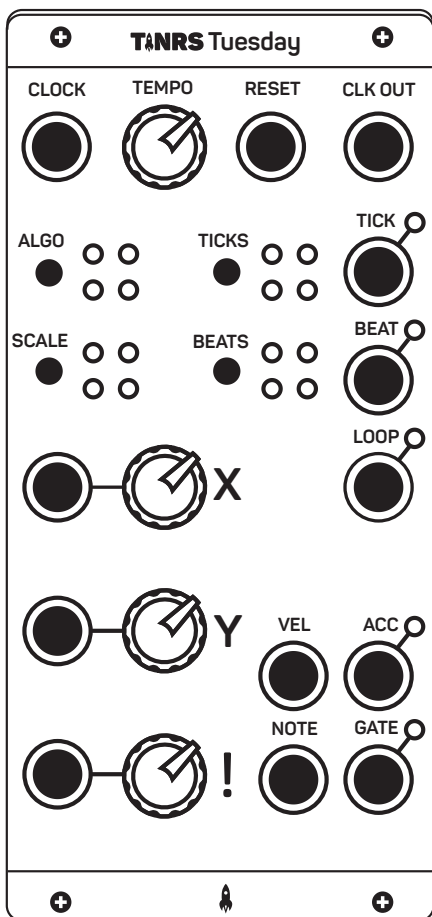


# TINRS Tuesday

Manual v1.4

# Manual



# Overview

Hi there! Thank you for buying Tuesday, our procedural sequencer Eurorack module. We hope this module brings you boundless enjoyment, general increased happiness and never ending musical productivity.

Tuesday contains 12 different algorithms and a test pattern that generate melodies. The parameters of the algorithms can be tweaked by turning the **X**, **Y** and **!** knobs or patching your cables in. You can change the timing and the tonality of your Tuesday by pushing buttons.

## Specifications

Type	Procedural Sequencer
Width	12HP
Depth	20mm (skiff friendly)
Power usage + 12v	80mA
Power usage -12V	2mA

# Controls

## Tempo Knob

The **tempo** knob has two modes. If no external clock is connected (no cable in the **clock** jack) then turning the knob controls the master tempo from 20 up to 240 beats per minute. If an external clock is connected via a patch cable into **clock** jack, then turning the knob controls the clock subdivision level. The subdivision ranges from 1:6 on the left, to 1:1 on the right.

## X and Y Knobs

The **X** and **Y** knob control two main parameters for your selected algorithm. The function of these two knobs varies per algorithm. Please read the Algorithms section to find out more.

## ! Knob

The **!** knob controls the density of the melody. When turned all the way to the left, barely any notes will be generated. When turned all the way to the right, almost all ticks will have a note.

## Algo Button and LEDs

Pressing the **algo** button cycles you between four different algorithm slots. The LEDs tell you which slot is currently being used. Tuesday comes with Stomp, TriTrance, Saiko Lead and Wobble as factory defaults. Please read the Algorithm section to assign other algorithms to these four slots.

Defaults slot assignments:



## Ticks Button and LEDs

Pressing the **ticks** button cycles you between four different ticks-per-beat options. The LEDs tell you which option is currently being used. Tuesday can give you two, three, four or five ticks per beat.



## Beats Button and LEDs

Pressing the **beats** button cycles you between four different beats-per-loop options. The LEDs tell you which option is currently being used. Tuesday can give you four, eight, sixteen or thirty-two beats per loop.



4



8



16



32

## Scale Button and LEDs

Pressing the **scale** button cycles you between four different musical scale slots. The LEDs tell you which one is currently being used. Tuesday comes with Major, Minor, Dorian and Blues scales as factory defaults. Please read the Scales section to assign other scales to these four slots and for more information about the difference between them.

Defaults slot assignments:



Major



Minor



Dorian



Blues

# Input Jacks

## Clock

By patching a cable into the **clock** jack, the tempo of the melody synchronizes to any external time source you give it. When you do this, the tempo knob changes its function to subdivision level. Please note that you need to turn the tempo knob all the way to the right for 1:1 subdivision (ie: no subdivision)

## Reset

Patch a trigger signal into the **reset** jack. Every trigger rewinds the melody to the beginning of its loop.

## X, Y and !

Patch a signal here to automate the matching knob, modulating your parameter. Your modulation inputs are summed together with the value of the matching knob. If you leave the knob in the center position, you can span the full range of the parameter by external modulation.

# Output Jacks

The **clk out** (clock out), **tick**, **beat** and **loop** outputs send triggers according to their settings. The **note** and **vel** (velocity) jacks are analog CV outputs. They provide you with note and velocity curves to control your oscillators. The **gate** and **acc** (accent) outputs send pulses to your connected envelopes for every note that Tuesday wants to play.

# Getting Started

## Installing the module

- 1) Power down your Eurorack system.
- 2) Connect the included power cable between your Eurorack power rail and the back of the Tuesday module. Make sure the power cable is connected with the RED STRIPE to the MINUS 12V RAIL.
- 3) Secure your Tuesday module to the rack using the included screws. If you want to use your own, use size M3 or smaller. You can use the provided washers to prevent rack rash.
- 4) Power up your Eurorack system.

## Connecting your first patch

- 1) Connect the **note** output to the 1V/oct input of your favourite oscillator.
- 2) Connect the **gate** output to the trigger/gate input of an envelope that is controlling the volume of the oscillator.
- 3) Adjust the **tempo** knob to your liking.
- 4) You should now hear your first Tuesday melodies.
- 5) Go wild with the buttons and the knobs!



# Algorithms

Assign a new algorithm to any of the four slots by pressing down the **algo** button when you have selected the LED for the slot you want. Hold the **algo** button until the selected LED starts blinking, then release the **algo** button and use the **ticks** and **beats** buttons to select a new algorithm by matching it to the LED patterns below. While the **algo** LED is still blinking, you can also select an output mode (see Algorithm Output Variations below). Once you are happy with your new selections, press and hold the **algo** button again until the LED stops blinking. You have now successfully filled a slot.

## TriTrance

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 **X** High note melody

 **Y** Bass melody



This algorithm builds patterns based on the tendency of classic trance and deep-house to create melodies from the juxtaposition of three tick riffs against a four tick beat. Rolling bass is interleaved with slow moving high notes.

## Stomper

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 **X** Rhythm and melody outline



 **Y** Varies the selected notes



Slides, accents and octave shifts. This algorithm derives its name from the floor shaking bass anthems of the acid house era.

## Mr. Markov

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 **X** Butterfly control



 **Y** Weather susceptibility



Probablistic matrix walker.

## Wobble

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 **X** Shape morph and rhythm



 **Y** High note LFO interference



The wobble algorithm uses a combination of internal LFOs to walk the notes on the scale. The LFOs are subtly out of sync to create more interesting patterns.

## Chip Arp 1

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 **X** Press N to go North



 **Y** Grue control



Retro gaming galore. This algorithm creates fast switching chord progression arpeggios.

## Chip Arp 2

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 **X** Arpeggio length



 **Y** Chaos control



Even more retro gaming. More chaotic than Chip Arp 1.

## Sample and Hold on

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 **X** Laziness



 **Y** Panic



Create a plan - sample it periodically - execute it lazily.

## Saiko Classic

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 **X** East to west




 **Y** North to south



A faithful reimagination of Arguru's classic Saiko melody generator. In this algorithm, your scale selection does not control musical scale. Instead, the four scale options allow you to switch between four variants of the algorithm.

## Saiko Lead

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 **X** Far east to far west



 **Y** Deep north to deep south



Modernized version of Arguru's Saiko melody generator. In this version of the algorithm, the scale selection does control musical scale.

## Scale Walker

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 **X** Length of the walk



 **Y** Start of the walk



What goes up must come down... and go up again and down again. This algorithm creates an upwards melody that drops and goes back up again.

## Too Easy

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 **X** Permutate



 **Y** Variate




Offbeat, onbeat, full on and gallops. This algorithm has no worries, too easy! Take control of the ! knob to go from once-a-beat to all-the-ticks.

## Random

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 **X** Horizontal seed injection



 **Y** Vertical seed injection



This algorithm is straight up random.

## Test Pattern

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 **X** Left: full scale Right: octaves only



 **Y** Left: accent Right: no accent



The test pattern provides a range of melodies suitable for calibration of your oscillators. The Y knob also cycles through all the possible velocity levels.

























## Algorithm Output Variations

While the **algo** LED is still blinking, you can also change your output mode. The lit LED next to the **scale** button determines your output mode for note length and note slides. Select one of four options by pressing the **scale** button:

			
Slides off	Slides on	Slides off	Slides on
Short notes	Short notes	Mixed notes	Mixed notes

## Scales

Assign a new scale to any of the four slots by pressing down the **scale** button when you have selected the LED for the slot you want. Hold the **scale** button until the selected LED starts blinking, then release the **scale** button and use the **ticks** and **beats** buttons to select a new scale by matching it to the LED patterns below. While the **scale** LED is still blinking, you can also select a transpose mode (see Scale Transpose Options below). Once you are happy with your new selections, press and hold the **scale** button again until the LED stops blinking. You have now successfully filled a slot.

<b>Major</b>  <div>             Ticks:               Beats:  </div>	<b>Major Triad</b>  <div>             Ticks:               Beats:  </div>
<b>Minor</b>  <div>             Ticks:               Beats:  </div>	<b>Minor Triad</b>  <div>             Ticks:               Beats:  </div>
<b>Dorian</b>  <div>             Ticks:               Beats:  </div>	<b>Blues</b>  <div>             Ticks:               Beats:  </div>
<b>PentaTonic</b>  <div>             Ticks:               Beats:  </div>	<b>Chromatic</b>  <div>             Ticks:               Beats:  </div>

## Scale Transpose Options

While the **scale** LED is still blinking, you can also change the transpose level. The lit LED next to the **algo** button determines your transpose level. Select one of four options by pressing the **algo** button:

			
0	5	7	12
semitones	semitones	semitones	semitones

# System

## Factory Reset

- 1) Power down your Eurorack system.
- 2) While holding down the **beats** button, power up your Eurorack system.
- 3) All the options for scales, algorithms, ticks and beats will have been reset to their factory defaults.

## Recalibrating the Tuesday

The Tuesday leaves our care fully calibrated. Please only follow this procedure if the Test algorithm fails to produce the correct intervals for octaves.

- 1) Power down your Eurorack system.
- 2) Disconnect all the inputs and outputs of the Tuesday.
- 3) Connect an oscilloscope to the **vel** and **note** outputs.
- 4) While holding down the **scale** button, power up your Eurorack system.
- 5) Press the **ticks** button; this will enable calibration mode for the **note** output.
- 6) The **note** output will produce a pulse wave. Use the ! knob to alter between low, high and alternating voltages.
- 7) Turn the **X** knob to alter the low value until it sits at 1 volt.
- 8) Turn the **Y** knob to alter the high value until it sits at 3 volt.
- 9) Press and hold the **ticks** button for 2 seconds to store the calibration.
- 10) Press the **beats** button; this will enable calibration mode for the **vel** output.
- 11) Repeat the procedure above until the **vel** pulsewave also hits 1 and 3 volt exactly.



- 12) Press and hold the **beats** button for 2 seconds to store the calibration.
- 13) Press the **algo** button to resume normal operation. The new calibration value has been written to the internal memory.

## Updating system software

If we have new and updated algorithms or bug fixes you will find them on our website. Please download and follow the instructions provided inside the ZIP file containing your new and improved system software.

## Master settings menu

To change the master settings, press down the **ticks** button and hold down until all four **beats** LEDs light up. You are now in Master Setting mode. When you like your new settings, press the **beats** button. Three of the four **beats** LEDs will fade out and your Tuesday will resume normal operation.

### Pules Per Quarter Note

In the Master Settings mode you can use **ticks** to select your clock stepping speed. Press the **ticks** button to match the **ticks** LEDs to the patterns below:

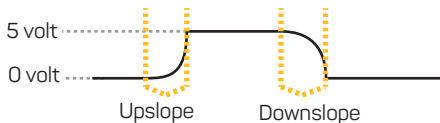


## Clock Polarity & Reset Behaviour

Your Tuesday has eight modes of dealing with incoming signals from the **clock** and **reset** jacks. Three of the **algo** LEDs correspond with three of the parameters:

● — Reset polarity  
● — Reset mode  
Clock polarity — ● — Reset mode

Both Clock and Reset Polarity deal with the choice between responding to the upslope or the downslope of a signal. If you want Tuesday to respond to the start of a pulse, use the upslope. If you want it to respond to the end of a pulse, use the downslope. Keep in mind that gates have length!



### Clock polarity

If the LED is on, the clock responds to the downslope.  
If the LED is off, the clock responds to the upslope.

### Reset polarity

If the LED is on, reset is triggered on the downslope.  
If the LED is off, reset is triggered on the upslope.

### Reset mode

If the LED is on, reset will only restart the loop.  
If the LED is off, reset will restart the loop and also prevent clocks from progressing the sequencer.

While in the Master Setting mode you can use the **algo** button to match the **algo** leds to the following patterns:

- ● — Reset on upslope
- Clock on upslope — ● ● — Reset only
- ● — Reset on upslope
- Clock on downslope — ● ● — Reset only
- ● — Reset on upslope
- Clock on upslope — ● ● — Reset only
- ● — Reset on upslope
- Clock on downslope — ● ● — Reset only
- ● — Reset on upslope
- Clock on upslope — ● ● — Reset and block clock
- ● — Reset on upslope
- Clock on downslope — ● ● — Reset and block clock
- ● — Reset on upslope
- Clock on upslope — ● ● — Reset and block clock
- ● — Reset on upslope
- Clock on downslope — ● ● — Reset and block clock

## Want to do more?

Tuesday is an Open Source / Open Hardware project. You can find all the schematics, board designs and the full source code to the firmware and the related tools on our [This Is Not Rocket Science Github page](#). You may also be able to join the TuesDIY facebook group. Happy Hacking!

## Clocking Diagram

The **TICK**, **BEAT** and **LOOP** dots correspond to the blinking LEDs next to the jacks. The **CLOCK** dots corresponds to the clock pulses you send into the Tuesday clock input.

## 1:1 and 1:2 master clock mode

The length of the ticks is proportional to the time between the clock pulses. Beats and loops are derived by subdividing these ticks.

**1:1, 3 ticks per beat, 4 beats per loop**



### 1:2, 3 ticks per beat, 4 beats-per-loop



## 24ppqn and 16ppqn master clock mode

The length of the beats is proportional to the time of the clock pulses. Ticks and loops are derived by dividing and interpolating the beats.

16 ppqn, 3 ticks per beat, 4 beats per loop



24 ppqn, 3 ticks per beat, 4 beats per loop



# Credits

Design: Stijn Haring-Kuipers

Manufacturing support: Priscilla Saphira Haring-Kuipers

Graphic design: Sebastian Michailidis

## Special thanks to

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for relentlessly making me upgrade the skill-set needed to build electronics worthy of release.

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Sebastian Michailidis

for great typography and philosophy proof design.

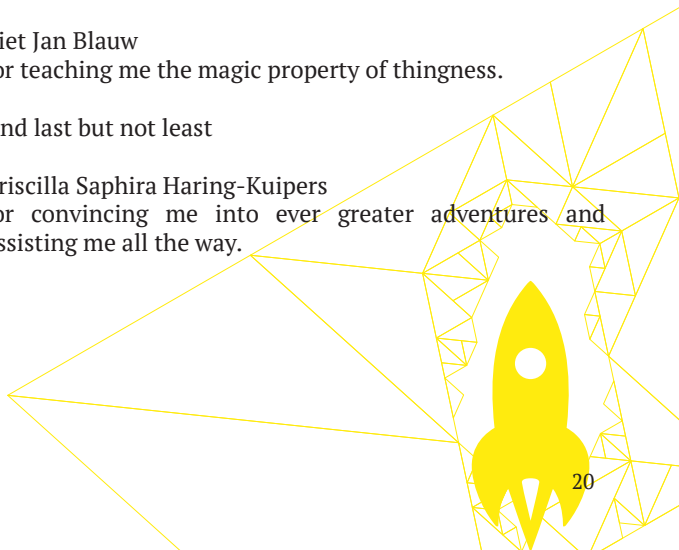
Piet Jan Blauw

for teaching me the magic property of thingness.

And last but not least

Priscilla Saphira Haring-Kuipers

for convincing me into ever greater adventures and assisting me all the way.



# Things to try

## Rhythmic LFO

You can use the clock to sync Tuesday to an external sync and use the velocity and note outputs as a rhythmic LFO to control interesting accents in your patch.

## Drums

You can use the beat, tick and loop outputs together with the accent and gate as a rudimentary drum pattern generator.

## Arpeggio

Use a midi-to-cv module with a summer module and the Tuesday note output to create an arpeggiator. Connect the gate from the midi-to-cv to the reset input for full effect.

## Songs

Sequence the modulation inputs to create longer song structures.

## Tuesday<sup>2</sup>

With two Tuesdays and a precision summer you can use a slower Tuesday to provide a root note, and a faster Tuesday to play melodies on top.

## Slower than that

Make long soundscapes by turning the tempo to the left.

## Clock Divider

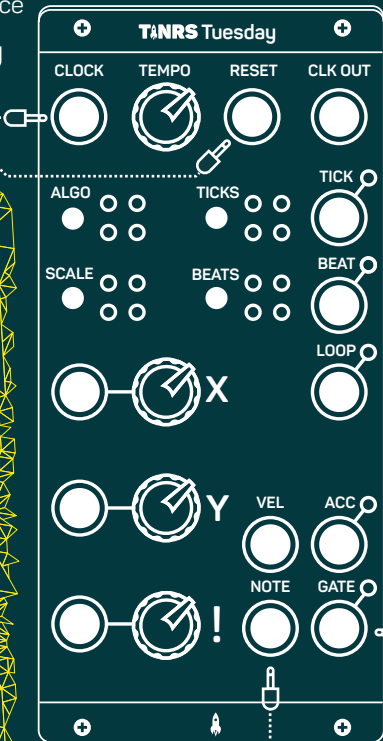
When using the external clock input, Tuesday's clock/tick/beat & loop outputs act as clock dividers.



**TANRS**

# Plug & Play Guide

clock source



envelope  
gate

oscillator  
1v/oct

**THIS IS  
NOT ROCKET  
SCIENCE.NL**