V.1

4-VOICE TAPE INSTRUMENT

NOODLE RIDER

USER GUIDE

Nudihed

ABOUT

Noodle Rider is an analog musical instrument in Eurorack format, based on a four-track cassette tape player and modular synth.

The instrument is a combination of two modules:

The player itself (the base module) and the extension module («sidecar») that provides envelope modulations and the gates sequencing to trigger them.

Noodle Rider modulates the pre-recorded single tones or audio loops from all four tracks of a cassette tape record, all of which are played simultaneously with the same controllable speed.

Each track represents a certain voice of the instrument, that can be used as the source signals for further sound processing, such as envelope control, filtering and so on.

> ⚠ **Noodle Rider doesn't provide recording, so the cassette tape should be prepared and recorded aside the rig.**

SPECIFICATION

☐ **Base Module**

Size: 33HP

Depth: 70 mm

Current needs:

+12v: 220mA (Max)

-12v: -10mA

○ **Sidecar Module**

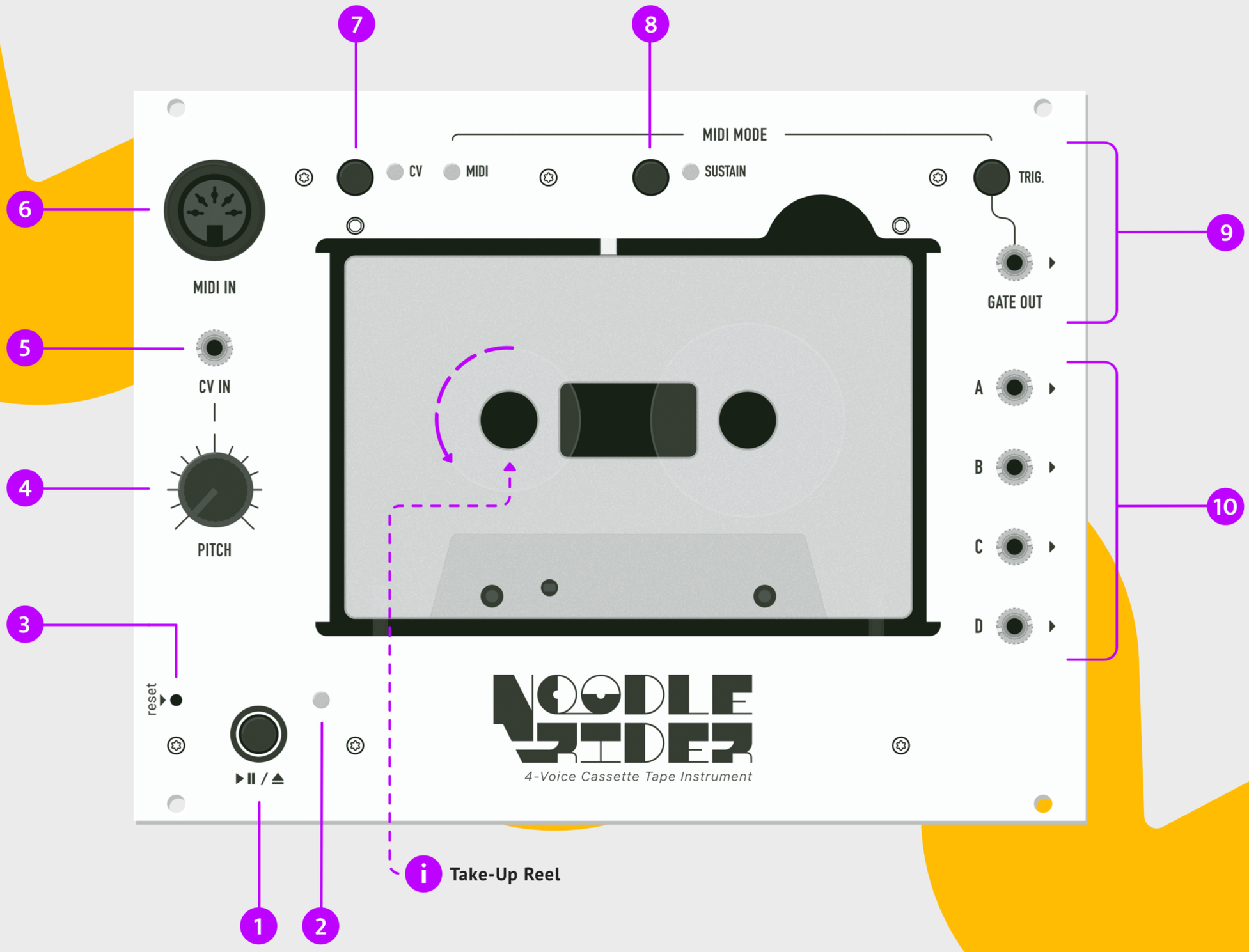
Size: 20HP

Current needs:

+12v: 90mA

-12v: 85mA

BASE MODULE REFERENCE



1. Function Main Button

2. Status Led

3. Reset Button

4. Pitch Knob

Control the speed of the playback manualy.

5. CV Input

0 to +5V, higher voltages are accepted.

Control the speed of the playback via control voltage, for example, from a linear CV sequencer or LFO module. Pitch range is 2 octaves.

6. MIDI Input (Channel #4)

Twelve pre-mapped pitches can be controlled by the MIDI messages. Map a set of any pitches, corresponding them to twelve MIDI notes, to play these pre-mapped pitches back with MIDI device.

7. Playing Mode Switch

Switching between two main inputs to control the pitch: CV and MIDI.

8. Sustain Mode

Works in MIDI playing mode only. Sustain mode activation causes playback to sustain until the MIDI key is released.

9. Gate / Trigger Output

0 to +5V

Gate is generated by the MIDI messages (Note On / Note Off) regardless of playing mode. It goes high when a MIDI key is pressed and goes low when the key is released. Switch to the trigger mode if you need a trigger out.

10. Audio Outputs

BASIC OPERATIONS

> ⚠ **Mind that the player is designed for loop-tapes and doesn't have an auto-stop function**, so if using an ordinary audio cassette — stop playing promptly when the tape ends.

Loading Tape

1. Insert a cassette tape into the deck. Status led stops blinking.
2. Ensure that the cassette is firmly seated in the compartment and then tap the main button once.
3. The cassette will be loaded and start to play automatically in one of two selected playing modes (CV or MIDI).

! If the cassette is not load properly, tap the main button twice to eject it. Check the cassette to seat firmly then try to load it once again

Pitch Controlling

BY CV

1. Switch to CV playing mode.
2. Turn the pitch knob in the fully clockwise position.
3. Plug your control voltage source to the CV input.

BY MIDI

1. Switch to MIDI playing mode.
2. Plug your controller to the MIDI input (use **Channel #4**).
3. Switch to sustain mode, if needed.

Pause

1. To pause a playback press the main button once. Status led starts blinking in green, indicating pause mode.
2. To resume playback, tap the main button once again and the player will start to play.

Ejecting Tape

1. In play or pause modes, tap the main button twice and the cassette will be ejected.
2. Or pull-up the cassette tape from the deck and cassette will be ejected automaticaly.

! If you need to get the cassete tape back without power, you can manually eject it. See Tutorial.

Mapping Mode

You can assign twelve specific keys on your MIDI device to switch between pitches. To map the pitches do the following:

1. Connect your MIDI controller (keyboard) to the module.
2. Switch to CV mode and turn the pitch knob in zero position.
3. Load tape and pause — status led starts blinking in green.
4. Press the main button for 2 seconds and release. Status led turns blue and starts blinking. Mapping mode is on.

> **Adjusting the pitch for the playful range can produce accurate results only for a single E note tone.**
>
> For better results, use E as a reference note at least for one pre-recorded track.

5. Set a desirable tone with the pitch knob and press the key on your MIDI controller that you want to map to the selected pitch. Status led in blue stops blinking, indicating that the pressed MIDI key is mapped.
6. Repeat action #5 for each key you want to map.

✓ **To save the map**, press the main button for 2 seconds and release — the cassette will be ejected.

✗ **To resume mapping mode without saving** — tap the main button once to get back to pause mode or tap twice to eject.

PITCH MAP

Each note should have its own voltage (from 0 to +5) associated with its pitch. Keep in mind, only 12 MIDI notes will be sent for the whole octave range.

NOTES

OCTAVES	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
0	[0]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
1	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
2	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
3	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
4	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
5	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
6	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
7	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
8	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
9	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
10	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]				

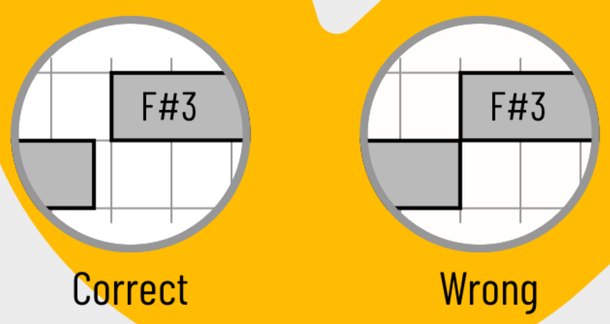
BASIC OPERATIONS

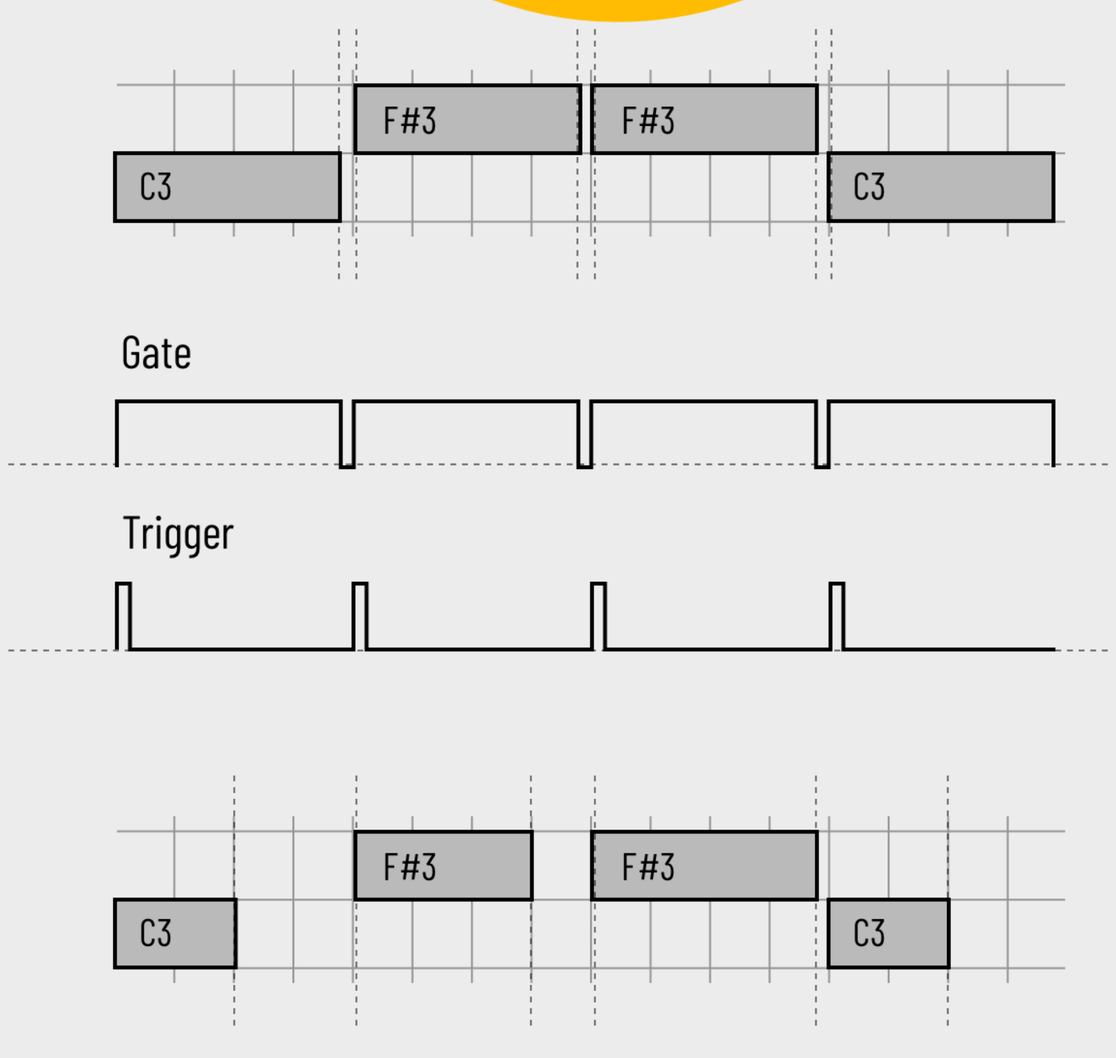
Using Gate and Trigger

Gate/Trigger is active whenever a key is pressed or a note message from the DAW is generated.

The Gate signal can be generated by the MIDI in both playing modes (MIDI or CV). So it enables to send gate or trigger signal from the MIDI *(for example, the Trigger signal can be used as a clock sourse using a note sequence as a clock pattern)* and controll the pitch with voltages at the same time.

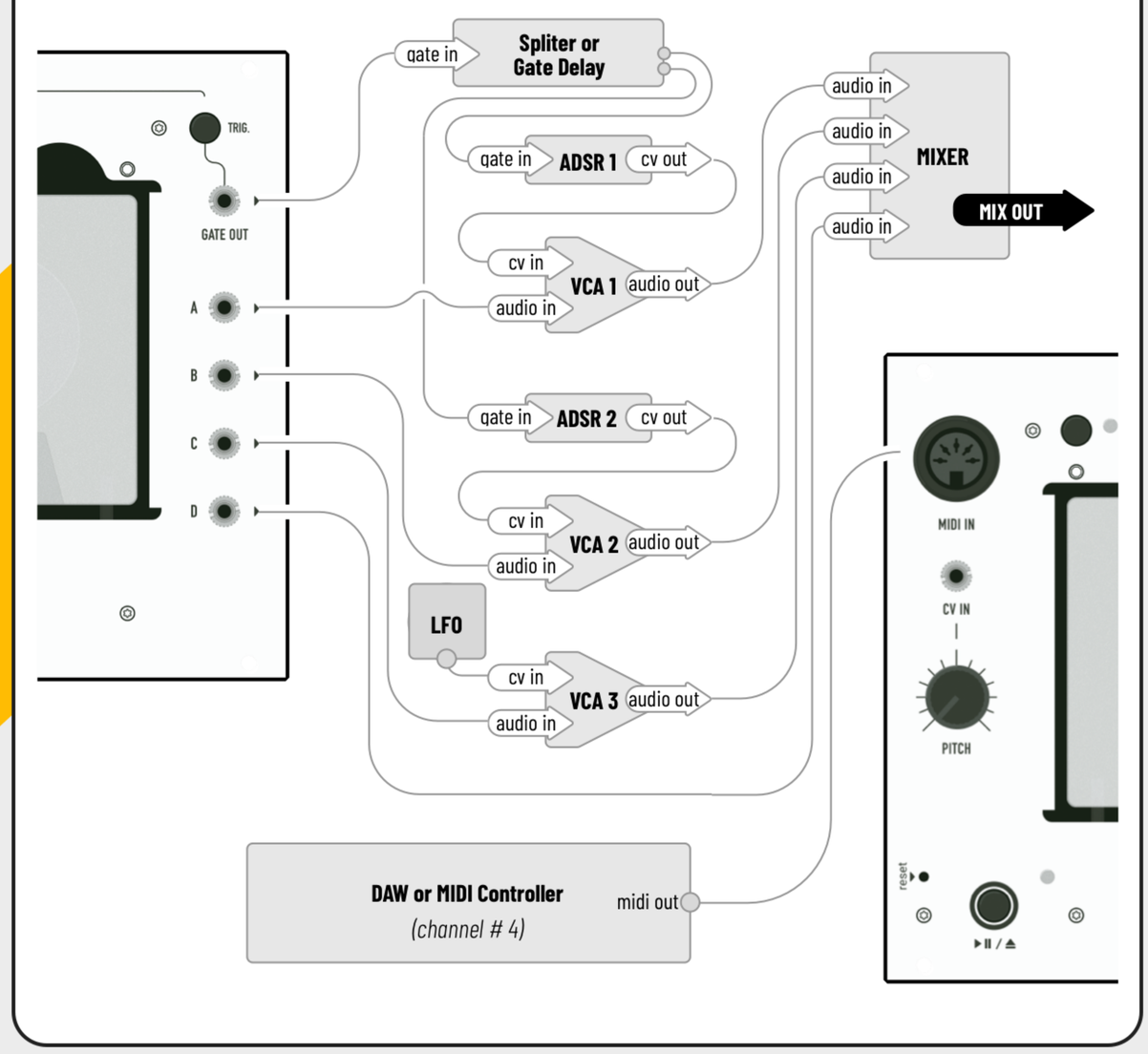
! To get the Gate signal from your DAW properly, always live a gap between the bars. Otherwise, the module wouldn't trigger the Gate signal.



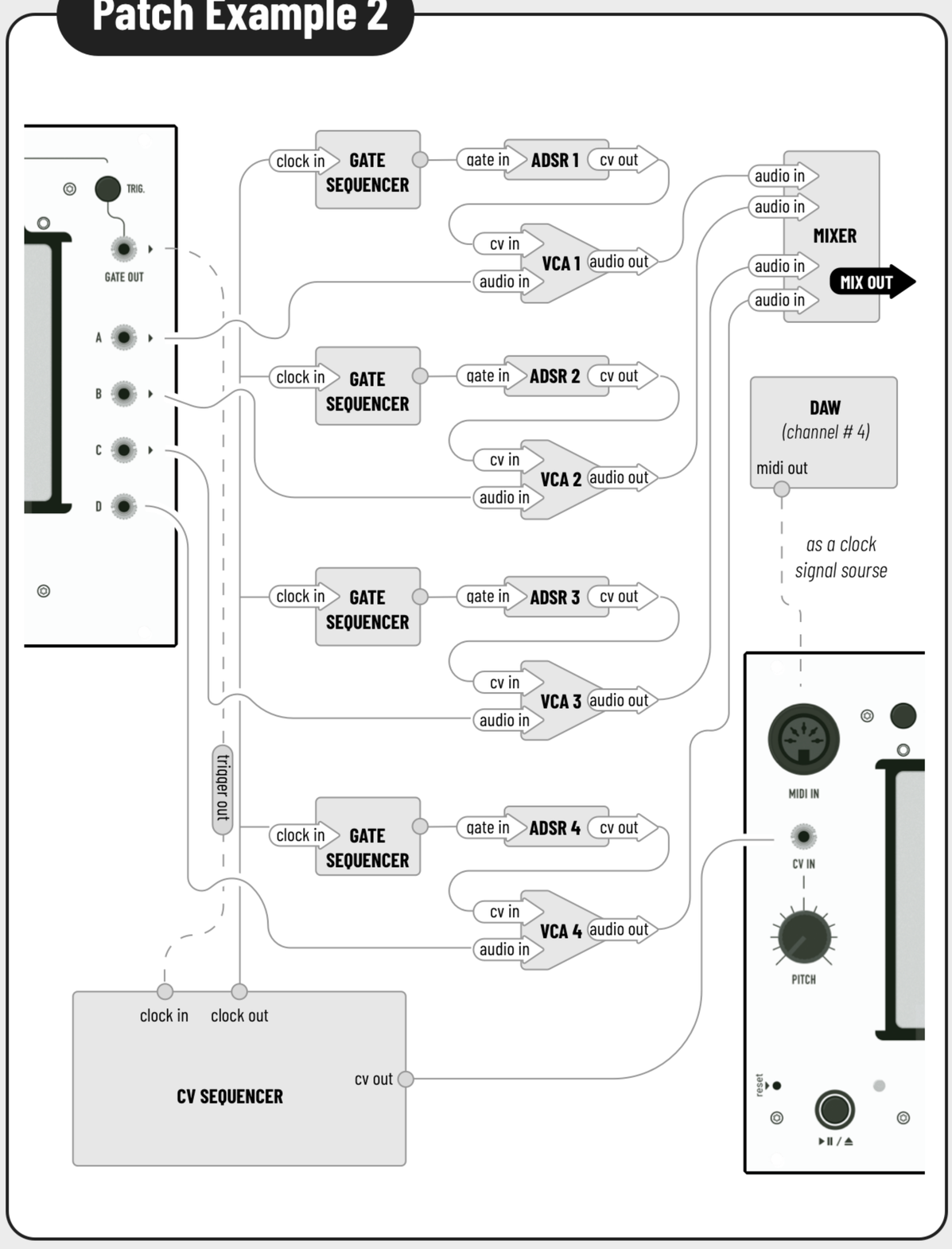


BASIC PATCHES

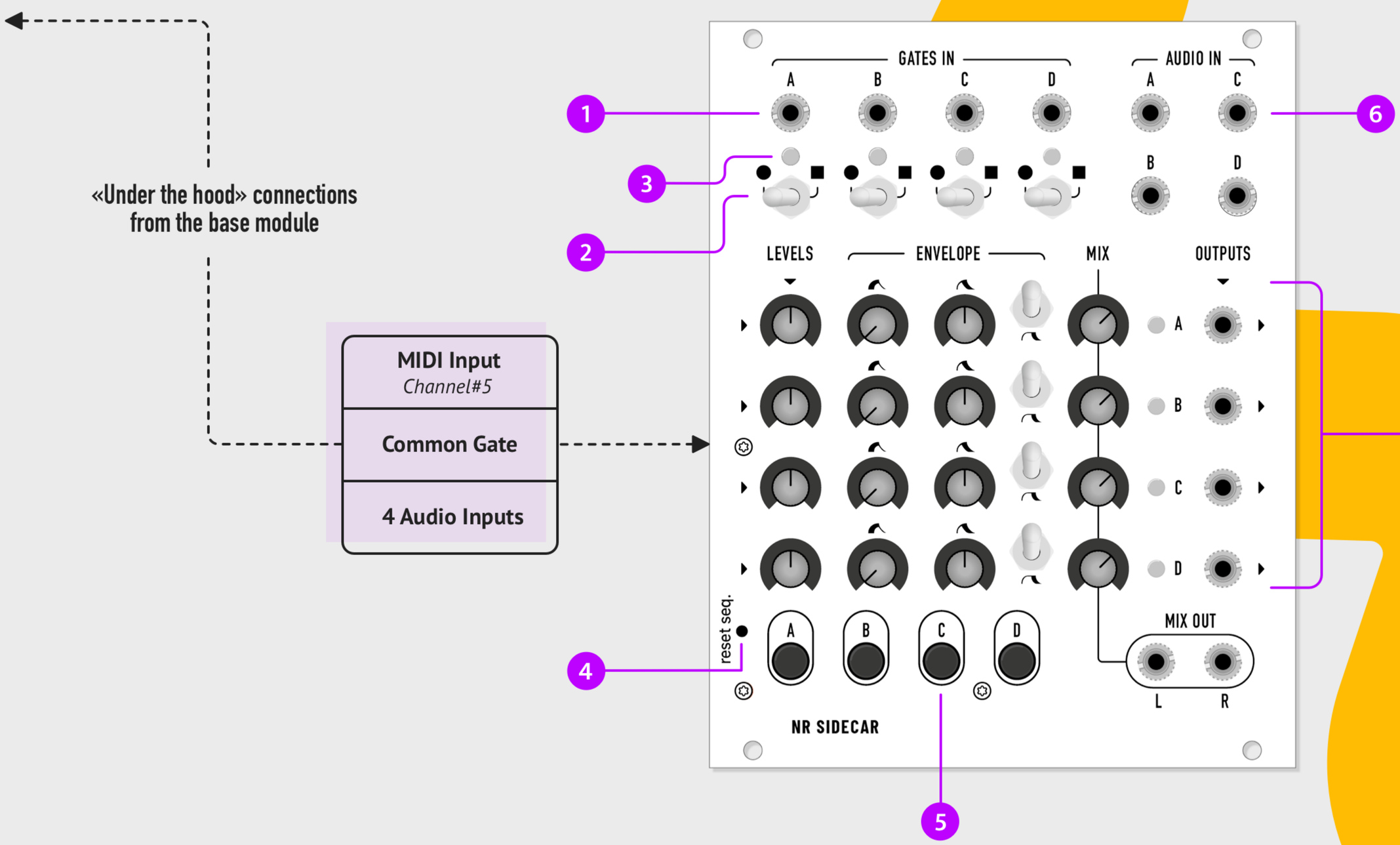
Patch Example 1



Patch Example 2



SIDECAR REFERENCE



1. External Gate Inputs

0 to +5V, higher voltages are accepted.

Disable specific internal gate when a patch cable is inserted.

2. Internal Gate Switches

Switch between gate sourses:

- **Buld-in MIDI Gate Sequencer***
- **Common Gate***

3. Gate Indicator Leds

4. Sequencer Reset Button

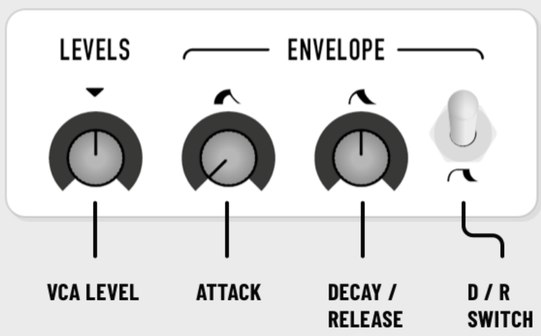
5. Manual Gate Buttons

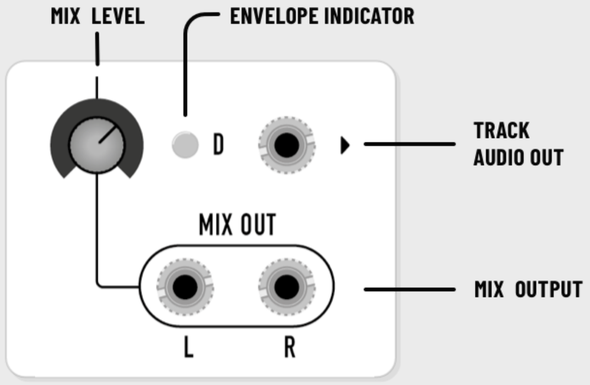
6. Audio Inputs*

The audio signal of the corresponding base module track goes automatically into the audio input unless something is plugged in it.

7. Functional Blocks

It designed to modulate the amplitude of incoming signals through the use of gate controlled envelopes and VCAs.





* Audio Inputs, Common Gate and MIDI Input are provided by prewired connections with the base module.

The special cables and connection guide will be included in the unit pack. Connections can vary depending on the build.

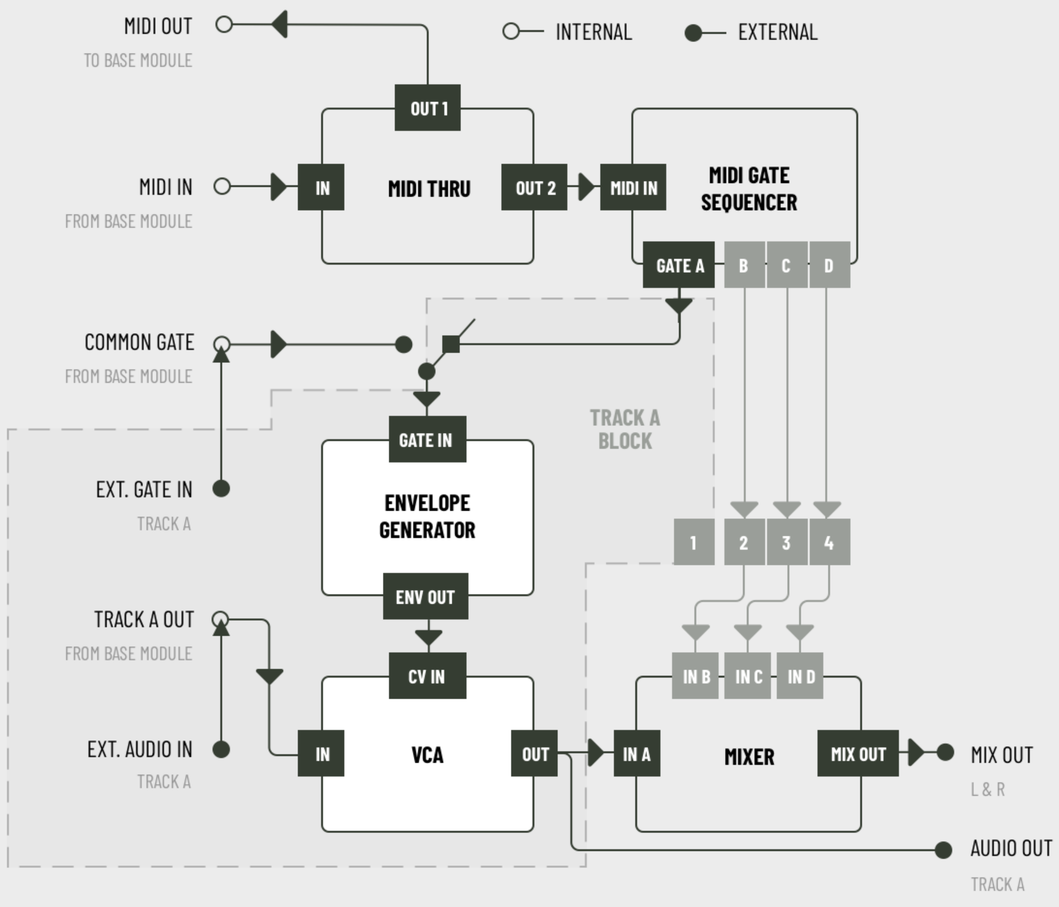
ABOUT SIDECAR

Sidecar module is the noodle rider base module extension that provides envelope modulations and the gates sequencing.

It contains four envelope controlled VCAs. Each of this sub-units is the combination of a AD/AR envelope generator and a linear VCA.

Each envelope generator is triggered by a switchable gate source input (Common Gate, MIDI Sequencer Gate or External Gate).

Furthermore, there is a Mixer built in.



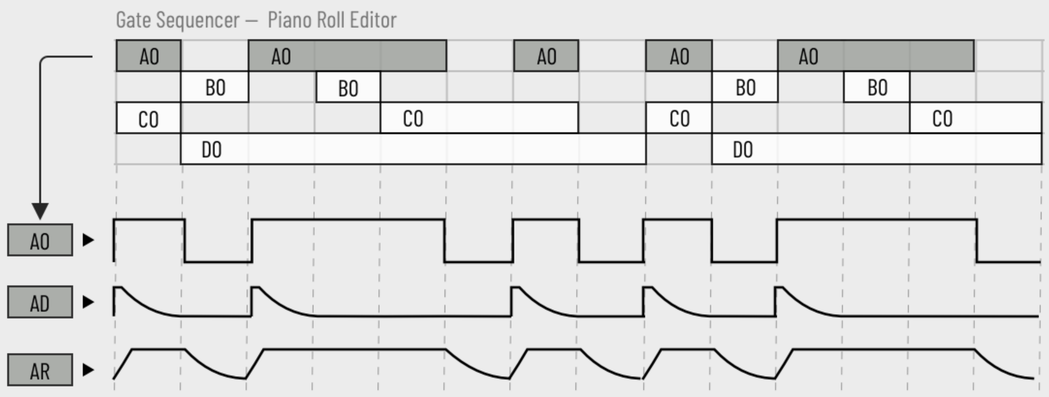
MIDI GATE SEQUENCER

Using sidecar module on the rig allows you to control gate sequence with MIDI data from external devices such as MIDI controllers/keyboards or your DAW.

It converts a sequence of four specific notes and converts each note into a pulse with a width equal to the note's hold time, i.e. a gate signal. Each generated gate signal controls the corresponding envelope generator. The type of envelope can be selected by a panel toggle switch: AD (Attack-Decay), AR (Attack-Release).

The specific notes are located at the «zero octave» and coincide with the track letter.

For example, the MIDI sequencing of note A0 is converted to a gate signal for track A.

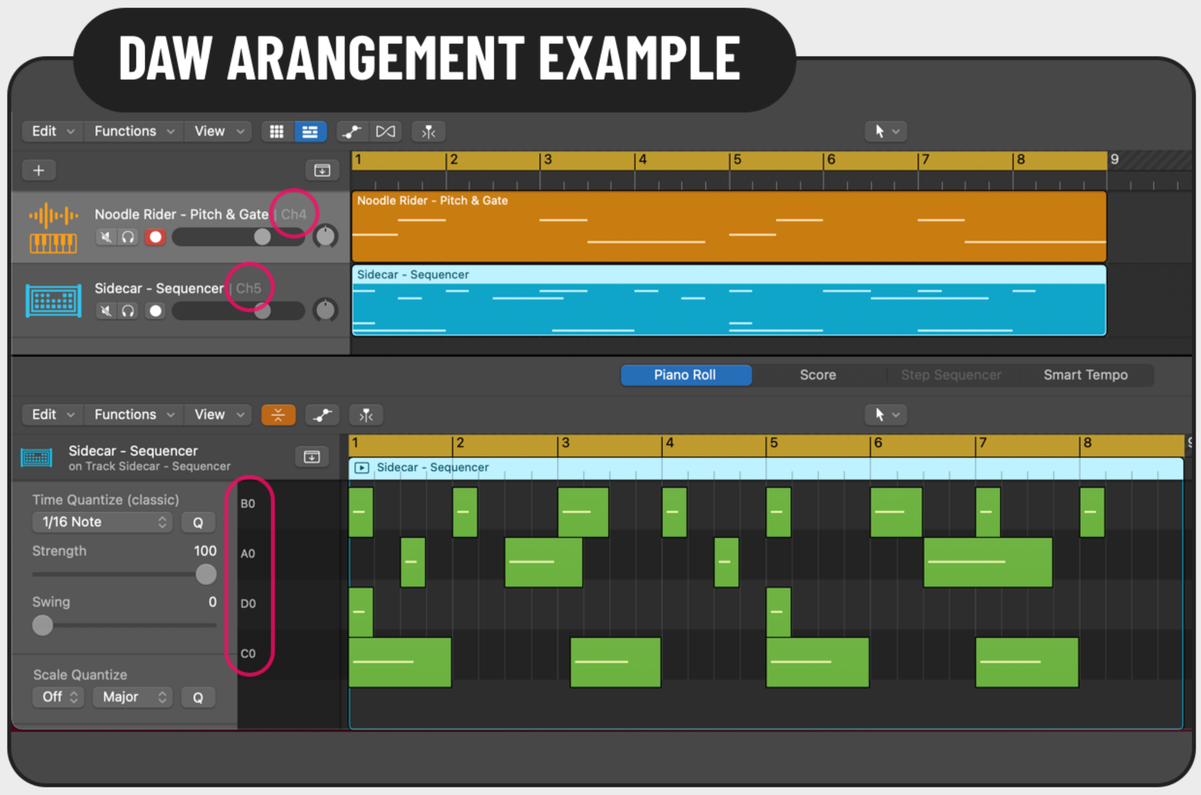


MIDI Setup

1. Plug your MIDI controller or connect your DAW to the MIDI input (of the base module).
2. Configure your controller or set up MIDI on your DAW.
3. Choose the **MIDI channel #5**.

! Sometimes, when reconnecting a device, it is necessary to reset the sequencer settings so that the MIDI device will reconnect to the module. Press the sequencer reset button to do this.

DAW ARANGEMENT EXAMPLE



MORE INFO CHECK NUDLHED.COM