



## DE-21: Rama - राम

!!!WARNING! DEALING WITH FEEDBACK CAN BE HAZARDOUS TO YOUR EARS AND GEAR SUCH AS OTHER MODULES, SPEAKERS, DAWs, MIXERS ETC. TO BE SURE YOU HAVE HEALTHY LEVELS ALWAYS PLACE AN ATTENUATOR OR ATTENUATED MIXER OUTPUT BETWEEN YOUR MODULAR AND OTHER GEAR. IT MIGHT ALSO OPEN GATES TO UNKNOWN SONIC DIMENSIONS. DJUPVIKS ELEKTRONIK AND THONK TAKE NO RESPONSIBILITY IF GEAR WITHIN YOUR MODULAR OR OUTSIDE IS HARMED BECAUSE OF RAMA. YOU HAVE BEEN WARNED! PRECEIDE WITH CAUTION! WARNING!!!

RAMA is a 6hp dual no-input mixer in eurorack format. I've been doing no-input mixing with guitar pedals and various devices for almost two decades, while the modular synth is a wonderful instrument it was lacking a standalone, dedicated device for no-input mixing which was odd to me because feedback mixing is such a huge part of experimental music. I decided to invent such a device if not for my own needs as a musician. SHAKTI was released in October of 2022 as a solution to this "problem".

RAMA is a dual SHAKTI module with shared Feedback control. Each channel contains 3 different feedback loops in a very small package. 2 internal ones (represented by the pots Feedback and Invert, where Feedback is a normal signal, Invert which is an inverted signal and Receive – an external path (one that you send out from the module, through the modules of your choice and then back again). When working with feedback all three of these will intermingle fast which means both feedback pots and receive knobs will affect each other. A filter is attached to the first feedback path but since all signals will intermingle in this circuit (it is a mixer after all) so the filter will affect all three paths. Starting with the knob in the middle, it has a lowpass filter to the right and high pass to the left. INVERT jack contains the inverted signal whereas OUTPUT contains the normal signal on each channel. When just using Channel 1 the output is normalized to the receive input of channel two thus creating a stereo field with just one external feedback loop (if that is to be desired).

This build is as straight forward as it gets and contains very few parts.

- Start with the power connector. Use the silkscreen so you know what side it should be placed on. Place it on the same side where the silkscreen reads "RED STRIPE".
- Solder one pin on the pot from the top (that way it won't fall off).
- Place all the other pots on the pcb and solder one pin from the top side.
- Place the jacks and solder the ground pin so they won't fall off (that is the pin that goes outside of the jack and has a square pad – the one that is easiest to reach from the top).
- Attach the panel and screw all nuts. Make sure everything is aligned, if not: heat the one soldered pin on the jack/pot and align it. When everything looks right solder all pins from the bottom side. Be careful not to touch any pre-soldered components.
- Attach the knobs on the pots.

Done, time to release your inner noise demons!

## BOM

1 Dual 100k 9mm alpha pot (DUAL) <https://www.thonk.co.uk/shop/alpha-9mm-pots-vertical-t18/>

6 100k t18 9mm Alpha pots <https://www.thonk.co.uk/shop/alpha-9mm-pots-vertical-t18/>

8 Thonkicon Jacks <https://www.thonk.co.uk/shop/thonkiconn/>

1 Powerconnector

6 Micro t18 knobs (black) <https://www.thonk.co.uk/shop/micro-knobs/>

1 Tall Satin Knob (small) <https://www.thonk.co.uk/shop/tall-satin-synthpointer-knobs/>

