grid and norns

getting started

physical connection

norns has four USB-A ports. Any port can host a grid, so feel free to connect your grid's USB cable to any available port on norns. As you connect, you'll see a lightburst on your grid, which indicates it's receiving power from norns.

please note: if your standard norns is running on battery, plugging grid in might shut the unit down – this is expected in situations where the battery is not providing as much power as the grid is asking for upon connection. To work around this, please be sure to either plug the grid in before booting on battery *or* have the norns unit plugged into its power supply when connecting grid after boot.

software configuration

To ensure that norns has registered your grid, navigate to `SYSTEM > DEVICES > GRID`. Here, you'll see something similar to:

```
GRID


1. monome 128 m4409455
2. none
3. none
4. none
```

what should I use grid and norns for first?

A great starting point is awake, which is the script that norns runs after its very first boot-up.

`awake` is a good one to start with because the grid interface mirrors the sequence that you see on the screen – after loading, you'll see your grid come alive with a playhead and some programmed notes. Press some pads to change notes.

For additional scripts check out the *community script selections* at the bottom of this page.

FAQ

why don't I see my grid populate in the `GRID` menu?

If you have a 2021 grid, norns needs to be running the latest software to communicate to it (2021 grid compatibility was added in update `210706`). Follow the steps in the norns update docs to update your software. After the unit restarts, your new grid should be successfully detected by norns.

If your grid is not automatically detected upon startup, please follow the steps listed here on the first port under `SYSTEM > DEVICES > GRID`.

E-mail `help@monome.org` with additional trouble.

why are there four `GRID` ports?

The norns software can host a lot more than what might be currently present at its four physical USB ports, including:

- sixteen MIDI devices
- four grids
- four arcs
- four HID devices

The four ports you see on the `GRID` page represent the four *virtual* ports to which norns allocates connected devices of this type.

why do I have more than one grid listed?

When you connect a new grid to norns, it will register the grid to the first-available `GRID` port. If you've already connected a grid to your norns (or your norns has had a past life with another grid), this means that the first slot is likely already occupied by a previous grid and norns must allocate to the next-available port.

why isn't my grid communicating with any community scripts?

While norns can remember up to four previously-connected grids, it's not very common to use more than one grid at a time. This means that **many**

community scripts typically communicate with the grid stored at port 1 within the `SYSTEM > DEVICES > GRID` menu.

A problematic `GRID` menu could look like:

```
GRID

1. monome 128 m1000437
2. monome 128 m4409455
3. none
4. none
```

or

```
GRID

1. none
2. monome 128 m4409455
3. none
4. none
```

In each case, if `monome 128 m4409455` is the grid we want to use then we need to clear it from port 2 and register it to port 1.

> The critical thing to remember is that the grid at port 1 is the one which most community scripts target.

how do I manage the virtual ports on my norns?

To manage the `SYSTEM > DEVICES > GRID` menu's virtual ports:

- use `E2` to select a port
- press `K3` on the port to surface a list of the grids which are currently physically connected to norns
  - if you want to clear the selected port, press `K3` on `none`
  - if you want to assign the selected port, press `K3` on the desired grid

You should also confirm that the community script *does* feature grid functionality – see the bottom of this page for suggested starting points!

compatibility

All editions of grid are compatible with norns. Playability is dictated by two factors, size and varibright capability.

size

Most norns apps are built with 128 grids in mind, which means that critical actions may utilize the full 16x8 range of keys.

Since 256 is a 16x16 grid, it will be able to interact with any app built for a 128 grid. However, there will be a lot of unused real-estate.

Since 64 is a 8x8 grid, an app's critical functions may not be displayed or executable.

Addressing playability due to size is straightforward – since norns apps are coded in Lua, modifications can be made which either expand or constrict the app's grid interactions.

If you want to adapt a script's grid size, norns study 4 is a good place to start.

varibrightness

Over the years, the brightness of the grid's LEDs has also evolved. From 2007 - 2010 they were all mono-bright, which meant that the lights were either on or off. Starting in 2011 four stages of "in between" brightness were possible, which opened up new ways of representing data – eg. a dim light could signal a modifier key whereas a bright light could signal a performative key.

Since 2012, grids have had 16 steps of varibrightness.

Most norns apps are built with 16-step varibright grids in mind. While 4-step and mono-bright grids will still function with these apps, there may be indicators or special functions that require 16 steps of brightness to display.

If you want to adapt a script's LED brightness, norns study 4 is a good place to start.

community scripts selections

After you learn how to import apps into your norns, here are a few starting points for exploring grid and norns.

- bistro: a “press cafe” remake (based on the Max/MSP patch originally by `@stretta`)
- arcologies: an interactive environment for designing 2d sound arcologies
- buoys: tidal influencer/activator/lightshow
- loom: surprisingly controllable generative sequencer – notes are played when threads moving across the X and Y axis collide
- mlr: the original live sample-cutting platform – load samples or record live audio, then re-pitch and chop and record gestures

Check out the `grid` tag on norns.community for many more.

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help