soundhack
MIMEOPHON

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MIMEOPHON

L(M) R MIX L R

LIVE REPEATS

REPEATS RATE RATE HALO

ZONE COLOR

FLIP SKEW

MAKE NOISE

MAKE NOISE

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LIMITED WARRANTY

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, removing knobs, changing faceplates, 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.

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, Return To Manufacturer Authorization, or any needs & comments.

http://www.makenoisemusic.com

About This Manual:

Written by Tony Rolando and Walker Farrell
Illustration and layout by Lewis Dahm

INSTALLATION
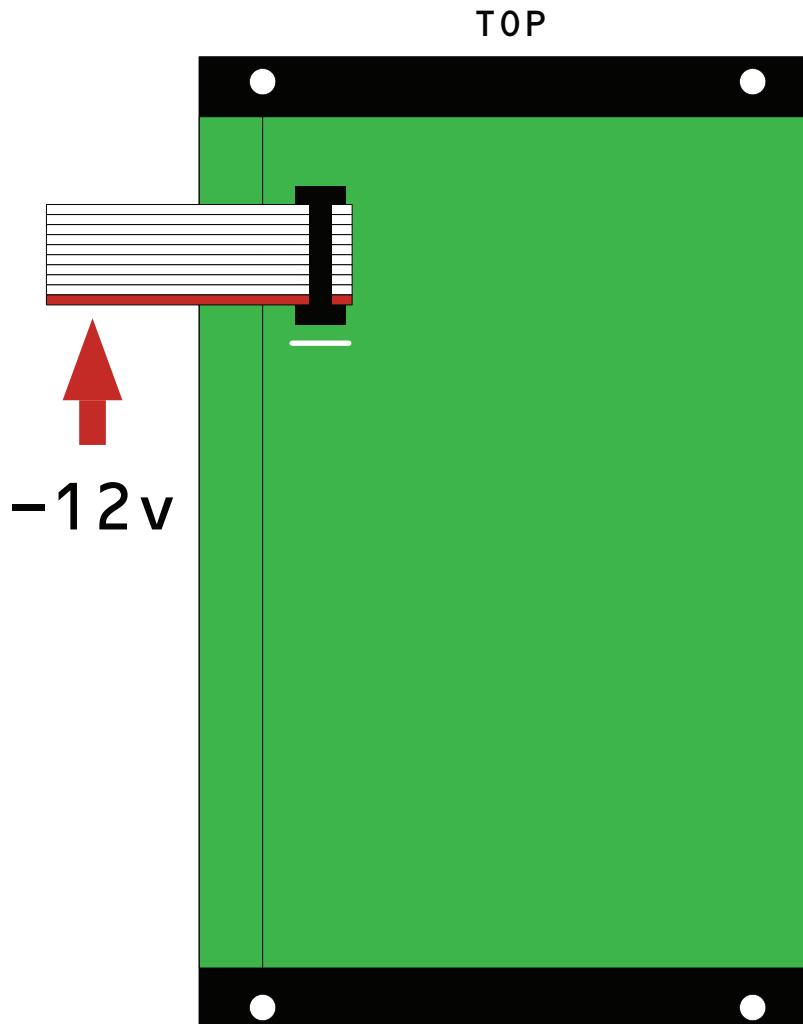
Electrocution hazard!

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

The Make Noise soundhack Mimeophon is an electronic music module requiring 100mA of +12VDC and 10mA of -12VDC regulated voltage 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/ for examples of Eurorack Systems and Cases.

To install, find 16HP in your Eurorack synthesizer case, confirm proper installation of 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.

TOP

−12v

Please refer to your case manufacturer's specification for location of the negative supply.

INTRODUCTION

The Mimeophon is a stereo, multi-zone color audio repeater module by Make Noise and soundhack, coded by Tom Erbe.

The Mimeophon (from Greek mimeo (repeat/copy) and phon (sound)) is a sonic take on various historical copying devices, in particular the mimeograph, a machine invented by Thomas Edison in the late 19th century for making many copies of printed material. In the twentieth century, many visual artists utilized machines like this to create so called xerox or copy art, a visual collage style of iterative composition. The Mimeophon opens similar possibilities in the medium of sound. It is capable of modulating and morphing time scales of repeated sound from micro-sound to note to phrase length while also coloring and spatializing the repeats.
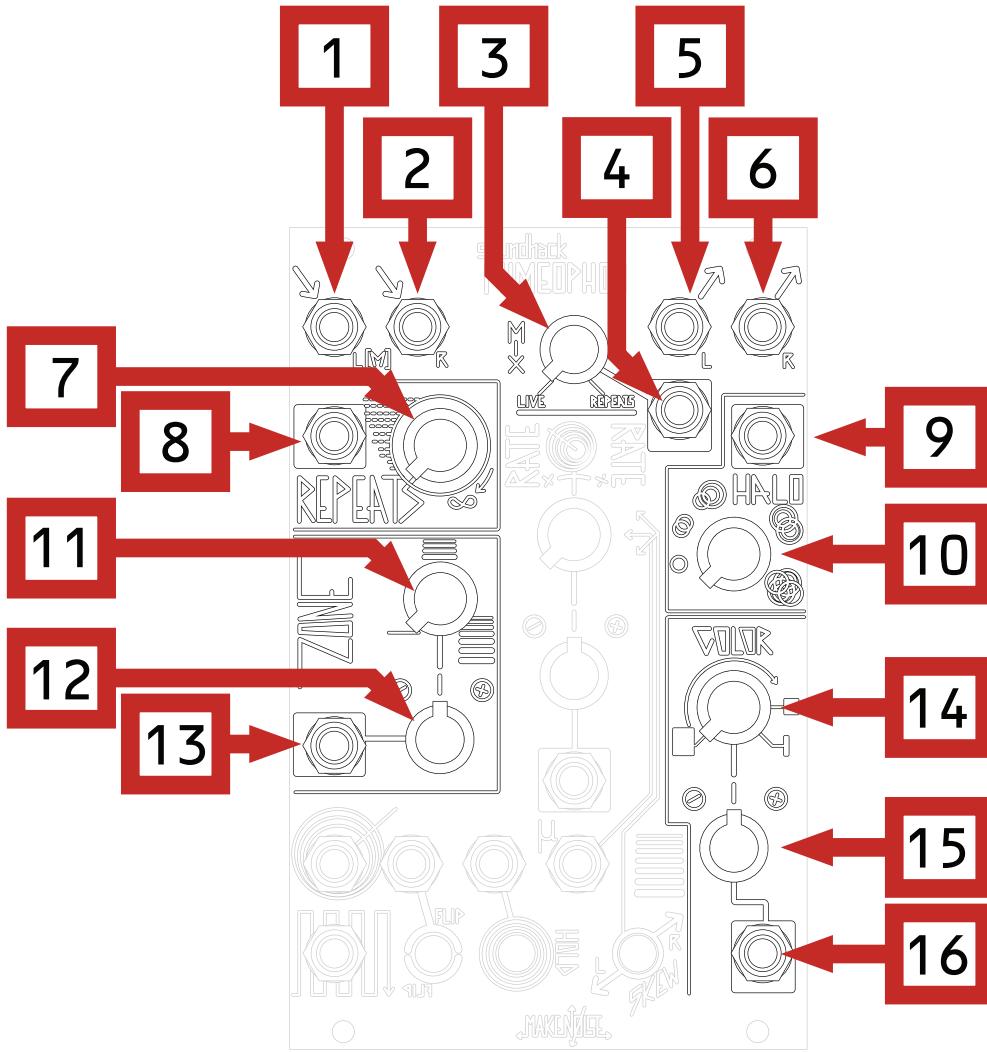
- Full Stereo In and Out
- Color Coded Modeless Algorithm: morph between Karplus, Flange, Chorus, Echo, Looping and everything in between
- Rate continuously controls Repeats frequency within Zones
- Skew lets Rate control Repeats differently for Left and Right channels
- µRate offers dedicated Doppler Modulation
- Tempo Sync for Doppler Free modulation of Rate, create complex repeat patterns
- Control number of Repeats up to and beyond Infinite
- Halo smears Repeats in stereo space
- Color focuses feedback energy for timbral shifts over time
- Rate Out generates Pulses at Skewed Tempos, completing the conversation within the modular system
- Zones may be Flipped for backward repeats
- Hold sound for non-destructive modulation of infinite loops
- Fully Voltage Controlled Time, Space and Color modulation algorithm
- Reasonable power consumption

The Mimeophon is designed for musical applications and is not suitable for laboratory use.

NOTE: Power is precious in the Eurorack environment. The Mimeophon only requires100mA at +12VDC, and much less than that on the -12V rail. There are not many powerful digital modules that can make this claim. It's an attractive quality that cost us just a little bit more money to implement. Use it to your advantage!
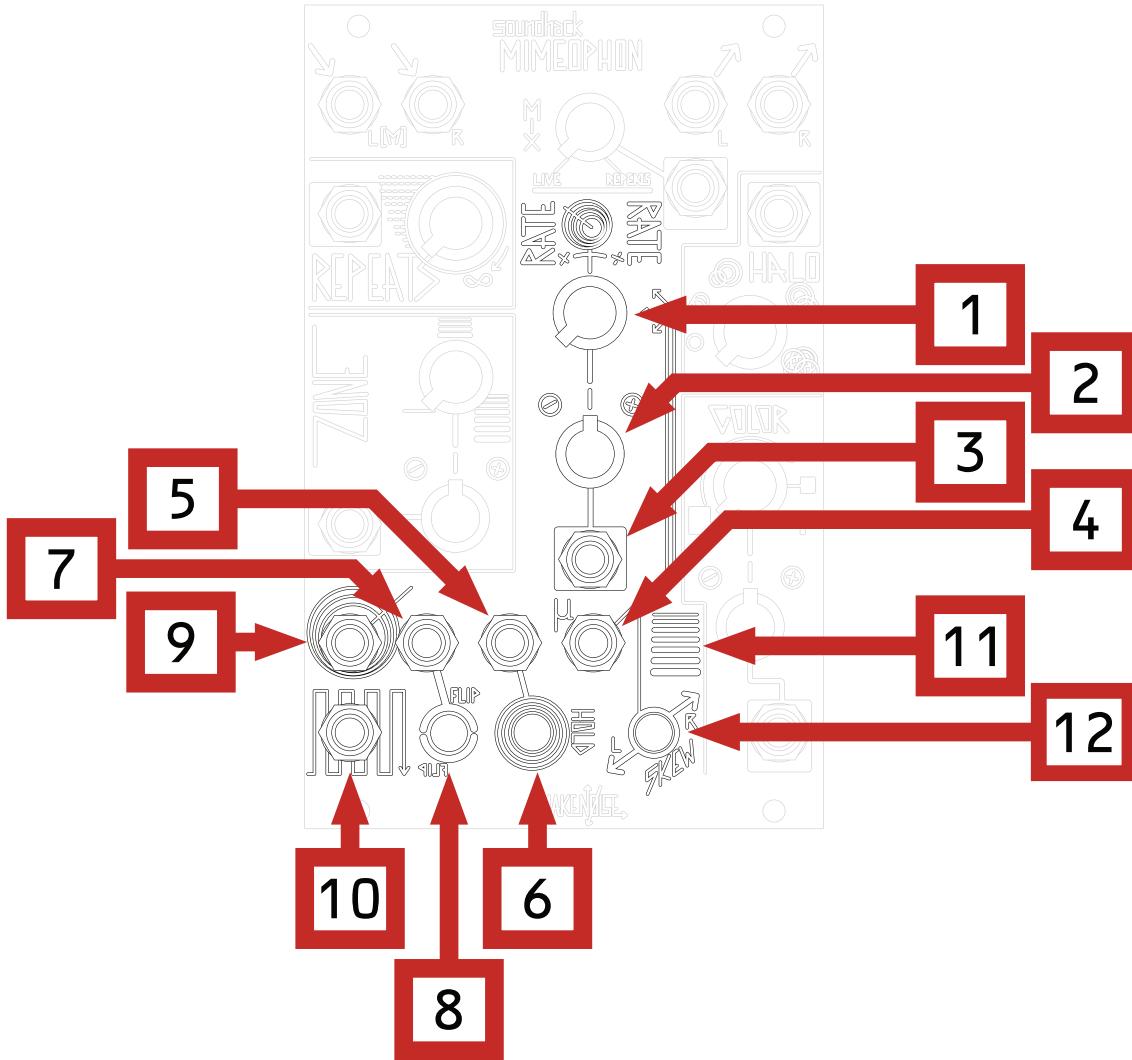
PANEL CONTROLS

1. **L (Mono) Input:** Signal input for Left Channel. Modular signal level (typically 10Vpp).
2. **R Input:** Signal input for Right Channel. Modular signal level (typically 10Vpp). Normalled to L Input.
3. **Mix Combo Pot:** With nothing patched to Mix CV Input, sets Mix between Live Signal and Repeats. With Signal patched to Mix CV input, works as attenuator for that parameter.
4. **Mix CV input:** CV input for Mix. Range 0-8V. Normalled to 8V.
5. **L Output:** Signal output for Left Channel. Modular signal level (typically 10Vpp).
6. **R Output:** Signal output for Right Channel. Modular signal level (typically 10Vpp).
7. **Repeats Panel Control:** Sets number of Repeats, from 1 to ∞. When HOLD is engaged, sets Repeats' start point.
8. **Repeats CV Input:** CV Input for Repeats. Range 0-5VDC.
9. **Halo CV Input:** CV Input for Halo. Range 0-5VDC.
10. **Halo Panel Control:** Sets HALO amount.
11. **Zone Panel Control:** Selects Zone. Current Zone indicated by Zone Window.
12. **Zone CV Input Attenuverter:** Bipolar CV input attenuator for Zone CV Input.
13. **ZONE CV Input:** CV control over Zone Selection. Range 0-5VDC.
14. **COLOR Panel Control:** Adjusts Color. "Unity" is at ~3:00, where Repeats will be closest to uncolored.
15. **COLOR CV Input Attenuverter:** Bi-polar input attenuator for COLOR CV Input.
16. **COLOR CV Input:** CV Control over Color. Range 0-5VDC.

PANEL CONTROLS

1. **Rate Panel Control:** Sets frequency of Repeats in current Zone. When Skew is on, Rate controls Left and Right Repeat frequency in opposite directions.
2. **Rate CV Input Attenuverter:** Bipolar input attenuverter for Rate CV Input.
3. **Rate CV Input:** CV input for Rate. Range 0-5VDC.
4. **microRate Input:** Un-attenuated doppler modulation destination. Tracks 1v/oct in Zone 0. Range +/-3V. Unity Gain.
5. **HOLD Input:** Expects Gate of 2.5V or greater. Toggles HOLD on and off.
6. **HOLD Button/LED:** Press to HOLD Repeats indefinitely and non-destructively. When HOLD is engaged, Repeats control sets Repeat start point for currently selected Zone.
7. **FLIP Input:** Expects Gate of 2.5V or greater. Toggles FLIP on and off.
8. **FLIP Button/LED:** Press to Flip Repeats so they are heard in reverse. Will cause total proton-ic reversal distortion in Zone 0.
9. **TEMPO Input:** Expects regular clock pulse of 2.5V or greater. When in use, RATE will synchro-nize to divisions/multiples of the Tempo.
10. **RATE Output:** Trigger output containing an OR of both channels' rates, 0V or 8VDC.
11. **Zone Window:** Changes color to indicate selected Zone. Flashes while Ping Pong is engaged.
12. **SKEW Button/LED:** Press to Skew repeats. Hold to turn on Ping Pong. Lit when Repeats are Skewed.

UNDERSTANDING THE MIMEOPHON

Inputs and Outputs

The Mimeophon has two inputs and two outputs.

The inputs are normalled for mono use when you patch only the Left input.

The Mimeophon is set up for easy patching of Mono-to-Mono, Mono-to-Stereo, or Stereo-to-Stereo.
For Stereo to Stereo, patch the left and right sides of a stereo signal to the Left and Right Inputs, and monitor both Left and Right Outputs.
For Mono to Stereo, use the Left(Mono) Input, and both Left and Right Outputs. The mono signal will be passed through both Repeat channels. Using Skew, Halo, or Ping Pong will result in a stereo image at the Left and Right Outputs.
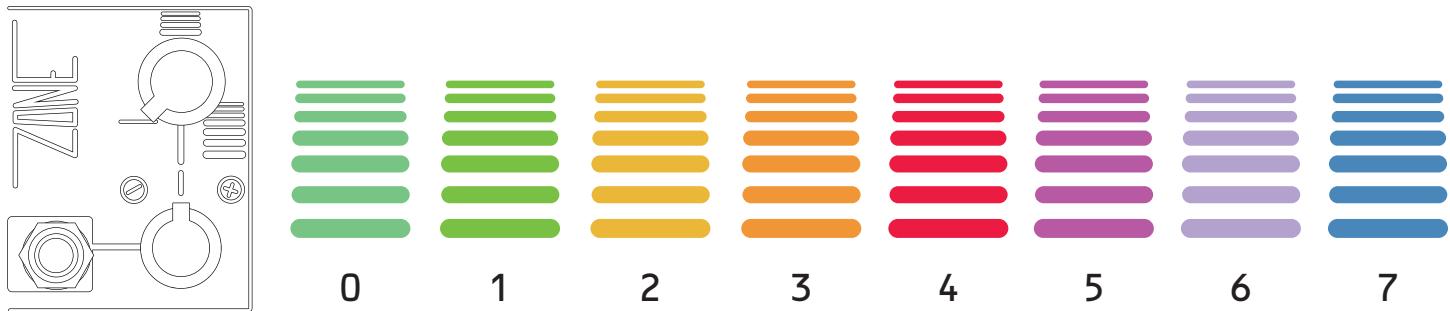
For Mono to Mono, simply use the Left Input, and the Left Output. You may also set up a Dual Mono path by using the Right Input and Output for a second signal and use Skew to set independent Rates for Left and Right channels. In this case note that Halo and Ping Pong will both cause some repeats of each Input to make it to the opposite Output.

The Mix combo pot sets the balance between the input signals and the Repeats that will appear at the outputs. When a signal is patched to the Mix CV input, the combo pot acts as attenuator for that signal.

Zones

At any given time the Mimeophon is playing back Repeats from one of a number of color-coded ZONES, selected by the Zone control and indicated by the color of the Zone Window.
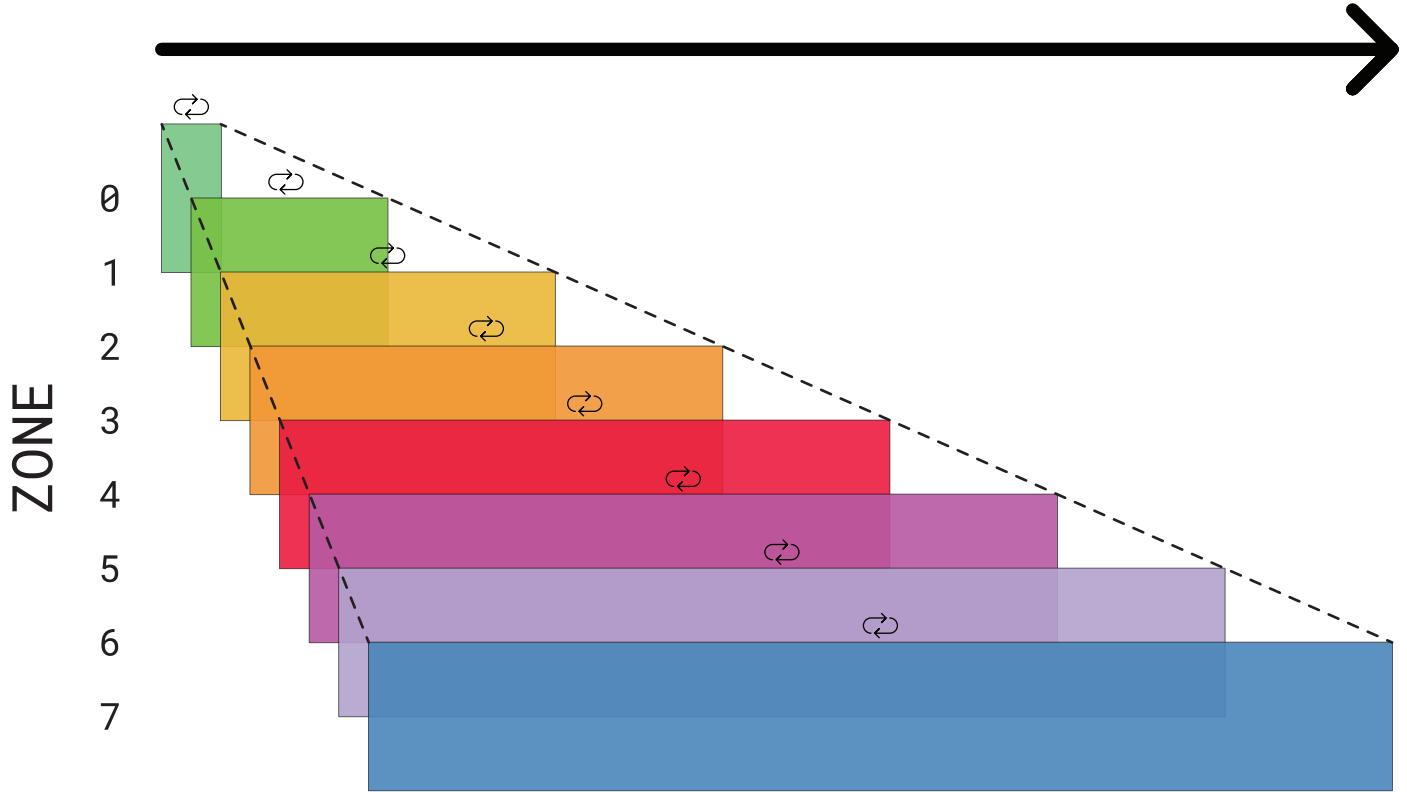
Switching Zones via the Zone control allows for large and instantaneous changes in repeat size without doppler/pitching effects, allowing quick smooth access to repeat sizes from microsound (shorter than 2 milliseconds) to phrase length (as long as 41 seconds).

In Zones 0 and 1, Mimeophon can create stuttering and phasing effects, flange, multi-dimensional distortion, and even Karplus-Strong synthesis. Zones 2-4 allow typical delay/echo effects. Zones 5-7 allow for creation of looped phrases and everevolving layered sound passages.

Zones, Cont.

The various Zones of the Mimeophon are nested inside each other from shortest to longest: Zone 1 contains all of Zone 0, Zone 2 contains all of Zone 1, etc. The incoming sound is always being written into ALL the Zones, so switching from smaller Zones to larger ones will often unearth sounds from seconds or even minutes ago. Repeats in smaller Zones are also written into larger Zones.

Zones are not drawn to scale. Not even close. Zone 7 is over 2000x larger than Zone 0

Possible Rates per Zone

The shortest Rate (see p. 11) for each Zone is 1/4 the "delay time" of the longest Rate, with the exception of Zones 0 and 7, whose shortest Rates are 1/16 the time (in Zone 0, this translates to a 4-octave range).

When the TEMPO input is not in use, the Rate ranges for each Zone are as follows (rounded to the nearest millisecond for longer Zones, and the nearest 1/10 of one millisecond for shorter Zones).

Zone 0: 1.3ms to 20.4ms
Zone 1: 20.4ms to 81.6ms
Zone 2: 81.6ms to 326.5ms
Zone 3: 163.3ms to 653.1ms
Zone 4: 326.5ms to 1.306s
Zone 5: 653.1ms to 2.612s
Zone 6: 1.306s to 5.225s
Zone 7: 2.612s to 41.796s
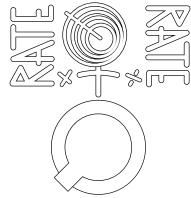
Note that for Zones 2 through 7, each Zone's Rate range overlaps the adjacent Zone's by 50%. For all Zones, the Rate range is exactly 2, 4, or 8 times greater or smaller than the adjacent Zones. These relationships ensure that any change from one Zone to the next will result in overlapping echoes that remain in time with each other.

Rate, Skew, and Ping Pong

The Rate parameter controls the frequency of Repeats, and therefore also the length of the Repeats.

Rate moves smoothly between Repeat sizes within the selected Zone. Its changes are continuous and fluid, and with Repeats turned up beyond zero, changes in Rate will cause doppler modulation/effects, leaving traces of shifted pitch in the copied material. However, when the Mimeophon is being Clocked, a slew-less crossfade is implemented to achieve instantaneous "switches" from one multiple or division to the next, leaving Rate modulation free from doppler effects.

Pressing the SKEW Button causes it to light, and engages an alternate use for the Rate parameter that allows for the skewing and modulation of the stereo image.

When SKEW is engaged, adjusting the Rate parameter skews the Rates of the Left and Right Repeats, making one channel increase in Rate while the other channel decreases. This might sound simple, but when combined with the feedback of the Repeats parameter and the spatial smear of the Halo parameter, the end result is quite effective at creating complex and highly illegal stereo imaging. It can add great depth to monaural sounds, and further increases the depth when using interestingly panned stereo sound sources.

Press the SKEW Button again to toggle it OFF. The Button is no longer lit, and the Rate parameter controls both channels in tandem while maintaining the SKEW as it was at the moment when SKEW was turned OFF. Turn SKEW ON and OFF once while Rate is not being modulated to clear the SKEW and synchronize the channels.

`Note: In the smallest two Zones, Skew can cause one side to achieve its minimum Rate before hitting the minimum Knob setting.`

Ping Pong and Swap
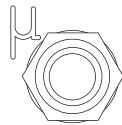
If the channels are not Skewed, Hold the SKEW button to engage PING PONG. The Zone window will flash periodically to indicate that Ping Pong is on. When Ping Pong is on, the Left and Right inputs are summed to mono, and the repeats will bounce back and forth between left and right channels. (The Rate LED will continue to flash at a steady pace.)

If the channels are Skewed, Hold the SKEW button to engage SWAP. The Zone window will flash periodically to indicate that Swap is on. Swap simply swaps the Left and Right feedback paths. Because of the Skewed Rates, this will result in a stereo, phase-shifted pair of Repeat patterns. (The Rate LED will flash irregularly, in time with the Skewed repeats.)

Ping Pong or Swap can be disengaged by pressing the Skew button again. The Zone Window will stop flashing.
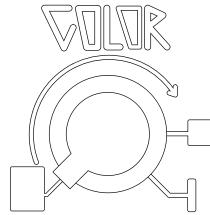
The **μ or microRate** input is a dedicated doppler modulation destination.
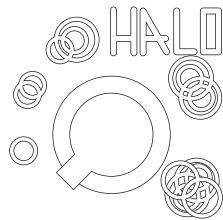
microRate is always continuous, and maintains the same short range across all Zones, thus allowing for consistent doppler effects even while TEMPO is patched (the Rate parameter is changing without doppler). Doppler effects include chorus, vibrato, and flange. This input has a linear response in Zones 1-7 and is affected by Skew. Within Zone 0, it has a 1V/ Octave (exponential) response, making it useful for controlling Karplus Strong tone generation. In Zone 0, it is not affected by Skew.

COLOR and HALO

The COLOR and HALO controls provide control over the timbral character of the Repeats. The response of Color is tailored for maximum range of expression, and drama when modulated. It emulates the spectral response of anything from the darkest oil-can echo, to a warm BBD, to mid-range crunch BBD, to tape echo, to a crispy clean delay, to a thin sizzling early digital delay line.

Halo adds stereo depth and space to the echoes.
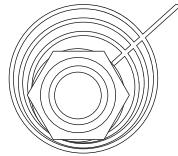
In printing, the "halo effect" is the name for excess ink spreading out from the edges of printed objects or letters. On the Mimeophon, Halo does the same thing, adding a smear of excess sound around the edges of the Repeats.

Inside the Mimeophon is a complex feedback network. The Repeats, Color, and Halo controls are all constantly affecting each other in various ways. The Color parameter controls the timbre of the Halo. As the Halo control increases toward max, the halos get wider and denser, and are eventually injected into the feedback paths along with the Repeats for further manipulation.

TEMPO

The **Tempo** input allows the Repeats to be synced to an external clock, with divisions and multiples of this tempo chosen by the Rate and Zone parameters.

When this input is in use, a slew-less crossfade is implemented to achieve instantaneous "switches" from one multiple or division to the next on the Rate control.

The TEMPO input has a usable range of 0.25Hz to 50Hz. In other words it ranges from a minimum of one beat every 4 seconds, to a maximum of 3000 beats per minute.

The TEMPO input maps to Zones automatically. When a Tempo is read, the 1/1 setting will be found at about 12:30 on the Rate control on the Zone most appropriate to the Tempo. Other Zones will be divided or multiplied by powers of 2 as detailed in the Zone section.

For any Zone, if we consider a Rate of about 12:30 to be "1/1", then the divisions and multiples found across the Rate control will be as follows, from counterclockwise to clockwise:

```
x2 (Full CCW)
   x1 3/4
   x1 2/3
   x1 1/2
  x 1 1/3
   x1 1/4
1/1 (~12:30)
   /1 1/4
   /1 1/3
   /1 1/2
   /1 2/3
   /1 3/4
/2 (Full CW)
```

Multiply or divide any of these by powers of 2 by changing Zones.

With a Skew in place, two multiples or divisions may be heard at once in the Left and Right Ouputs. With Ping Pong engaged, the channels will also switch places with each new Repeat.
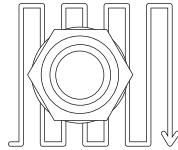
When combining all this with modulation of Rate and Zone, many interlocking rhythmic combinations are possible to derive from even the simplest source material.

If no clock is received at the TEMPO input for several seconds, the Mimeophon will wait until the Rate control changes before de-synchronizing. In other words, once two pulses have been received at the TEMPO input, the tempo will be established and continue until the Rate control changes. This enables the use of the TEMPO input for tap tempo, for example by patching a Pressure Points gate output to it and tapping twice.

RATE Output

The Rate Output completes the conversation between Mimeophon and the rest of the system, outputting a clock pulse at the current Rate.
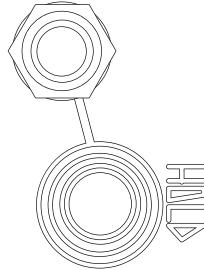
If SKEW is enabled, the resulting two Rates will be OR'ed together, resulting in clock pulses from both Left and Right channels being output by the Rate Output at once. When externally clocked, this allows the Mimeophon to be used as an unusual dual clock divider or multiplier. Feed this output to other places in your system to more fully integrate the Mimeophon into your patch.

Note: at the fastest Rates (Zone 0 and some of Zone 1), the clock is so fast that the Rate output will stay HIGH all the time.

HOLD

The HOLD button temporarily stops the Repeats from changing: no sound will enter or exit the feedback path.
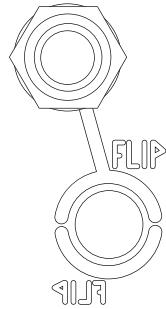
Once the button is pressed (or a gate received at its input), the Mimeophon will ignore the input and continue to Repeat according to the Zone and Rate controls, with timbre set by the Color and Halo, until the HOLD button is pressed again. While HOLD is engaged, all other controls remain fully active for constant multi-dimensional manipulation of the Repeats. Any such manipulation is non-destructive: you can always return to the same Repeats sound indefinitely for as long as HOLD is engaged.

While HOLD is engaged, Repeats amount is no longer a relevant concept, so the Repeats control instead sets the starting point of the repeat for the current Zone.

FLIP

The FLIP button flips the Zone so it is "backwards."

In medium and large Zones, sounds played into the Mimeophon's input (or held in place by the HOLD button) will be reversed upon playback. In the smallest two Zones, FLIP will create "Total Protonic Reversal," the distortion of sound which happens when you flip an audio buffer every 70 samples. The resulting sounds can then be sculpted using Color, Halo and Repeats. Audio rate modulation of the Flip gate input in small Zones creates particularly interesting sounds.

Note: Rate modulation with Flip engaged will not result in the same "Doppler" shifting effects that are heard when Flip and Tempo are not in use. This is due to a minor limitation in the Mimeophon's time travel capabilities ;)

TIPS & TRICKS

- Zones 6 and 7 are very long, to the extent that all manipulations of the Mimeophon in shorter Zones will still appear in Zones 6 and especially 7 for potentially several minutes, especially with higher Repeats settings. Consider playing in the smaller Zones for awhile, then pressing HOLD, removing modulation, and navigating to the Zone 7, using the Repeats control to view different portions of the complex facsimile you have created. (Bonus: Press Skew to change the vantage points' drift over time.)

- Manipulations of Zone 0 can be preserved as echoes by modulating to larger Zones. Sequencing Zone using the same or related clock rate to a synth sequence that is being repeated by Mimeophon opens a window into a rhythmic lattice of differing Repeat styles per note or beat.

- Since Color modulation is cumulative, different speeds of modulation will have different effects over time depending on the Zone/Rate. Take advantage of this!

- Impulses and noise bursts make great inputs for Zone 0, as do droning oscillators.

- Flip Zone 0 or 1 while sequencing µRate to drop the sequence by an octave and change its harmonic structure.

- With Skew engaged in Zones 1-7, µRate's response is inverted on the right channel, which is great for creating stereo chorus. Try a lower amplitude LFO of 10Hz or slower to start.

- Repeats in Zone 0 can be both excited and "dampened" by changing volume levels at the input. When Zone 1 is empty, transients will generate audio rate repeats, but also with higher Repeats settings, going from silence to higher volume can suppress feedback. This means that transient shaping, for example with MATHS, can potentially be very expressive.

- If SKEW is enabled, the resulting two Rates will be OR'ed together, resulting in clock pulses from both Left and Right channels being output by the Rate Output at once. When externally clocked, this allows the Mimeophon to be used as an unusual dual clock divider or multiplier. Feed this output to other places in your system to more fully integrate the Mimeophon into your patch.

PATCH IDEAS

Tempo Synced Echo

In Zone 4 or 5, set Color to 3:00, Mix to 11:00, Repeats to 12:00. mult your sequence clock to the TEMPO input, and adjust Rate to taste for rhythmically interlocking repeats. Engage Skew and adjust further for tempo-synced stereo repeats.

Dub Echo (Walker)

While TEMPO is unclocked, adjust Rate (in Zone 3-5) by hand to approximate the tempo of the sound you have patched to the Mimeophon. Set Repeats to 12:00. Turn HALO to midnight, and COLOR fully clockwise. Periodically turn REPEATS to full clockwise and slowly back down for dub washes. Adjust HALO to taste.

Repeater Eater (Walker)

Sequence Zone (starting at Zone 0) with one sequencer or sequencer channel, and use another sequencer or sequencer channel to create a rhythmic or melodic sequence for the Mimeophon audio inputs. Zone sequencing will switch between echoes, flange, Karplus, etc. per step or beat. If Repeats are turned up, then shorter Zones willl leave traces of their repeats in the larger Zones, creating a rhythmic lattice. Stepped random voltage is also a great CV source for Zone.

Karplus String

Patch a triggered MATHS function (Rise CCW, Fall 10-12, Response 2:00) to the Left input of the Mimeophon. Go to Zone 0. Set Rate full CW, Repeats to 1:00, Halo full CCW, Mix to 1:00, and Color to 12:00. Patch a pitch CV to the Micro Rate input, and adjust Repeats control to set the String's decay. Each time you trigger the MATHS, the Mimeophon will create a "string" sound. The Mix control sets the balance between transient and decay. Use Color and Halo to set the timbre of the string, and Rate to set the start point for sequence pitch. For bonus realism and movement, modulate Repeats, Color and Halo, and experiment with different input sources (noise bursts, transients, or any other short impulse that can "excite" the Mimeophon). Multing your Pitch CV to Color creates something like "keyboard tracking."

Back and Forth to the Future (Tony)

Patch Mimeophon Rate Pulse Out to Flip In. Set to Zone 3, 4 or 5. Mix to 12:00. Repeats around 9:00. Hold OFF. Adjust Rate, Skew, Color and Halo to taste. Repeats will travel forward and backward automatically. Patch system clock to Tempo In for stricter fun.

Octaviocho (Tony)
Use VCO with multiple wave shape outputs (STO, DPO). Patch your voice to be processed using VCO (see "Make Noise System Tutorial 1a: Basic Sequencing"). Patch triangle or sine from same VCO to Mimeophon uRate In. Set Zone to any from 1 to 5. Mix to 12:00. Color to 3:00. Repeats around 10:00. Start with Rate at Noon. Flip and Hold OFF. Adjust Rate, Skew and Halo to taste. Increase Repeats for more "fuzz" (octave up harmonics). If the VCO has a sub-octave output (like the STO Sub), use it for octave down harmonics.

Echoes Made of Sand (Tony)

Set up Octaviocho patch with Zone to 4 to 5, and program melodic sequence. Patch system clock (the one clocking sequence) to MP Tempo In. Turn Flip ON. Summon spirit of Hendrix with modular synthesizer.

Stereo Chorus (Tom)

Set Color to 3:00 and Repeats to 12:00 or greater, Mix to 1:00. Patch a bipolar triangle or sine LFO (such as from DPO) of 10Hz or slower through an attenuator (such as a middle channel of MATHS at about 1:00), to uRate, and engage Skew. In Zone 0 or 1, increase drama by turning up Repeats (resonance, shimmer). Variation: Zone 1 or 2 for flange effect.

Filter-Verb (Walker)

Turn Mix fully clockwise and Repeats and Rate fully counterclockwise, and enter Zone 0. These settings can be used to access Color and Halo with no apparent Repeats. Use Color as a subtle character filter, and Halo to generate air. Engaging FLIP will create protonic reversal to generate harmonics, subharmonics and other related over- and undertones derived from the sounds at the input. Add trails by turning Repeats up to taste.

Flip the Script (Walker)

In Zone 4, set Repeats fully counterclockwise and Mix fully clockwise, and engage Flip (leave SKEW off). Patch a sung or spoken-word vocal track to the Input(s). Set Rate to match the average flow of syllables into the Mimeophon. The result should be a reversed vocal track that maintains its original cadence and rhythm (and melody, if sung).

(nil)ZONE^∞ (Jake)

With nothing in the inputs, set Mix full CW. Start in Zone 0 with zero Halo and Color at 12:00. Turn Repeats all the way up to create a wash of feedback. Modulate Color with Woggle CV, Zone and Rate with Stepped Random CV (attenuate to taste; works best in the lowest Zones!). Optional: slowly modulate Repeats via LFO. Optional: Rate out -> TEMPO in to cancel out Doppler shifts.

APPENDIX: INPUT GAIN LEVEL

If your input signal is particularly low- or high-amplitude, you may want to adjust the input gain of the Mimeophon. You may attenuate or amplify, or neither (the default is Unity gain, which works with most modular level signals).
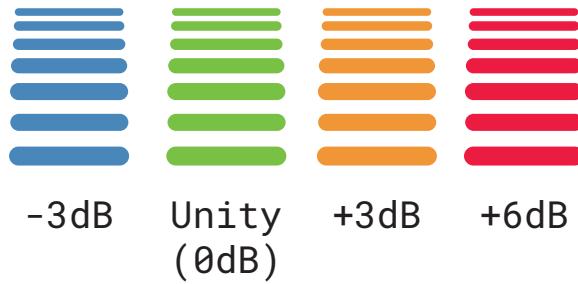
To set the input gain level, set MIX to fully Dry (counterclockwise), and monitor your input signal. Hold down the FLIP and HOLD buttons to cycle through four options for input gain level. The currently selected option will be displayed via the color of the ZONE Window as follows:

BLUE -3dB
GREEN 0dB/Unity
ORANGE +3dB
RED +6dB

-3dB   Unity   +3dB   +6dB
          (0dB)

Monitor the input signal while selecting input gain level to hear the effect of the selected level. Release both buttons to select and exit.

Note: Boosting input gain may result in input clipping on typical modular level signals. In most cases we recommend keeping this setting at Unity unless a boost or cut is necessary.

mp70 CHANGE LOG

Firmware version mp70 adds the following feature: Clear all Zones by setting Mix and Repeats fully counter-clockwise.

If your Mimeophon has a serial number of #1000 or higher, you do NOT need this update. Check the Zone Activity Window for correct colors on power up. MP70 Zone = Light Pink/Red.

If your Mimeophon already powers up with these colors you do not need this update.

mp82 CHANGE LOG

New firmware version mp82 adds the following feature: Mimeophon will now save current Input Gain Level setting when powered off.

If your Mimeophon has a serial number of # 6339 or higher, you do NOT need this update. Check the Zone Activity Window for correct colors on power up. MP70 Zone = Teal/Teal.

If your Mimeophon already powers up with these colors you do not need this update.

mp86 CHANGE LOG

New firmware version mp86 is available here:

http://www.makenoisemusic.com/firmware/

This version contains all previous version changes, and reduces the module's noise floor.

If your Mimeophon has a serial number of #9256 or higher, you do NOT need this update.
Check the Zone Activity Window for correct colors on power up. MP86 Zone = Teal/Red.