10V Gate.

2. GATE LED: visual indication of activity at GATE OUTput.

3. FM IN: NOT UTILIZED

4. N OUT: output for the single-voice Noise Algorithm.

5. H OUT: Output for half of the Spiratone's oscillators. AC-coupled, 10Vpp signal.

6. P OUT: Output for the other half of the Spiratone's oscillators. AC-coupled, 10Vpp signal.
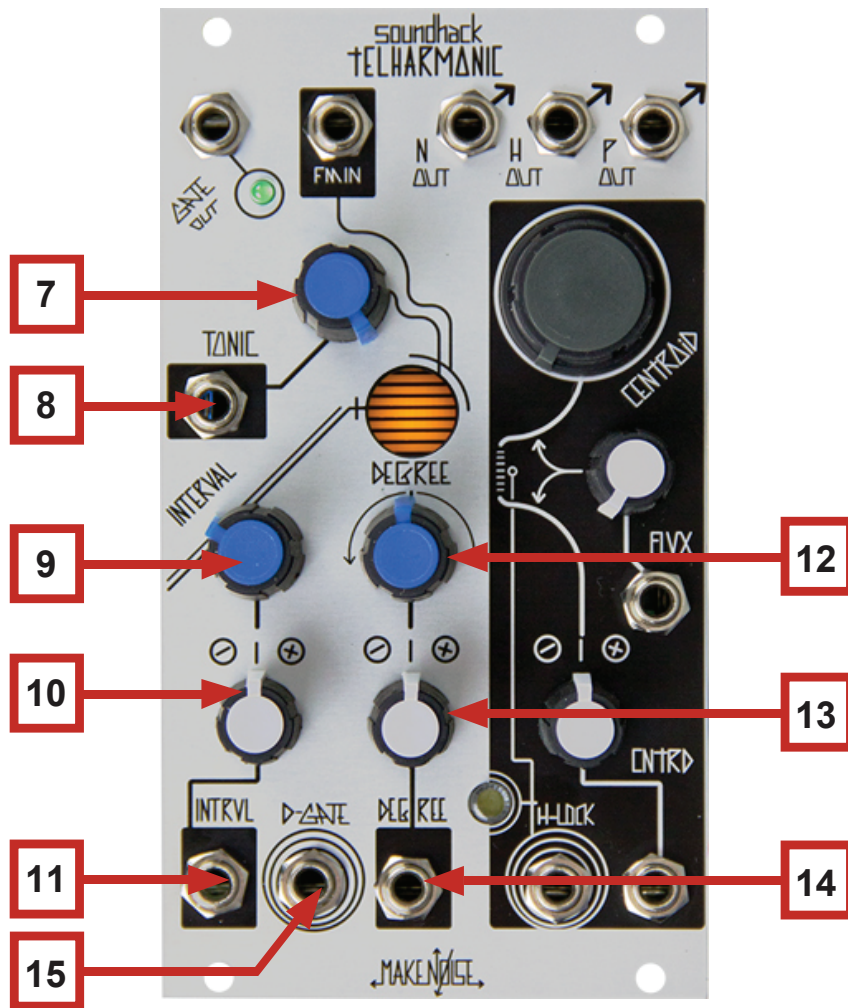
## {Spiratone} Panel Controls (Cont'd)

7. TONIC Panel Control: adjusts the pitch of all oscillators.

8. TONIC CV IN: unity, 1V/ Octave pitch control INput. Not quantized. Range 0V to 6V.

9. INTERVAL Panel Control: Sets internal modulation speed, no modulation at NOON, modulates up CW from NOON, and down CCW from NOON.

10. INTERVAL CV Attenuator: bi-polar attenuator for INTERVAL CV INput.

11. INTERVAL CV IN: control signal INput for INTERVAL. Range 0V to 5V.

12. DEGREE Panel Control: quantized note selection, relative to the pitch as defined by TONIC. Also determines sonority of the TRIAD where applicable.

13. DEGREE CV Attenuator: bi-polar attenuator for DEGREE CV INput.

14. DEGREE CV IN: control signal INput for DEGREE. Quantized parameter. Range +/- 2V.

15. D-Gate IN: Gate INput for activation of DEGREE parameter. Normalled HIGH so that with nothing patched, DEGREE is always active. Requires a Clock/Gate signal of at least 5V and width of at least 10ms.

{Spiratone} Panel Controls (Cont'd)

17. CENTROID Panel Control: Sets the spacing of the oscillators from one octave to a very narrow pitch difference.

18. CENTROID CV Attenuator: bi-polar attenuator for CENTROID CV INput.

19. CENTROID CV IN: control signal INput for CENTROID. Range 0V to 8V.

20. H-LOCK Button/ LED: [HOLD] to exit {Spiratone} and return to {tELHARMONIC}.

21. H-LOCK IN: Not used

22. FLUX: Sets the level of Random Pitch Modulation

23. FLUX CV IN: unipolar control INput for FLUX. Range 0V to +8V.

Patch Example:
Sentient Bottle Rocket (Thanks, Tony!):
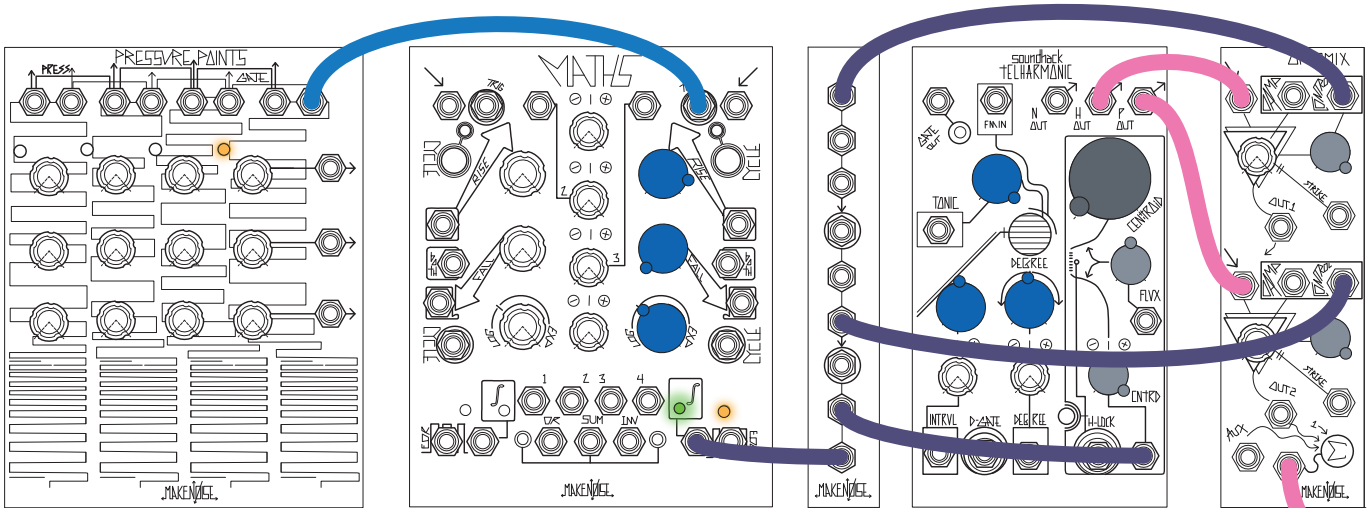
Press any pad on the Pressure Points to ignite the Sentient Bottle Rocket.
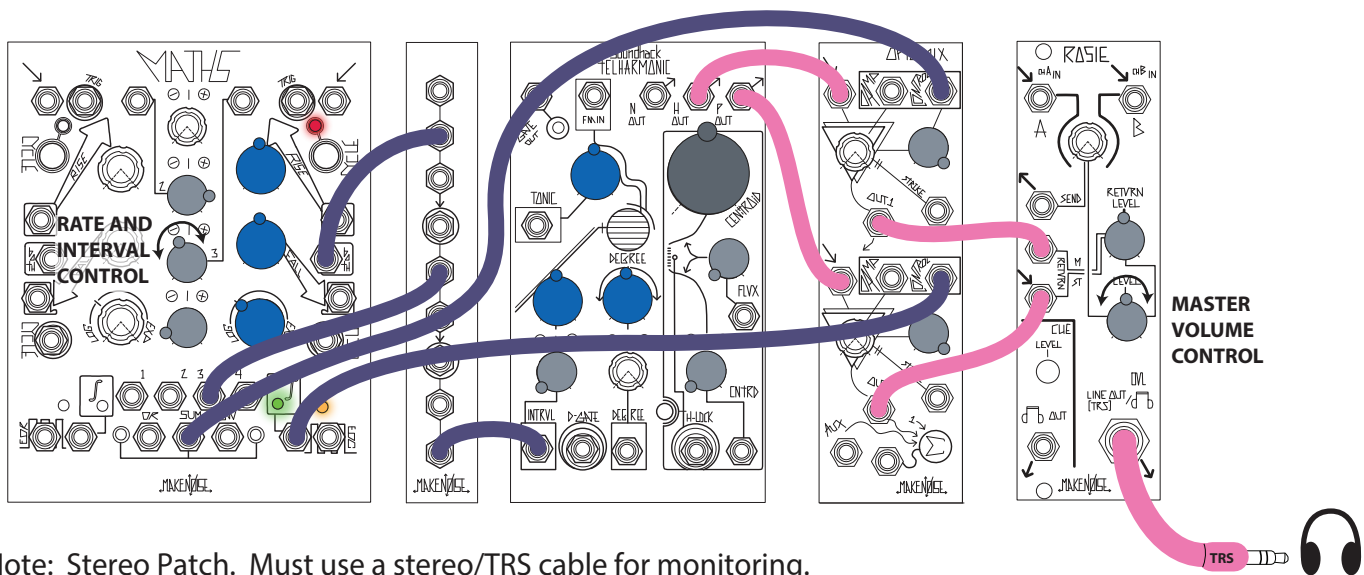
Patch Example:
Artificial De-Celleration (Thanks, Tony!):
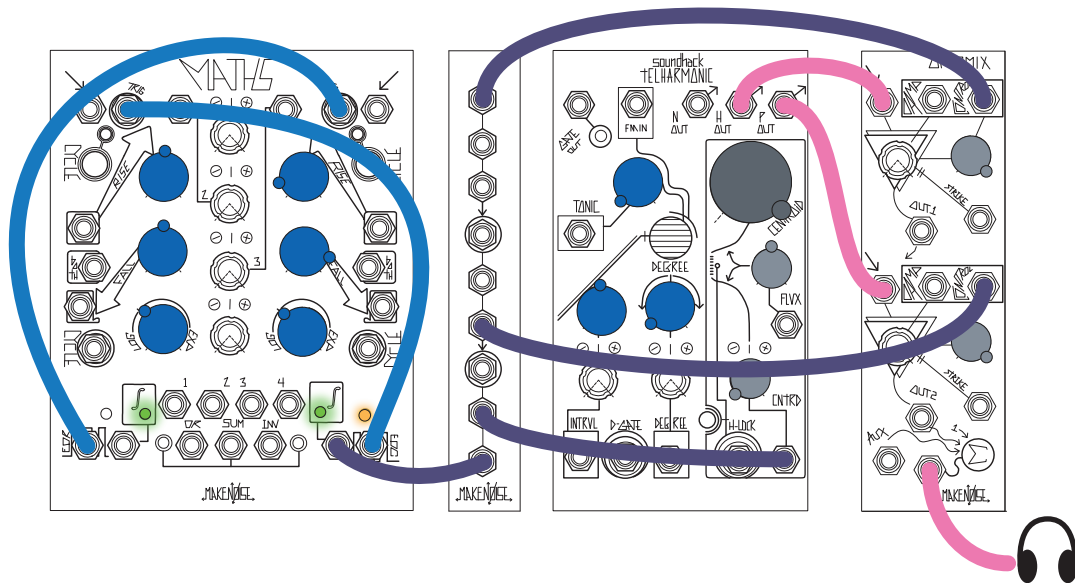
Briefly turn on MATHS Ch. 1 Cycling and wait for Ch. 4 to be triggered via EOR. At which point, press the Ch.1 CYCLE Button again in order to disengage cycling, allowing the trigger loop to continue indefinitely.

Patch Example:
Stereo Spiralgraph (Thanks, Tony!):

Note: Stereo Patch. Must use a stereo/TRS cable for monitoring.