Firmware v1.0

1 **Clock Input**: Feed a square/pulse 0-5V clock signal here. Rising edges trigger the steps. If you are using the PCB header to feed a DIN SYNC signal (e.g. from an STG Time Buffer) then do not plug anything here.

2 **Reset Input**: Feed a pulse 0-5V here. Rising edges trigger the reset.

11 **Gate Output A**: 0 - 5V Gate outs for sequence A

12 **Gate Output B**: 0 - 5V Gate outs for sequence B

PROGRAMMING MODE

This is the default mode of the uStep.The current active (playing) step of each sequence is shown by an inversion of the steps led.

Sequence A - single click the step you want to activate. A red led will be lit to signify a programmed step. Single click the same step to deactivate it.

Sequence B - double click the step you want to activate. A green led will be lit to signify a programmed step. Double click the same step to deactivate it

SEQUENCE CONFIGURATION MODE

Press + Hold the step button for about <u>half a second</u> to enter the following configuration modes:

3 **Gate Length A**: Set the gate length of sequence A (red leds). Click one of the buttons from 1-8 where 1 is the shortest gate time and 8 is the longest.The length of the gate is dependent on the timing mode. (see RELATIVE TIME MODE and ABSOLUTE TIME MODE for more details)

4 **Gate Length B**: (green leds)

5 **Sequence Length A**: Set the number of steps (1-8) in Sequence A (red leds)

6 **Sequence Length B**: (green leds)

7 **Store**: Save the current sequence to a preset in one of the 8 locations. Steps with sequence already stored in that location are indicated with a red led. NOTE: These presets will not be stored offline unless you use STORE TO EEPROM function.

8 **Load**: load one of the 8 presets. Only steps with a red led lit have stored presets. Choosing any other location will result in loading a blank sequence. On power up of the module all presets are loaded from EEPROM.

9 **Swing**: set the swing amount from 0% (step 1) to 33% (step 8). Every other step is delayed by a maximum of 33% of the current clock interval. Gates on swing steps are shortened by the amount they are delayed.

10 **Clear**: clear the current sequence. Activated steps for sequence A and B are cleared but all other settings remain. Step 8 lights up with both leds to remind you to press that step to confirm clear. Pressing any other step will exit without clearing.
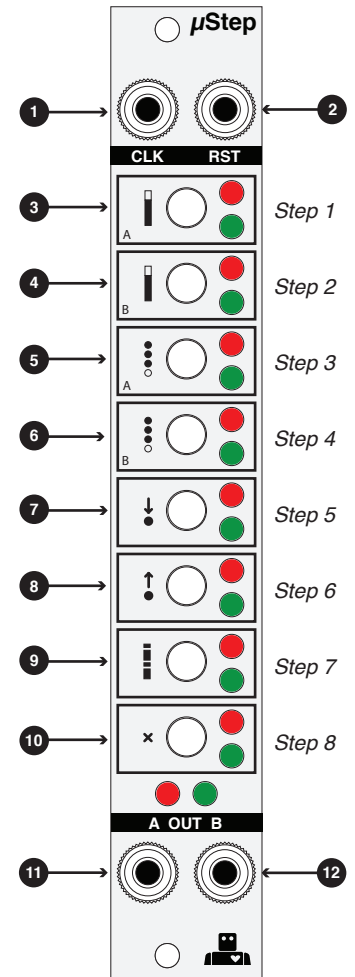
GLOBAL SETTINGS MODE

Press + Hold the step button for about <u>one second</u> to make the following special configurations:

NOTE: You will know you have made the selection (i.e. held the step button long enough) because the mode will automatically return to PROGRAMMING MODE where you can see the sequence running.

STEP 1: RELATIVE TIME MODE (default): the minimum and maximum gate time limits are relative to the interval between incoming clock pulses. They are recalculated after every new clock pulse.

STEP 2: ABSOLUTE TIME MODE: the minimum and maximum gate times are independent of clock rate but if they are longer than the current clock interval then they are truncated. This mode is useful for using the uStep as a trigger sequencer since the gates are independent of clock interval time.
The gate length set by Gate Length A or Gate Length B (see above) is a preset time where: Step 1 = 0.4ms, Step 2 = 10ms, Step 3 = 50ms, Step 4 = 100ms, Step 5 = 200ms, Step 6 = 400ms, Step 7 = 800ms and Step 8 = 1600ms. This is different from RELATIVE TIME MODE where steps 1-8 represent a fractions of the current clock interval (in 1/16th notes).

STEP 3: NORMAL CLOCK MODE (default): clock pulses are processed from the front panel jack.

STEP 4: DINSYNC MODE: This mode enables the DINSYNC input mode. DINSYNC is connected via the header on the PCB marked as "Link". This header is compatible with the STG Time Buffer.The sequence will only run if the run/stop signal on this header is logic high (+5v).

STEP 5: STORE TO EEPROM: All currently stored sequences (in the preset locations 1-8) and settings are stored to EEPROM. This memory is non voltatile and will remain stored once the module is powered off. There may be a slight delay if you run this function while a sequence is playing. If you have chosen ABSOLUTE TIME MODE or DINSYNC MODE and you want either of these to be loaded by default when you restart the uStep then make sure yo use this function at least once to store the global settings.

STEP 6: LOAD FROM EEPROM: Load the EEPROM stored values into the presets. Be default this happens every time you power up the module but you can call this again if you have edited sequences/settings and want to revert to the last permanently saved values. There may be a slight delay if you run this function while a sequence is playing.

STEP 7 + 8 : *reserved for future*