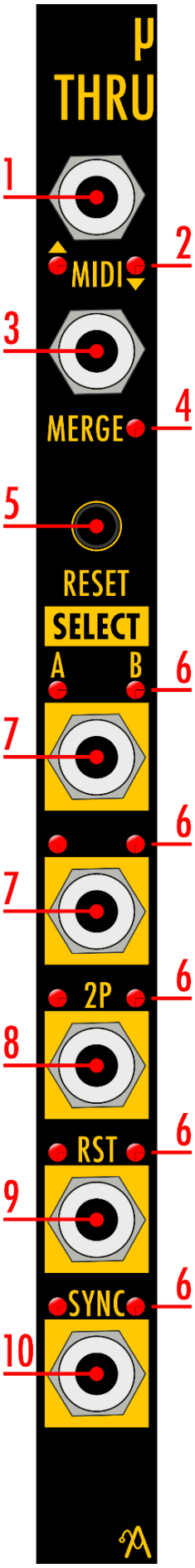


A14 - µTHRU - USER MANUAL

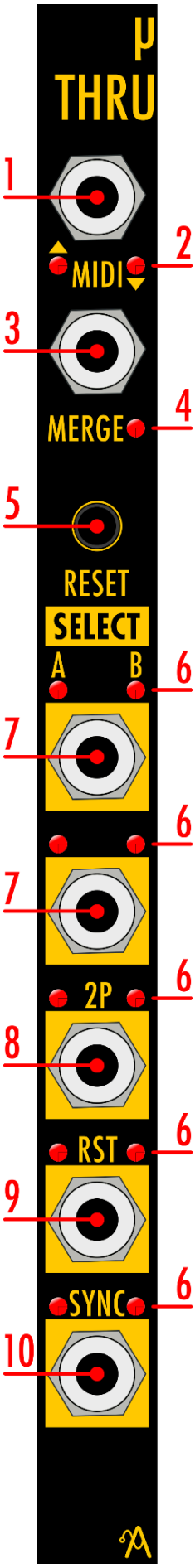
The main use of the module is to send MIDI from one input to five outputs (this is the 'common Thru' function). In addition there is a second MIDI input which will merge MIDI data to the 5 outputs as well. MIDI inputs will accept both TRS types (A or B) automatically (no setup needed), and each output type can be swapped to A or B from the front panel. If desired, the 3 bottom outputs can send 5V analog synchronisation signals instead of MIDI data.

- **DESCRIPTION**

1 - Main MIDI input.
2 - MIDI input activity LED (left for main input, right for merge input).
3 - Merge MIDI input.
4 - Merge enabled LED.
5 - Unique button to enter config and set options.
6 - A/B output TRS type LED status.
7 - MIDI output.
8 - MIDI output or “2 pulses” sync analog signal for TE / KORG.
9 - MIDI output or Reset analog signal output.
10- MIDI output or Sync analog signal output.

- **RESET - short press of the button (5)**

It sends “All Notes Off” MIDI CC 123 on all MIDI channels (1 to 16). It’s like a panic button to kill hanging notes. (It can occur if you unplug a MIDI cable in the middle of a playing note). It also resets internal buffers in case something went wrong.



- **SELECT - long press of the button (5)**

Press button (5) for one second to access the setup mode. After four seconds, if you don't do anything else, the module will automatically exit setup mode.
The selected option LED will blink fast. Use short button presses to cycle through the options, and long presses to toggle states. Once you've selected the desired output, press and hold the button for one second (long press) to change the MIDI TRS output type (A or B). There is a third option for the last three outputs at the bottom (8,9,10): the two LEDs will blink. This allows you to enable an analog sync signal on the jack instead of MIDI data:

- 2P (8) stands for “two pulses”, used to sync Korg and Teenage Engineering gear.
- RST (9) stands for “Reset”, this will provide a continuous high signal (5v) when a MIDI start message is received and 0v when a stop message is received.
The behaviour can be reversed, see GLOBAL CONFIG MENU below.
- SYNC (10) will output the classic 4 pulses per quarter note (PPQN) or 24 PPQN see GLOBAL CONFIG MENU below.

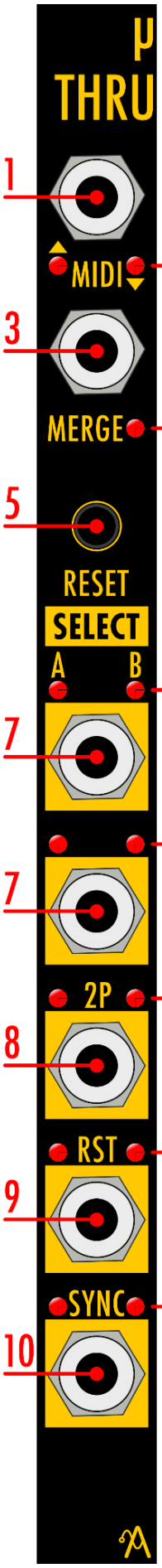
If you select the Merge input (3), you can enable or disable the software merging process:
- merge LED (4) blinking fast = merge input is enabled.
- merge LED (4) blinking slow = merge input disabled, data from main input is routed to output immediately. This is a hardware bypass thus no latency. Merge input can still respond to MIDI Clock and output chosen analog signals.

When you choose analog output, both LEDs will show the signal output once you exit the configuration. MIDI output activity is not shown, only the TRS type.

After an A/B swap, the module sends “All Notes Off” MIDI CC 123 on all MIDI channels to kill eventually hanging notes.

- **GLOBAL CONFIG MENU**

To enter the global configuration menu, hold the RESET/SELECT button (5) down when the module is powered on. The merge input enable LED (4) will blink to indicate that you’ve reached the global configuration menu. The LEDs show the selected options for the corresponding output. Use short button presses to navigate through the options, and long presses to toggle states.



There are 3 different possibilities for the reset output signal (9):
- LED A on means: MIDI “start” event generates a 20 ms positive trigger signal.
- LED B on : output is high during "start", and low during "stop."
- LED A + B on : output is low during "start", and high during "stop."

There are 2 possibilities for sync output:
- LED A on : 4 pulses per quarter note (PPQN) = 1 pulse per step (duty cycle is 50%).
- LED B on : 24 PPQN (DIN SYNC). Pulses length: 5 ms (max 450 bpm).

To save configuration and exit the config menu, use short presses to reach the merge LED which will blink faster and then use a long press to save and exit.

- **NOTES**

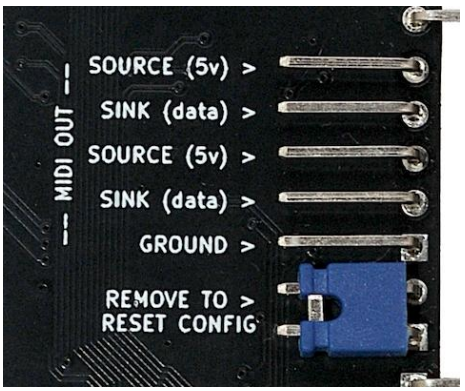
Both inputs (main and merge) will respond to Midi Clock messages. The input which receives the first clock will be selected and the other one is discarded. This is automatically reset after 1.2 seconds when no clock message is received.

TRS wiring for DIN sync or SYNC24: The tip carries the sync pulses (24 PPQN only) and the ring carries the start/stop signal.

“Active Sensing” ($FE) and “System Reset” ($FF) are filtered and discarded by the module.

Sysex is handled this way: messages are treated first in, first out. Each input has a 500-byte buffer. Don't send two large Sysex dumps at the same time on both inputs.

MIDI Time Code doesn't have input priority handling. Make sure you don't send MIDI Time Code on both inputs.



There is a jumper on the PCB. If you remove it, the factory settings will be loaded on the next power-up and saved into the internal memory. Replace it to allow the module to skip this step and load the saved personalized settings. There are also two extra MIDI outputs on the PCB for internal connections.

Don’t worry if you plug +/- 10v modular signals into the MIDI inputs or outputs, everything is designed to support those situations.