

Product Manual

for all of your other
questions!

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Welcome to the product manual!

This bad boy is meant to provide more in-depth explanations and answers when the quick-start guide doesn't suffice.

Find sections by their respective color or page number and dig in!

Overview

How it Works

Metroboard uses real-time data provided by transit agencies to show the location of all trains in a subway system using color-coded lights.

Transit agencies use various sensors and transponders on trains and rail infrastructure to detect train locations.

We retrieve this data every few seconds, parse it, and figure out which lights to turn on to show the current locations of trains in the system.

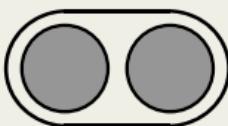
Metroboard then gets this data from our server every few seconds and turns on the corresponding lights.

Stations

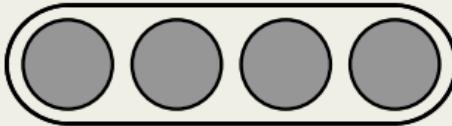
Stations are represented by one or more lights encircled by a black line and paired with the station name.

For the New York Metroboard, there is one light per station. On all other boards, the number of lights corresponds to the number of platforms in the station. A train with two platforms will have two lights, four platforms – four lights, etc.

The most common station usually is for a single line and has two platforms – one for each direction, as so:



Larger stations with multiple lines have additional lights for more platforms.



Lights

Each light corresponds to a single platform at the indicated station.

Lights that are lit indicate that a train is either at the platform, or is in-transit to the platform from the preceding station.

Lights that are off indicate no train.

For example, the station “Temple” below has no trains at the station or on their way.

However, “Main St” has a westbound train at (or on its way) to the westbound platform.



Temple

Main St.

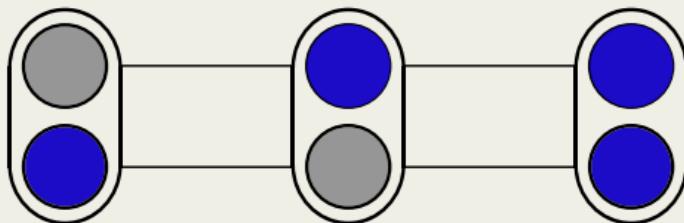
Light Colors

The color of the light corresponds to the color of the line of the indicated train.

Many stations only serve one line. In this case, the lights will always be lit to match the color of the line.

In the example below, all three stations only serve blue line trains.

So, the lights will only ever be lit blue, since only Blue Line trains serve these stations.



Light Colors (cont'd)

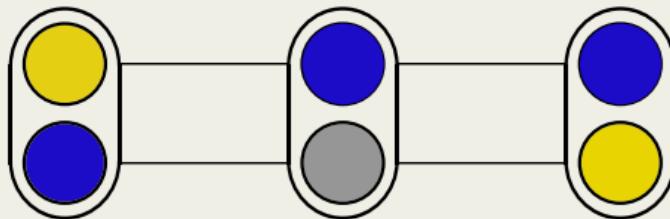
In other cases, a station may serve multiple different colored train lines.

This is called “interlining,” and is common on systems such as BART, WMATA, the Loop in Chicago, etc.

It can also indicate a transfer station.

In these cases, the platforms are shared by different lines.

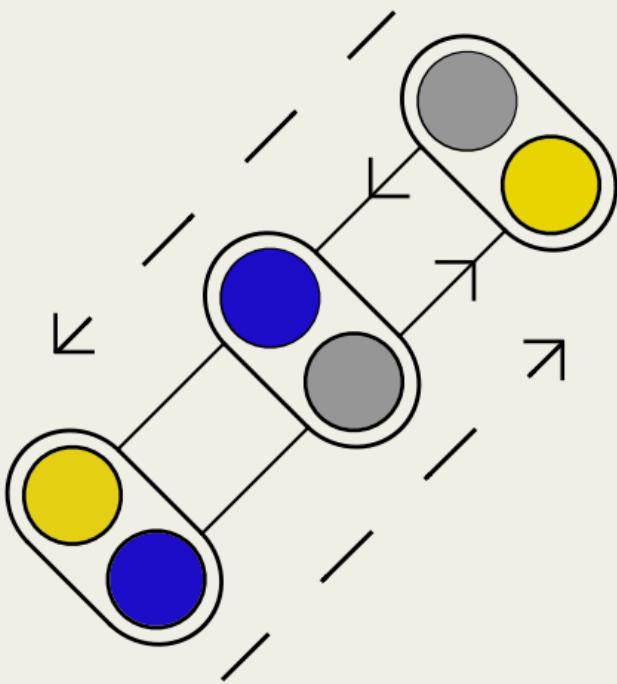
The color of the light indicates the line that is currently at the shared platform.



Directions

Direction arrows are provided at the end of each line to show the direction of travel for that line of lights.

Just like cars on a road, trains travel on the right – so the right-side light at each station points forward along the line.



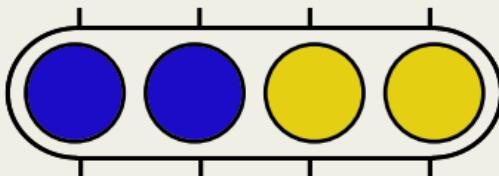
Transfer Stations

Many stations primarily serve two directions for a given line – inbound and outbound (uptown/downtown, etc).

Transfer Stations are stations that serve multiple lines, often going in different directions, and facilitate transfer from one line to another.

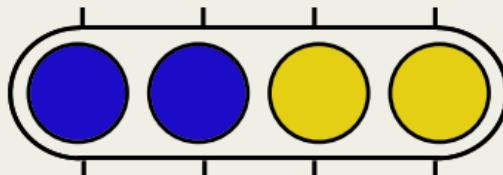
These stations often have more than two platforms; usually two for each line that serves the station.

For example, the transfer station below serves Yellow and Blue line trains.



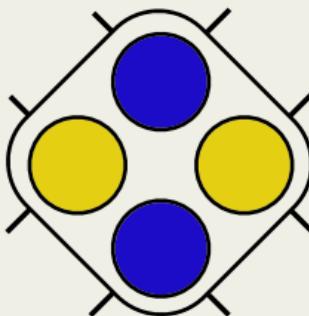
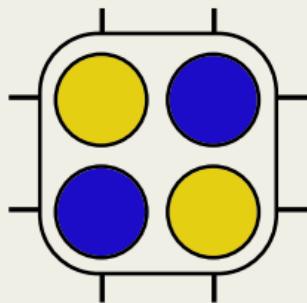
Transfer Station Style

Below is an example of a transfer station between two lines that is arranged as a straight line of four lights – two lines, each with two platforms.



Another common style for a transfer station is a square, as shown below.

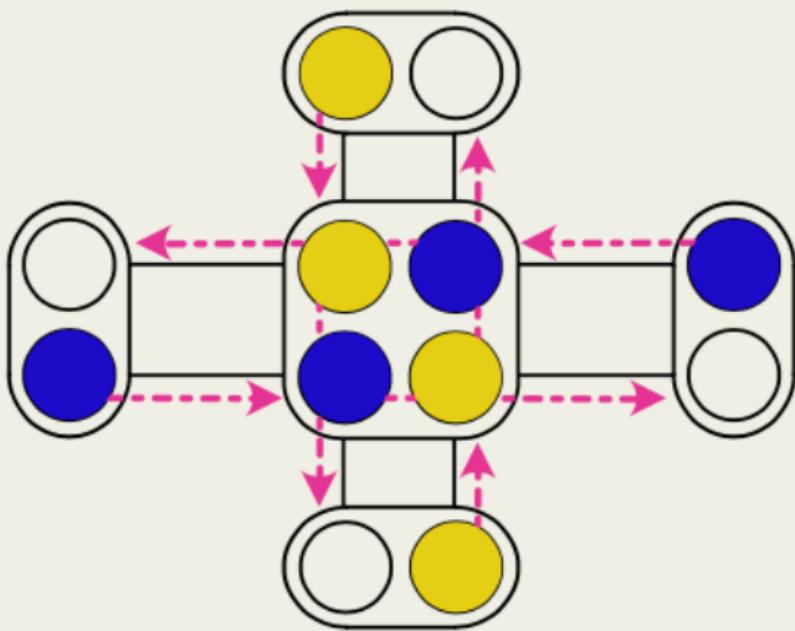
This style is most often used for two lines that intersect perpendicularly.



Reading Squares

The square style can appear more difficult to read, but is quite simple.

Trains from preceding stations will advance to the immediate next light in their direction. When continuing, they will “hop over” and advance to the next station.

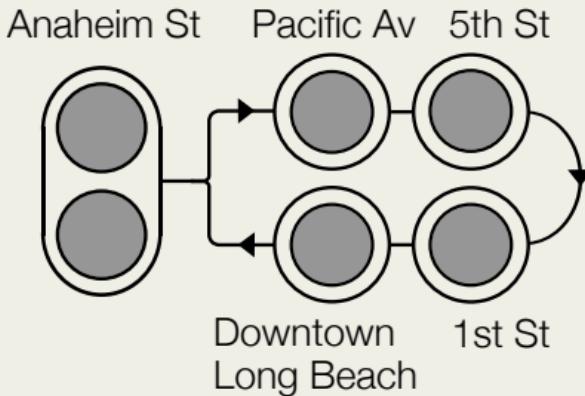


One-Way Stops

Sometimes stations only serve one direction (such as the LA Metro A Line in Long Beach or MBTA Silver Line).

In these cases, stops are shown as a single light and the direction of service is indicated with arrows.

Below is one of the previously mentioned examples, the LA Metro A Line loop in Downtown Long Beach.

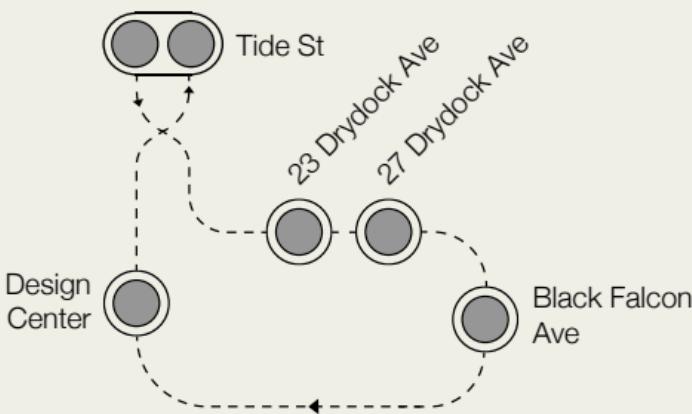


Alternative Lines

Some services are considered “different” from the main-line services and are shown with a dashed line.

These can indicate a different mode (bus rapid transit), operator (WMATA vs MDOT) or something else.

Below is an example of an alternative line – in this case, it's the Silver Line of the Boston MBTA, which is shown differently than subway lines.



Deviations

Each system map is unique and occasionally there are situations when we deviate from these conventions.

We offer full, detailed explainers of each Metroboard map on our website if you're curious to learn more:

www.designrules.co/maps

Changes/Expansions

Metroboard is meant to show the systems as they are when we made them, like a snapshot in time.

We also include expansions that are funded and likely to be built, based on our available information at the time. These will light up as they open.

Software Updates

Metroboard includes **OTA (over-the-air)** update capability. It'll always be checking for the latest software and update itself automatically.

We occasionally release new software updates to add features or fix bugs to keep your Metroboard functioning perfectly.

You do not need to do anything to use OTA – it is automatically enabled.

Metroboard will check for new updates once per day.

If you ever see your Metroboard restart itself (turn off, reconnect to WiFi, etc) this is probably your Metroboard conducting an update – don't worry about it! ☺

Setup

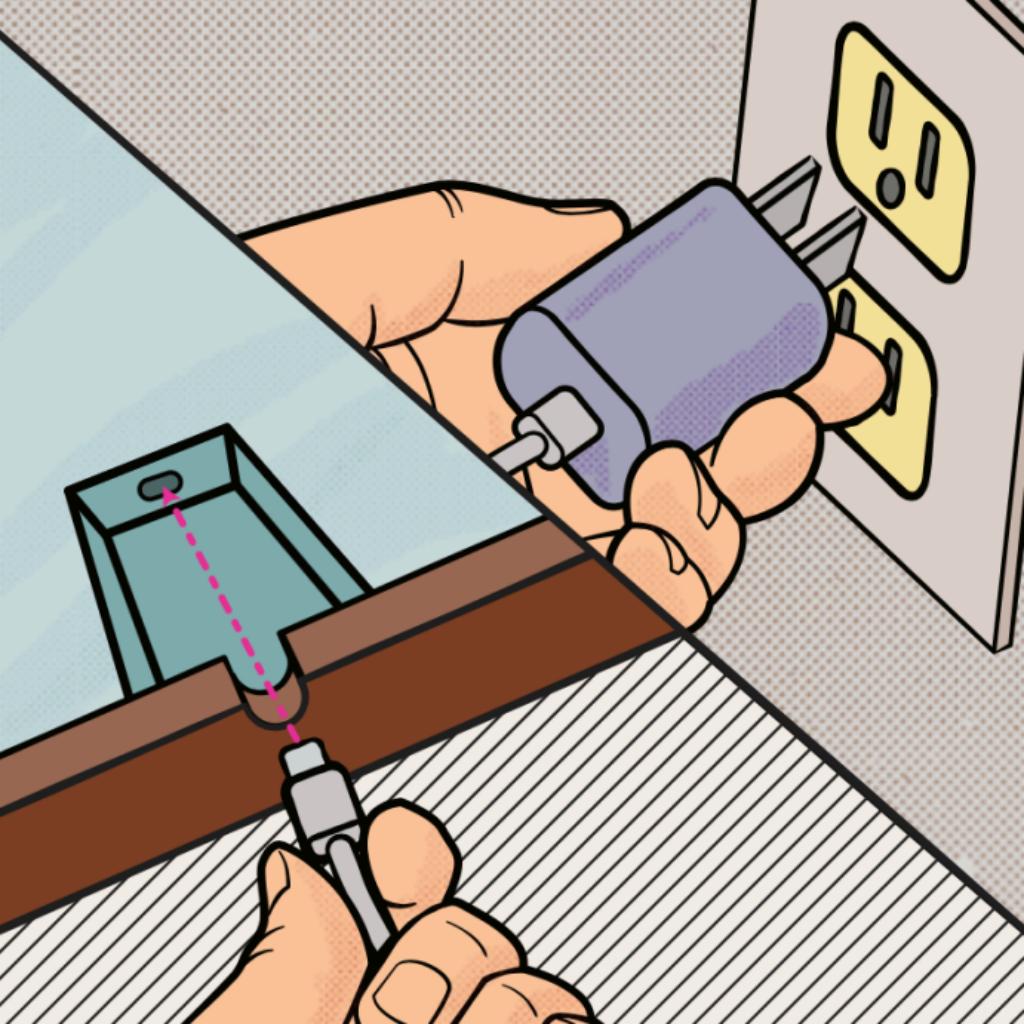
Power

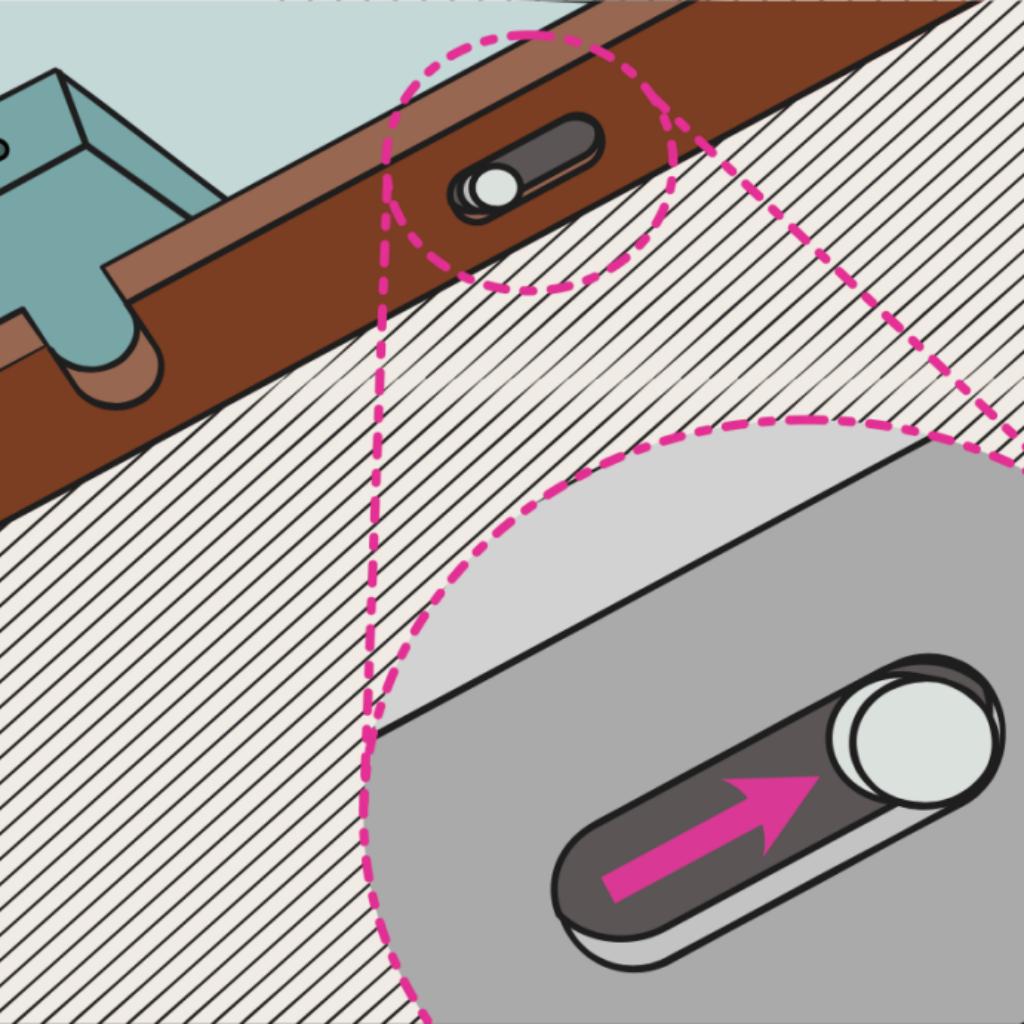
Your Metroboard includes a 15W power adapter and a 10-foot USB-C cord for power.

Plug the adapter into a power outlet and connect the board to the adapter with the provided cable. Slide the on-off switch to the right to turn on.

Use of other power adapters and cables is not officially supported.

Various other power adapters and cables will typically work, but the operation of Metroboard has been tested and certified only with the provided accessories.





Startup

When Metroboard is properly powered and turned on, it will light up with a colorful animation of the entire map.

If the board hasn't been set up yet, this animation will continue until it is.

Otherwise, the animation will continue until successful WiFi connection, at which point it will turn green.

Connect to Metroboard

The first step to setting up Metroboard is to connect to it.

Using any WiFi-capable device (phone, laptop), connect to a WiFi network by the name of **Metroboard_ABC123**.

(The ABC123 will be a random sequence unique to your Metroboard)

Setup Page

Once you connect to the WiFi network, a few things may happen depending on your device:

1. A window will automatically open with the setup page.
2. The setup page will not automatically open, and you will need to open it yourself.

iOS/Android: If a window does not automatically open, you may see a “Sign in to network” notification – click this to open the setup page.

MacOS/Windows: A window should automatically open.

If the window does not automatically open on your device, follow instructions on the next page.

If the page does not automatically open:

Navigate to it manually by typing the address below in a browser:

http://setup.metroboard.com

NOTE: the http:// is REQUIRED to reach the page. If you are having issues, make sure you have entered the full address above

If you use a VPN, ensure it is disabled.

Troubleshooting

If you have issues reaching the setup page, try the following:

- Restart Metroboard.
- Restart your device.
- Use an incognito window.
- Use a different browser.
- Use a different device.
- (Phone-only) Ensure mobile data is disabled or use airplane mode.

Night Mode

Metroboard supports dimming or turning off the display at night. If you wish to use **Night Mode**, it must be configured during setup.

If you ever change your mind, reset Metroboard by holding the reset button on the back for 3 seconds and proceed through setup again.

To configure Night Mode:

1. Click “Yes, enable Night Mode”
2. Select the “start time” and “end time” for when you want lights to dim/turn off.
3. Select if you want lights to **dim** or **turn off entirely** during this window.

Note: The “dim” setting will use the **low** brightness. If this is still too bright for you, we recommend choosing the “off” option.

Configuring WiFi

On the setup page, select your WiFi network from the **Network** dropdown.

Next, enter your password in the **Password** field.

Click connect to attempt connection.

(If you don't see your WiFi network, it may be too far or too weak. Move Metroboard closer)

Connection Issues

If the connection fails, double-check that you have selected the proper network, and input the correct password.

If you've checked this, it's possible that your WiFi is too weak or too far.

For further diagnosis, visit the Troubleshooting section (Blue) at the end of this manual.

Anonymous Data

If you'd like to support our efforts to improve Metroboard, you can enable sending us anonymous performance data and error reports.

This includes metrics such as WiFi strength, how long updates take, any errors that pop up, what settings you've selected, etc.

This information helps us solve issues and improve the Metroboard experience for everyone!

No private or identifying information (location, WiFi credentials, etc) is ever sent, and we have no way to match your data to you personally, so it is fully anonymous.

If you ever choose to change your decision, you can reset Metroboard and repeat setup with your new choice.

Changing WiFi

If you ever need to change the WiFi network, you will need to reset Metroboard and proceed through the setup again.

To reset, hold the bottom-most (orange) button on the back of Metroboard for **three seconds until the display turns red.**

Once Metroboard has reset, it will return to the same animation as when you first turned it on.

Proceed through the same setup steps as described in previous pages to configure Metroboard for your new WiFi.

Desktop Stand

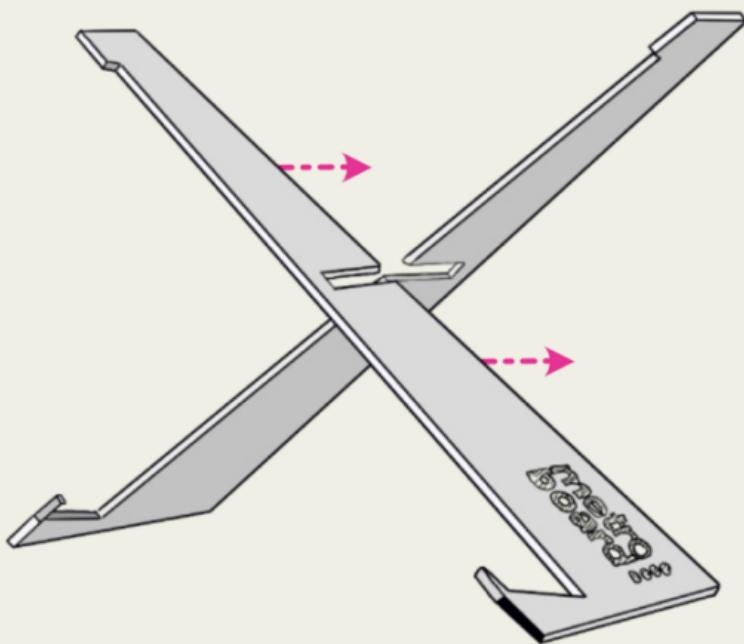
If you'd like to set up Metroboard on a shelf, table, or desk, you can use the provided desktop stand.

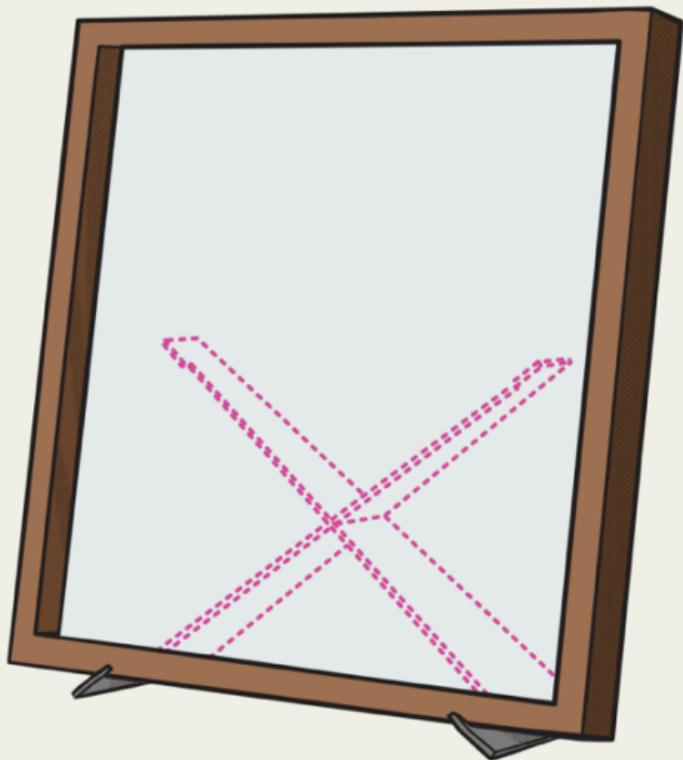
Simply slide the cutout on the left leg over the cutout on the right leg until they lock together – no tools necessary.

Once assembled, place the stand on a flat surface and gently rest Metroboard on the angled slots.

Connect the USB-C cable to the port on the back of Metroboard once it's on the stand, weaving it between the two legs from behind.

Be sure to position Metroboard such that the rear buttons are not pressed.





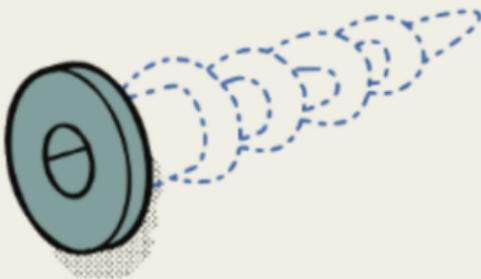
Wall Mounting

If you'd like to install Metroboard on your wall, we've included everything you need (besides a drill) to do so easily.

Locate the bag of wall-mounting hardware in your packaging – it includes an anchor, screw, and a black C-shaped spacer.

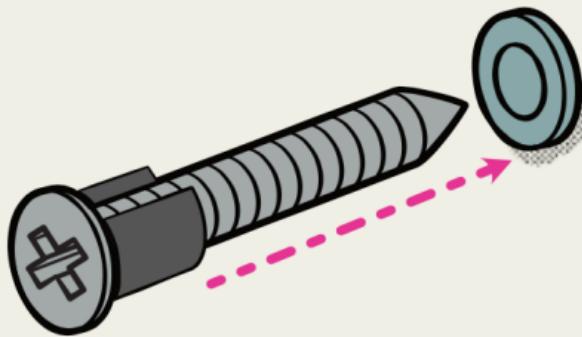
The provided anchor will work in any kind of wall – brick, concrete, drywall.

First, drill a **3/16"** hole in the wall for the anchor, then install the anchor.



Next, install the black C-shaped spacer over the provided screw, as below.

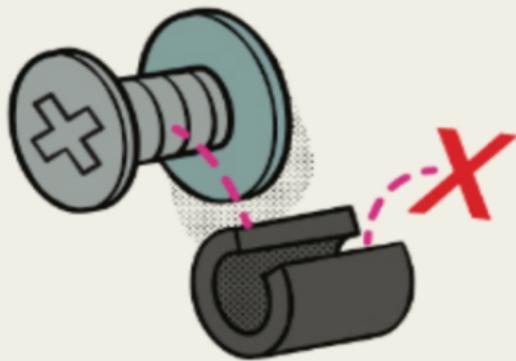
This spacer ensures proper spacing from the wall for mounting Metroboard.



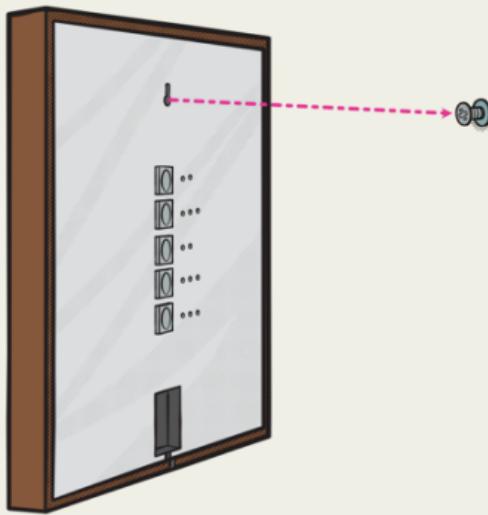
Using a drill or screwdriver, fasten the screw fully into the anchor, ensuring that the spacer stays around the screw.



Lastly, remove and discard the spacer. If needed, very slightly loosen the screw to allow removal of the spacer.



Align the screw with the keyhole on the back of Metroboard and hang it.



Settings

Rear Buttons

The five buttons on the back of your Metroboard allow you to customize its appearance and operation to your liking.

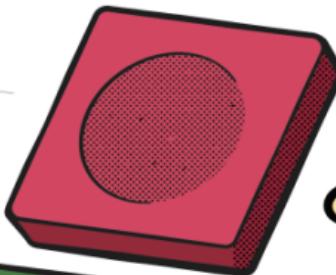
These settings allow configuring **Color**, **Brightness**, **In-Transit display**, **Update Frequency**, and **Train Direction (NYC only)**.

Click the buttons to cycle their setting.

Night Mode is configured during setup and not with buttons. If you want to configure night mode, visit pages **39-40**.

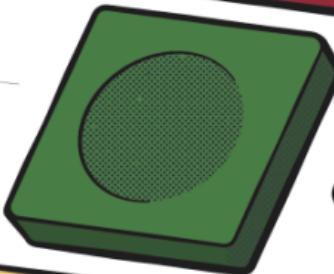
When you first click any button, the lights will turn on to indicate their current settings. Click any button again to cycle to the next setting.

COLOR



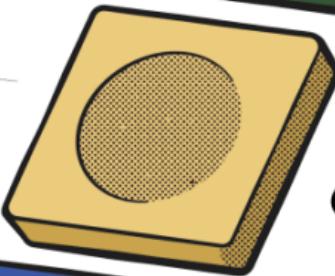
color
white

BRIGHTNESS



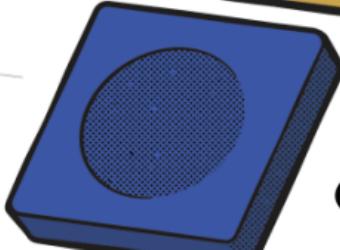
low
medium
high

IN-TRANSIT
TRAIN

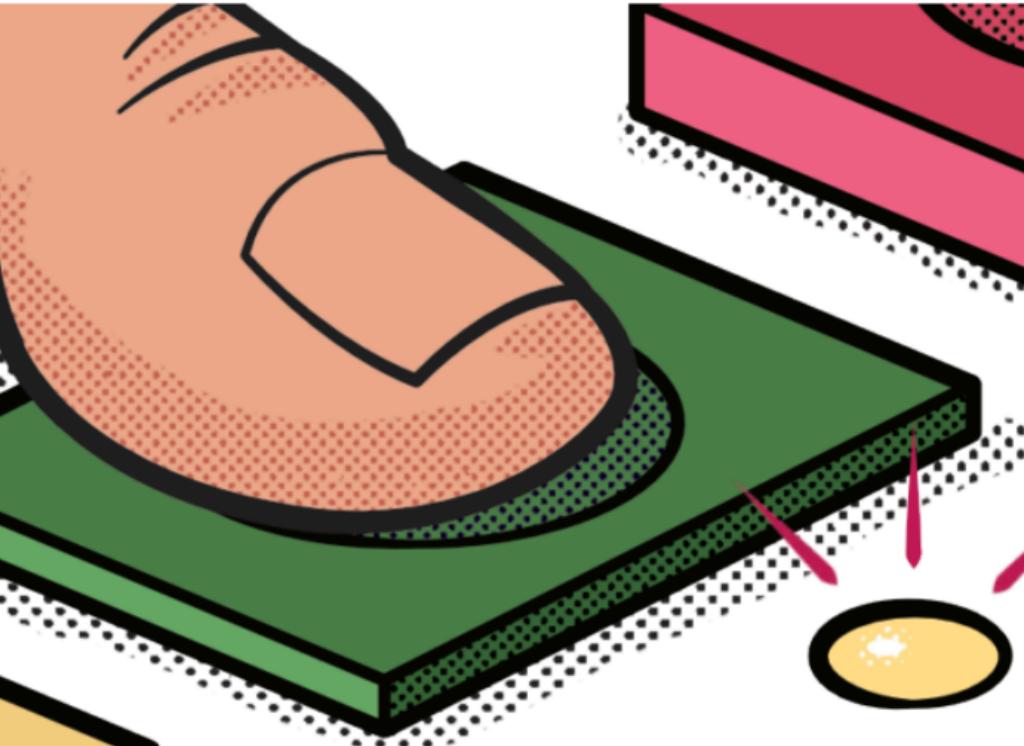


solid
pulse

UPDATE
FREQUENCY



fastest
10 sec
30 sec



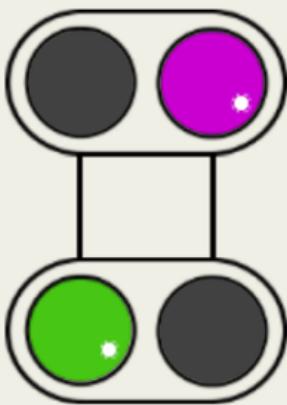
Color

The color setting (top button, red) allows changing the colors of the lights.

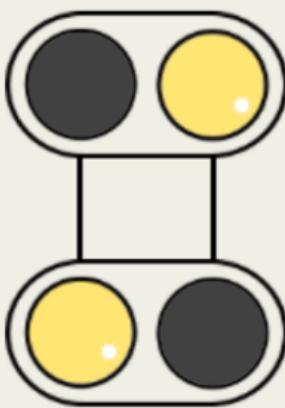
Color: Lights match the color of the line of the train in that station.

White: Lights are all a warm white, regardless of train line color.

COLOR



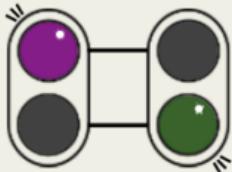
WHITE



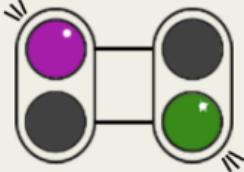
Brightness

The brightness setting (second button from the top, green) allows changing the brightness of all lights.

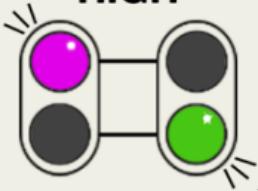
The **high** brightness is set to be easily visible in broad daylight, while the **low** brightness is best for night. The **medium** brightness is somewhere in-between.

LOW

Low: Tough to see in daylight, but visible at night.

MEDIUM

Medium: A balance between low and high.

HIGH

High: Easily visible in daylight, bright at night.

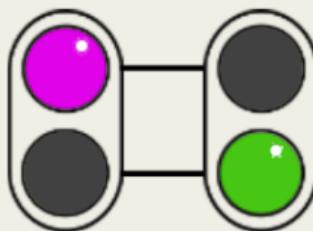
In-Transit Trains

The In-Transit Trains setting (third button, yellow) allows changing the way that in-transit trains are shown.

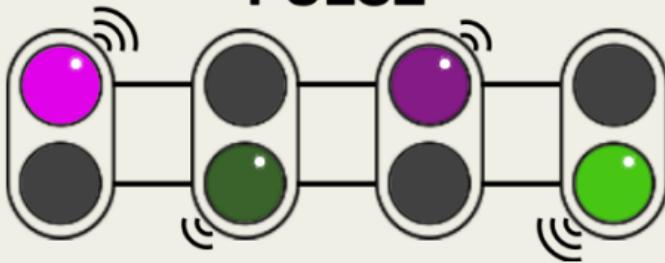
Solid: In-Transit trains are shown just like in-station trains – with a solid light.

Pulse: In-Transit trains are shown with pulsing lights.

SOLID



PULSE



Update Frequency

The Update Frequency setting (fourth button, blue) allows changing how often Metroboard gets new data.

Fastest: Metroboard will fetch new data as quickly as it can (exact time varies)

10s / 30s: Metroboard fetches new data every 10 sec or 30 sec, respectively.

FASTEST**10 SECONDS****30 SECONDS**

In the “fastest” setting, the exact time between updates will vary by a few sec.

In the 10s and 30s settings, updates will be consistently every 10s or 30s.

Direction (NYC only)

The Train Direction setting (fifth button, orange) allows changing which trains are shown.

All: Shows all trains, regardless of direction. Fuller and more dynamic.

Uptown/Downtown: Only shows trains in one direction along their line. Easier to track individual train movement.

Uptown shows trains in the northbound direction (Bronx, Queens, uptown Manhattan)

Downtown shows trains in the southbound direction (Brooklyn, downtown Manhattan)

This convention can be less intuitive for certain lines (7, L, J/Z, etc) – see the quick-start guide for exact mapping.

Reset

The last button (orange) functions as the reset button for Metroboard. To reset, hold the button for **three seconds**.

Metroboard will **flash red** indicating a successful reset, then restart. You will then need to proceed through setup.

**Resetting Metroboard completely
wipes all settings from the board**, as if
it were brand new, including:

1. WiFi network and password
2. Night Mode configuration
3. All current settings (brightness, color,
update frequency, etc)

Troubleshooting

FAQs

This section includes guidelines and help for solving most common issues.

It's possible we forgot to cover some things, or uncover new issues. Refer to our website for the latest information at:

www.designrules.co/helpme

We're here to help!

If you couldn't solve your problem using the manual or the information on our website, get in touch.

Send an e-mail to

helpme@designrules.co and we'll try to assist you as soon as possible!

Power Issues

When Metroboard is turned on, it will always turn on the startup animation.

If you have connected Metroboard to power and turned it on but no lights turn on, there may be an issue.

Please follow these steps to diagnose the issue.

1. Make sure you are using the provided USB-C adapter and cable. We cannot guarantee operation with other accessories.
2. Try another power supply or cable to see if the provided adapter or cable are damaged or defective.
3. If Metroboard still doesn't power on, e-mail us at **help@designrules.co**

My Metroboard isn't creating a WiFi Network

When you first power on Metroboard and set it up, Metroboard should create a new WiFi network with a name like

Metroboard_ABC123.

If you don't see a WiFi network like this, try the options on the next page.

1. Restart Metroboard using the on-off switch, check for the WiFi network.
2. Try restarting your device
3. Try a different device. If using a phone, try a computer. If using a computer, try a phone.
4. If you still see no WiFi network, e-mail us at **help@designrules.co**

I can't connect to the Metroboard WiFi

If you can find the Metroboard WiFi network when setting up but can't connect, try restarting your device.

If that doesn't work, try another device. If you're using a phone, try a computer. If you're using a computer, try a phone.

My Metroboard WiFi name is not “Metroboard_ABC123”

Your Metroboard will produce a WiFi network during setup unique to your board.

Metroboard_ABC123 is an example of the format, but the **ABC123** will be different for each board.

I connected to Metroboard's WiFi but can't reach the setup page

On most phones and computers, a window will automatically pop up when connecting to Metroboard's WiFi.

If this doesn't happen for you, follow these instructions to manually reach the setup page.

To manually access the setup page, open a browser on your device and access this page:

http://setup.metroboard.com

Note: the **http://** is very important. You must write out the entire address or the setup page will not be reached.

If you use a VPN, it **must be disabled**.

Phones

If you're connecting from a phone, you may get a notification request to "Sign in" to the network – click this to open the setup page.

If you access the page manually as instructed on the previous page, **ensure your mobile data is off** (or use airplane mode).

If you still can't reach the setup page, try the following:

1. Restart Metroboard.
2. Restart the device you're using to connect.
3. Use an incognito browser window.
4. Use a different browser.
5. Use a different device.

Metroboard isn't connecting to my WiFi

If your Metroboard is having issues connecting to your WiFi, the two most common issues are:

- Selecting the wrong WiFi network
- Entering the wrong password

If you've double-checked that you've selected the right network and entered the password correctly:

1. Your WiFi network may be too far or too weak. Move Metroboard closer.
2. Restart your WiFi router by unplugging it for 10 seconds, then plugging it back in.

My Metroboard is stuck green when starting up

If your Metroboard successfully connects to WiFi on startup and turns green, but stays stuck there, follow these steps:

1. Let it sit “stuck” on green for at least two minutes.
2. Restart the board.
3. Repeat 2-3x if necessary.

If your Metroboard is still stuck on green after following these steps, it's possible that there's an issue with our server.

Visit **designrules.co/status** to see the current status for all Metroboard data. If there's known issues, we'll let you know here.

Otherwise, send an e-mail to **helpme@designrules.co** to get in touch.

My Metroboard is frozen (the lights aren't updating/changing)

If your Metroboard's lights haven't changed or updated over the course of a few minutes, there's a few possibilities.

First, try restarting your Metroboard and seeing if the lights start to update regularly.

Once you restart, Metroboard will connect to your WiFi – when successful, the display will turn green.

If the display turns red, there may be a WiFi issue.

If they're red, restart your router. If this doesn't work, reset Metroboard and set it up again.

If your Metroboard successfully connects to WiFi after a restart but **stays dark** (lights off) or the lights **don't change**, there may be an issue with the data from our server.

Visit **designrules.co/status** to see the current status for all Metroboard data. If there's known issues, we'll let you know here.

If our status page shows a “good” status for your Metroboard, then there may be an issue we’re unaware of.

Send an email to
helpme@designrules.co to let us know.

My buttons aren't responding

If Metroboard is fetching new data or downloading an OTA update at the moment that you hit a button, the button may not respond immediately.

However, it should respond in a few seconds – simply keep hitting the buttons until they respond.

My Metroboard is red and nothing is working!

Usually, this is caused by your reset button being accidentally held down.

Make sure your button isn't being pressed by anything behind Metroboard.

I have an issue not mentioned here

If you're having an issue not covered here, get in touch so we can help.

E-mail us at **helpme@designrules.co**

I found a bug or have a recommendation

If you found an issue or have a recommendation for making Metroboard better, we're all ears!

Send us an e-mail to **hi@designrules.co**

Regulatory



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. The device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF
Exposure guidelines, this equipment should be
installed and operated with minimum distance
between 20cm the radiator your body: Use only
the supplied antenna.



This product complies with the essential requirements and other relevant provisions of the following EU directives:

Radio Equipment Directive **(2014/53/EU)**
Electromagnetic Compatibility Directive
(2014/30/EU)



This product must not be disposed of with household waste. Please recycle at designated collection points.



This product complies with the Restrictions of Hazardous Substances (RoHS) directive
(2011/65/EU)

REACH (EC) No. 1907/2006

This product does not contain any substances of very high concern (SVHCs) above threshold levels.

California Proposition 65

No listed substances known to the state of California to cause cancer or reproductive harm are present in this product.

Safety & Use

WARNING

- Do not expose Metroboard to water, moisture, or high humidity. Risk of electrical shock or fire.
- Do not use a damaged power adapter or cable. Doing so may result in malfunction or overheating.
- Avoid direct or prolonged eye exposure to the illuminated LEDs. May cause discomfort or sensitivity.

CAUTION

- Use only with the provided power adapter and cable. Substituting other power sources or cables may cause device failure.
- Do not operate Metroboard outdoors or in temperatures below 0°C (32°F) or above 35°C (95°F)
- Place Metroboard on a stable, dry surface (or wall). Avoid contact with metal objects near ports or LEDs.

Specifications

Electrical Specifications

- Input: 5V == 3A
- Do not exceed rated current or voltage.
- Operating Temp 0°C (32°F) to 35°C (95°F)
- Wi-Fi: 802.11 b/g/n. 2.4GHz band only.
- Maximum transmit power: < 20dbM EIRP
- Supports WPA/WPA2 personal security.
- Complies with limits for Class B digital devices under FCC Part 15 Subpart C and CE RED
- Conforms to EN 300 328, EN 301 489-1/-17, EN 62311 (RF Exposure)

Wireless Usage

- Metroboard creates a temporary WiFi network (Metroboard_XXXXXX) during setup. After configuration, it joins your home WiFi network and no longer broadcasts openly.
- Device checks for firmware updates once daily when connected.
- Unauthorized modification of firmware or antennas is prohibited and may violate FCC or CE regulations.

Disclaimers

Limitation of Liability

The Design Rules Company, LLC is not liable for damage, injury, or loss caused by misuse, modification, or failure to follow safety guidelines.

Metroboard is not intended for life-support, emergency, or safety critical systems.

Use of Metroboard constitutes acceptance of these terms.

Compliance Documentation

For full compliance documentation in all applicable languages, please visit:
designrules.co/regulatory

Warranty

Warranty terms are available at
designrules.co/warranty



For support: helpme@designrules.co

Otherwise: hi@designrules.co