



# echoczar

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## analog stereo delay

- Two completely independent, foot switchable, Delay Time and Mix settings, with individual LED indicators, (green and yellow). Featuring the ability to uniquely alter the delay voice and character. Plus long (100% analog) delay, with a range of 50ms. to over one full second. (1100 ms. actual.) Mono In / Mono Out or Mono In / Stereo Out operation.
- Stereo applications benefit from the active Mix controls and the Effect Out Phase-Select toggle switch. This allows the creation of a centered stereo image or a wide expansive soundscape.  
Note: The Effect Out Phase-Select toggle switch makes no audible difference when using just one amp.
- The Effect Out Mute/Normal toggle switch is useful when using two amps in stereo, providing the option of muting the wet amp when foot-switching the echoczar into the bypass mode. With the Effect Out Mute/Normal toggle switch in the normal position, both the effect output and dry output jacks feature hardwired, true-bypass switching. With the Effect Out Mute/Normal toggle switch in the mute position, the effect output jack is muted (silent) in the bypass mode, and the dry output jack is hardwired, true bypass. Note: Place the Effect-Out Mute/Normal toggle switch in the normal position when using just one amp, otherwise your amp will be muted when you foot-switch to the bypass mode.
- The Vintage/Modern toggle switch allows for a choice of Repeat voicing - The Vintage Mode is warm and thick, the Modern Mode is brighter with more detail. Plus to either of these modes, you may add one of two Multi-head Modes.
- The Multi-head Modes were originally inspired by the various multi-head tape machines. A three position, center-off toggle switch, adds either Multi-head Slapback (s-back) or Multi-head Reverb (reverb) to either the Vintage or Modern modes, providing a great deal of variety. The Multi-head Slapback Mode sounds similar to two delay units in series, with the first delay set for a soft slapback repeat, and the second delay set for a longer repeat. Note: For best results, the echoczar's delay time setting needs to be set well over 300ms, with a 50/50 wet/dry Mix. After several repetitions (depending on the echoczar's delay time setting), these two separate repeats will either ping-pong, stutter, or morph into each other. Using the Feedback foot-switch (or Expression pedal) will provide very interesting feedback (self-oscillation) effects. The Multi-head Reverb Mode sounds like delay plus plate-style reverb, and is useful for amps which do not have reverb. Note: This is not a wet, surf-style, reverb. Very interesting feedback is also easily obtained in the Multi-head Reverb mode. **WARNING:** Both Multi-head Modes will feedback (self-oscillate) if the Repeat knob is maxed.
- The Echo/Delay toggle switch allows for a choice of Repeat character - The Echo Mode provides Repeats which decay in a natural manner, and provides smooth droning feedback (self-oscillation). The Delay Mode provides Repeats that can go on and on, or is useful for music styles that need punchy, rhythmic repeats. The feedback (self-oscillation) in this mode is wild, loud and choppy.
- Foot-switchable Feedback (with red LED indicator) and Safety knob allow you to adjust exactly how soft or hard you want the feedback (self-oscillation) to come in. Dial in a short sustaining tail, nearly endless sound-on-sound droning, or a sudden, insane, UFO landing. Foot-switch Feedback off and glide smoothly back to normal repeats.
- The all analog echoczar does not feature tap tempo. However, the Delay Time knobs are larger and taller, so they can be adjusted with your foot without disturbing your other knob settings.



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- The Repeat knob, when set full clockwise in the Echo Mode, provides approximately eight repeats, and will not easily induce runaway feedback (self oscillation). In the Delay Mode you can expect 10-15 repeats, and at full clockwise - wild runaway feedback, especially when combined with the Multi-head Modes. When the Repeat knob is set at minimum (full counter-clockwise) you get one repeat in ALL modes.
- The echoczar features two Expression pedal jacks. The Delay 2 Expression jack bypasses the Delay 2 (yellow) Delay Time knob, allowing Expression pedal control of the Delay 2 (yellow) delay time. Note: This is not a direct substitute for tap-tempo, but can be used to set the delay time, or used for special noise effects. The Repeat Expression pedal jack bypasses the Repeat knob, and works for Both the Delay 1 (green) and Delay 2 (yellow) channels. Allowing expression pedal control of Repeats from 1 repeat (heel down) to the onset of feedback/self-oscillation (toe down). This allows for real time control of feedback and reserves the Feedback foot-switch for more radical feedback effects, or sustained droning. This versatility makes the echoczar an incredible tool.
- For expression control, please use only the toneczar EB Expression pedal with a ¼" TRS (stereo) cable. Do not plug anything else into the Delay 2 Expression jack as the echoczar is voltage controlled. Do not use any other brand of expression pedal as they will not work.
- The Repeat Expression jack may also be used as an effects loop for the delayed signal path. To access this feature, use a channel insert cable (¼" Y-cable configured with a single TRS stereo plug on one end, and two mono plugs on the other end). The mono plug labeled TIP plugs into the input jack of the effect to be added, and the mono plug labeled RING plugs into the output jack of the effect to be added. The TRS stereo plug goes into the echoczar's Repeat Expression jack. It is absolutely necessary that the effect patched in the echoczar's effects loop has a volume knob. If not, a standard volume pedal must also be patched in between the added effect's output jack, and the mono plug labeled RING. If this is not done, uncontrollable feedback/self-oscillation will result. Note: Effects placed in the loop will not alter the first repeat.
- The echoczar features two independent Mix knobs (one for each channel), each providing any ratio from 100% dry to 100% wet. Foot-switching between Delay Time settings automatically switches between the Mix knobs.
- The echoczar may be used in an amplifier's effects loop for the lowest possible signal to noise ratio. For use in a parallel loop, place the Mix knob 100% wet, and use the Effect Out Phase-Select toggle switch to correct any out-of-phase issues. For use in a series loop, place the Mix knob as you would for use in front of the amp.
- The echoczar features Flash Tempo. Each channel indicator LED (green or yellow) flashes in time to the Delay Time setting. Being able to see the delay time setting is helpful when using the expression pedal to control Delay 2 (yellow channel) Delay Time.
- Hardwired, True-Bypass switching, with on indicator LED (red).
- 18 volt DC operation (no batteries), terrific headroom, gracious when overdriven. A Dunlop 18v regulated wallwart is supplied for USA, UK, or Europe (choose when ordering). Power jack is the standard 5.5 x 2.1 mm. center tip - negative.



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- The echoczar can be powered by the Voodoo Lab Pedal Power 2 PLUS by using a “Y” power cable and only outlets 5 & 6. Note: Set the (PP2+) DIP switch to NORMAL.
- H.O. (High Output) mods are available for the original Pedal Power and Pedal Power 2, and are NOT OPTIONAL when powering the echoczar. Note: A custom “Y” power cable can be exchanged for the supplied wallwart. Please specify this (and “Y” cable length) when ordering.
- The echoczar’s headroom makes it a great tool for studio use. The echoczar may be used at line level (for example), to create a stereo image from a mono track, and is also fantastic for vocal processing.
- No aluminum electrolytic or ceramic caps in the signal path. The delay line is made up of now out-of-production, analog BBD chips that I scope test and match. I don’t trust trim pots and none are used anywhere in the circuit, assuring years of reliable, drift-free, peak performance. In addition, there are no socketed components, internal DIP switches, ribbon wire, push-on connectors, pcb mounted pots, or jacks. Instead, thru-plated, FR-4 epoxy glass pcb, Mil-spec components, hand soldered, handwired, scope-tested and tuned.
- The echoczar is offered in two finishes, powder-coat matte black or the optional polished aluminum. Note: This finish is designed for durability. It is not a show finish. It will be full of character, matching the rest of the toneczar product line. These products are designed to be installed on a pedal board and stepped on, not polished with a soft cloth and admired.

### SPECIFICATIONS

Input Impedance: > 500K ohms  
Output Impedance: < 50K ohms  
Vintage Mode delay time: 100ms. to over 1000 ms.  
Modern Mode delay time: 50 ms. to over 750 ms.  
Delay line headroom: 4v p/p @ 1% THD  
Current Consumption: 150 ma. @ 18v dc.  
Signal to noise: 90 db dry only  
60-70 db wet only (depends on settings)  
Dimensions: 7 ½” W x 4 ¼” D x 2 ¼” H  
(knobs add 1” to height)  
Weight: approximately 2 lbs.

### NOISE COMPARISON

A TS-9 set: Drive - Max, Tone - Max, Level - 12:00  
Has the same hiss when ON, as the echoczar has in the space between long repeats  
Note: The TS-9 is not known for having too much hiss.  
However, test for yourself.