

DCS[™]

DIGITAL COMMAND SYSTEM

WTIU

WI-FI TRACK INTERFACE UNIT

USER'S GUIDE

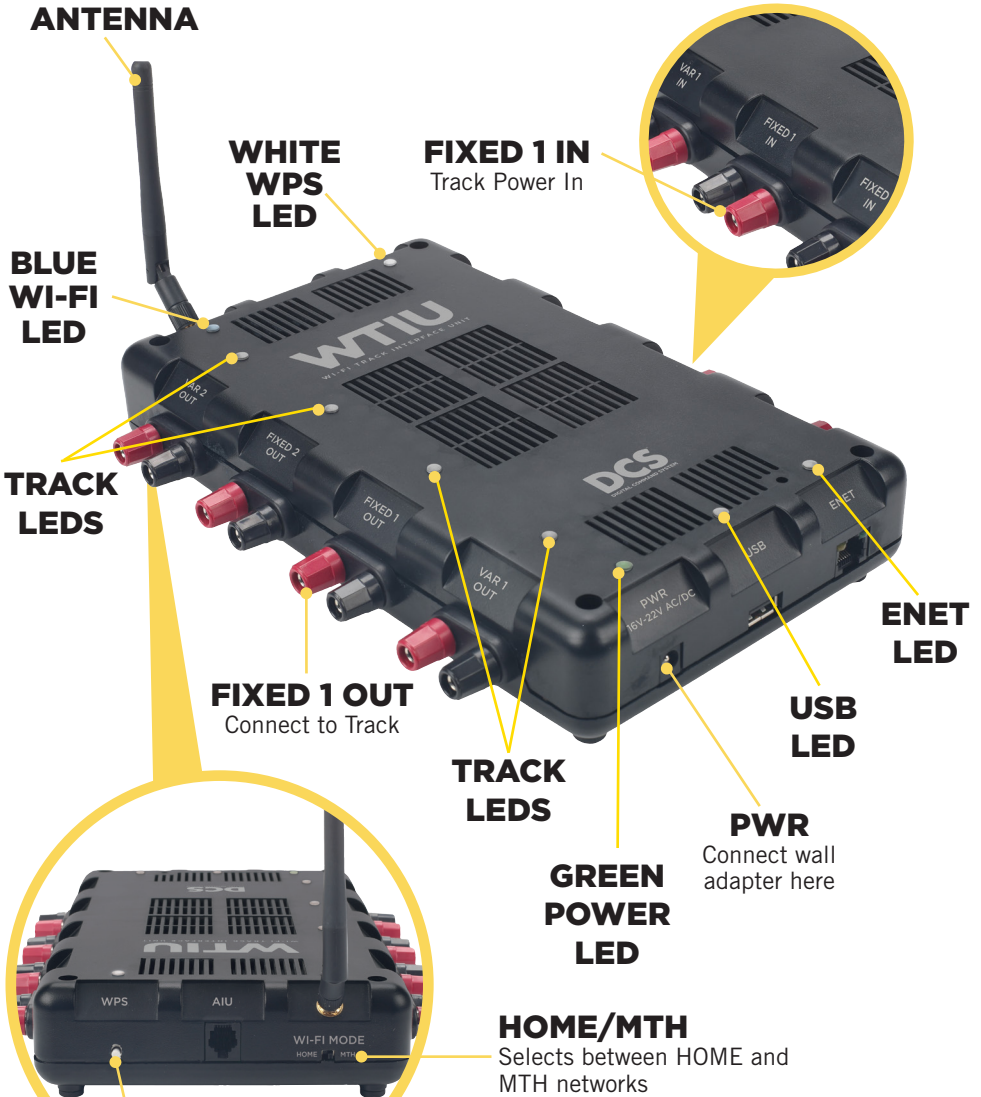


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DCS WTIU Interface Unit

Product Overview



For More Product Information,
Instructions and Support,
visit www.mthtrains.com/50-1039

Using the MTH Network

In MTH network mode, your WTIU creates its own unique Wi-Fi network. In this mode, you simply connect your smart device to the MTH network, open your app, and run your trains! Please note, your smart device will not be connected to the internet while operating in MTH network mode.

1. Attach the antenna to the WTIU.
2. Set the **MTH/HOME** selector switch to **MTH**.
3. Plug the WTIU into an AC wall outlet.
4. Wait 2 minutes for the WTIU to initialize. When ready, the **PWR**, **WI-FI**, and **TRACK LEDS (4)** will be on. The track LEDS will be green.
5. Apply track power through the WTIU. The track LED will change from green to purple.

Note: If using a variable channel, the track LED will turn purple once power is applied to the track.

6. If you haven't already, go to the iOS App Store or Google Play Store and install the app on your smart device. Search for **MTH DCS** to quickly find the app in either app store.
7. In your smart device, navigate to **Settings → Wi-Fi** and connect to the **MTH DCS** network. The network name (SSID) and network key are printed on the label affixed to the bottom of the WTIU.
8. Open the app and tap **RUN MY TRAINS**.
9. Tap **CHOOSE OR ADD AND ENGINE** near the top of the screen and follow the prompts.
10. After adding an engine(s), tap **START UP** and enjoy running your trains in Wi-Fi DCS!

Using the MTH Network with multiple WTIUS or WIU/TIUS

In MTH network mode, one of the track interface devices will act as a router and allow your smart device to connect to multiple track interface devices. In this mode, the “master” track interface device, that will act as a router, must be put in MTH mode. Then, as many as 4 additional WTIUs or WIU/TIUs can be connected. The additional track interface devices must be put in HOME mode. See below.

1. Select the track interface device that will act as the router for the MTH network. Any track interface device is fine. This device will be the WTIU or WIU/TIU who's network will be connected to your smart device in order to run your trains.
2. Set the **MTH/HOME** selector switch to **MTH**. Take note of the **SSID** shown on the bottom of this track interface device. You will need this later.
3. Plug the master WTIU or WIU/TIU into an AC outlet. Wait for the WTIU or WIU/TIU to initialize.
4. Select a track interface device to be connected to the master WTIU or WIU/TIU described above.
5. Set the **MTH/HOME** selector switch to **HOME**.
6. Plug the “slave” WTIU or WIU/TIU into an AC outlet. Wait for the WTIU or WIU/TIU to initialize.
7. Press the **WPS BUTTON** on the master WTIU or WIU/TIU. The white **WPS LED** will begin flashing.
8. Press the **WPS BUTTON** on the slave WTIU or WIU/TIU. The slave **WPS BUTTON** must be pressed within 1 minute. The white **WPS LED** will begin flashing.
9. When the connection between the WTIUs or WIU/TIUs is complete, the white **WPS LED** will turn on continuously for approximately 30 seconds. After both white **WPS LEDS** have gone out, the WTIUs or WIU/TIUs are ready to run trains.

Using your home Wi-Fi Network

In HOME network mode, your WTIU connects with your existing home Wi-Fi network. Just make sure your mobile device is connected as usual, open your app, and run your trains! In this mode, you can choose the links within the app to check out our online catalogs, newsletters, or search for products. Also, you will be able to update WTIU firmware, download engine sound files, and stream music directly to your engine!

For Routers with WPS (Wi-Fi Protected Setup)

1. Attach the antenna to the WTIU.
2. Set the **MTH/HOME** selector switch to **HOME**.
3. Plug the WTIU into an AC wall outlet.
4. Wait 2 minutes for the WTIU to initialize. When ready, the **PWR**, **WI-FI**, and **TRACK LEDS** will be lit.
5. Press the **WPS BUTTON** on your home Wi-Fi router and then press and release the **WPS BUTTON** on your WTIU. (Note, some routers may require you to press and hold the **WPS BUTTON** for several seconds. Check the manual for your specific router.)
6. Wait until the white **WPS LED** on the WTIU is on steadily. It will go off after a few minutes.
7. Apply track power through the WTIU.
8. If you haven't already, go to the iOS App Store or Google Play Store and install the app on your smart device. Search for **MTH DCS** to quickly find the app in either app store.
9. Open the app and tap **RUN MY TRAINS**.
10. Tap **CHOOSE OR ADD AN ENGINE** then tap **ADD MTH ENGINE** and follow the prompts.
11. Tap **START UP** and enjoy running your trains in Wi-Fi DCS!

For Routers that Require Manual Setup (no WPS feature)

1. Attach the antenna to the WTIU.
2. Set the **MTH/HOME** selector switch to **MTH**.
3. Plug the WTIU into an AC wall outlet.
4. Wait 2 minutes for the WTIU to initialize. When ready, the **PWR**, **WI-FI**, and **TRACK LEDS** will be lit.
5. Using A PC or mobile device with Wi-Fi, navigate to see the available wireless networks and connect to the **MTH_DCS-XXXX**. The network name is printed on the bottom of your WTIU.
6. When prompted, enter the network key (password) **mthdcswifi** (all lower case). The network key is also printed on the bottom of your module.
7. Open your web browser and enter the IP address **192.168.143.1** in the url address line. This is usually the top text box in your browser. This will open LuCI, the MTH DCS web interface.

8. Enter the password **MTHDCS** and hit enter. Do not change the username from **ROOT**.
9. Hover the cursor over the **NETWORK** pull down menu along the top of the window.
10. Click on **WIRELESS** from the pull down menu.
11. Find the **SSID: NONE - MODE: CLIENT** and click the **EDIT** button to the right.
12. Under **INTERFACE CONFIGURATION** toward the bottom of the window find the **ESSID** field. Highlight and delete **NONE** and enter your **HOME** network name (SSID). This is the network your phone or tablet normally connects to.
13. In the **ENCRYPTION** field, use the pull down menu to select **WPA2-PSK** (recommended) or whichever encryption type you prefer or your router requires.
14. Enter your home network password in the **KEY** field. This is also known as your **NETWORK KEY**.
15. Click the **SAVE** button in the lower right corner.
16. Click the **SAVE AND APPLY** button on the **WIRELESS** window and wait for the changes to be applied and saved.
17. Remove power from the WTIU and close your browser.
18. Set the **MTH/HOME** selector switch to **HOME** and apply power to the WTIU.
19. Follow the instructions for connection to Routers with WPS (Wi-Fi Protected Setup) in the previous section however, ignore steps 7 and 8. The WTIU will automatically connect to your **HOME** network each time it is powered up.

Using a wired Ethernet Network

If you prefer, the WTIU(s) can be hard wired to your network router using standard Ethernet cables. In this configuration, a network router is required. The smart device typically connects to the router via Wi-Fi, so there is limited benefit to using this configuration. It may improve overall performance in an environment with unreliable Wi-Fi network signaling.

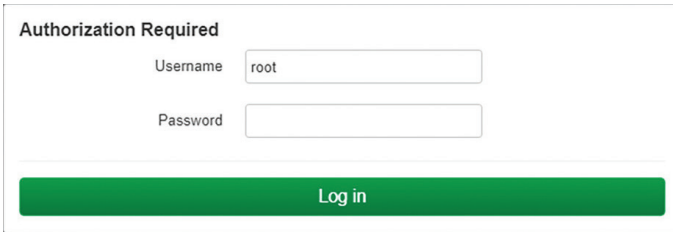
1. Attach the antenna to the WTIU (It isn't necessary of course but, it's a great place to store it!).
2. Set the **MTH/HOME** selector switch to **MTH** (I know, it seems odd but, trust us).
3. Connect the WTIU to your network router using a standard Ethernet cable.
4. Plug the WTIU into an AC wall outlet.
5. Wait 2 minutes for the WTIU to initialize. When ready, the **PWR**, **WI-FI**, and **TRACK LEDS** will be lit.
6. Apply track power through the WTIU.
7. If you haven't already, go to the iOS App Store or Google Play Store and install the app on your smart device. Search for **MTH DCS** to quickly find the app in either app store.
8. Make sure your smart device has Wi-Fi turned on and is connected to the Wi-Fi Network of the router.
9. Open the app and tap **RUN MY TRAINS**.
10. Tap **CHOOSE OR ADD AN ENGINE** then tap **ADD MTH ENGINE** and follow the prompts.
11. Tap **START UP** and enjoy running your trains in Wi-Fi DCS!

LuCI

LuCI is a web interface for your WTIU. Think of it as a custom web page used exclusively for accessing advanced set up and features in your WTIU. To operate Wi-Fi DCS, most people will not need to access LuCI. However, if MTH releases an update to your WTIU firmware, you may want to meet her.

Accessing LuCI

1. Disconnect all cables from your WTIU (power, track, AIU, ENET, etc.).
2. Set the **MTH/HOME** selector switch to **MTH**.
3. Plug the WTIU into an AC wall outlet.
4. Using a smart device or Wi-Fi capable laptop/PC, navigate to see the available wireless networks and connect to the **MTH_DCS-XXXX**. The network name is printed on the bottom of your WTIU.
5. When prompted, enter the network key **mthdcswifi** all lower case. The network key is also printed on the bottom of your WTIU.
6. Open your web browser and enter the IP address **192.168.143.1** in the url address line. This is usually the top text box in your browser. This will open LuCI, the MTH DCS web interface.



Authorization Required

Username

Password

Log in

7. Enter the password **mthdcs** and hit enter. Do not change the username from **root**.
Note: The password is case-sensitive.


8. The home page of LuCI will be displayed.

mthdcs-FC50
Status ▾ Network ▾ System ▾ Log out
REFRESH

Status

System

| | |
|------------------|---|
| Hostname | mthdcs-FC50 |
| Model | MTH WTIU |
| Architecture | MediaTek MT7628AN ver:1 eco:2 |
| Target Platform | ramips/mt76x8 |
| Firmware Version | MTH v1.1.0-20241021-2106 r26636-75906c76e6 / LuCI Master 24.158.03388~a6f8361 |
| Kernel Version | 6.6.32 |
| Local Time | 2024-06-15 10:16:01 |
| Uptime | 3h 52m 12s |
| Load Average | 0.00, 0.01, 0.02 |



Memory

| | |
|-----------------|-----------------------------|
| Total Available | 14.82 MiB / 57.81 MiB (25%) |
| Used | 44.48 MiB / 57.81 MiB (76%) |
| Buffered | 52.00 KiB / 57.81 MiB (0%) |
| Cached | 22.86 MiB / 57.81 MiB (39%) |

Storage

| | |
|------------|-----------------------------|
| Disk space | 448.00 KiB / 8.94 MiB (4%) |
| Temp space | 180.00 KiB / 28.91 MiB (0%) |

Network

Active Connections: ?

Active DHCP Leases

| Hostname | IPv4 address | MAC address | Lease time remaining | Static Lease |
|----------|-----------------|-------------------|----------------------|----------------------------|
| HP_255_2 | 192.168.143.100 | 18:4F:32:2B:09:29 | 8h 10m 9s | Set Static |

Wireless

radio0

Type: MediaTek MT7628 802.11b/g/n
 Channel: 11 (2.462 GHz)
 Bitrate: 72 Mbit/s



SSID: MTH_DCS-FC50
 Mode: Master
 BSSID: 00:0A:52:06:FC:50
 Encryption: WPA2 PSK (CCMP)
 Associations: 1
 WPS status: Disabled

[Start WPS](#)

SSID: MTH RD
 Mode: Client
 Wireless is disabled

[Start WPS](#)

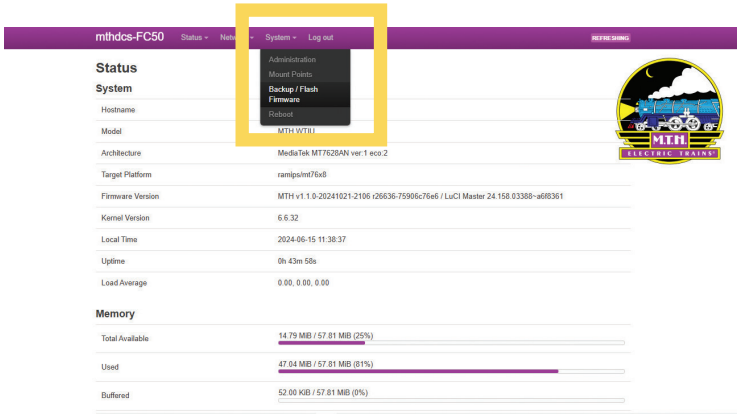
Associated Stations

| Network | MAC address | Host | Signal / Noise | RX Rate / TX Rate | |
|---|-------------------|-------------------------------|--|--|----------------------------|
|  Access Point MTH_DCS-FC50* (wlan0) | 18:4F:32:2B:09:29 | HP_255_2 (192.168.143.100) |  -38 dBm | 72.2 Mbit/s, 20 MHz, MCS 7, Short GI 72.2 Mbit/s, 20 MHz, MCS 7, Short GI | Disconnect |

Powered by LuCI Master (24.158.03388~a6f8361) / MTH v1.1.0-20241021-2106 (26636-75906c76e6) / Lua compatibility mode active

Updating WTIU Firmware

1. Access LuCI (see instructions above in this section).
2. Select the **SYSTEM** tab near the top of the page.



3. Select **BACK-UP/FLASH FIRMWARE** from the drop down list.
4. Scroll down the page until you see **FLASH NEW FIRMWARE IMAGE** near the bottom of the page. Click the purple **FLASH IMAGE BOTTOM**.

Flash new firmware image

Upload a sysupgrade-compatible image here to replace the running firmware.

Image

5. In the Uploading file dialog box, click the **BROWSE** button and navigate to the updated firmware file downloaded to your computer from the MTH website and click **OPEN**.



6. Once the filename is shown in the Uploading file dialog box, click the purple **UPLOAD** button..

Uploading file...

Name: mth-v1.1.0-20241021-2106-r26636-75906c76e6-ramips-mt76x8-mth_wtiu-squashfs-sysupgrade.bin
Size: 6.75 MiB

7. In the **FLASH IMAGE** dialog box, leave “Keep settings and retain the current configuration” checked and click the purple **CONTINUE** button.

Flash image?

The flash image was uploaded. Below is the checksum and file size listed, compare them with the original file to ensure data integrity.
Click 'Continue' below to start the flash procedure.

Size: 6.75 MiB

MD5: 871388d3f274ef6758a392642f934b14

SHA256: e8670bbe1dbfe413a3a14a63d83df9044a577799ea378f0af3e00af381d48fa0

Keep settings and retain the current configuration

Skip from backup files that are equal to those in /rom

Include in backup a list of current installed packages at /etc/backup/installed_packages.txt

Cancel

Continue

8. The **FLASHING** dialog box will appear briefly.

Flashing...

The system is flashing now.

DO NOT POWER OFF THE DEVICE!



Wait a few minutes before you try to reconnect. It might be necessary to renew the address of your computer to reach the device again, depending on your settings.

11. After waiting a full 3 minutes, it is now safe to remove power from the module and reconnect it to your layout.

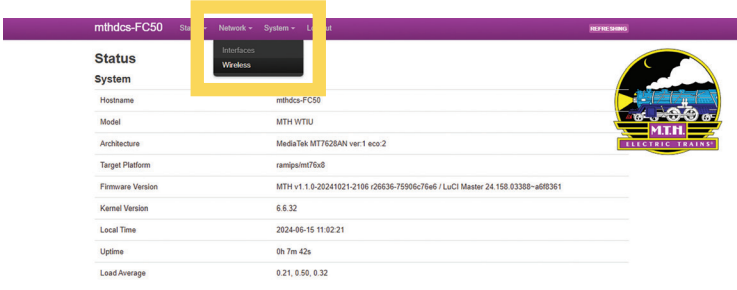
Note: *LuCI will never tell you that the step is complete. Your browser will attempt to reload LuCI and may display an error message.*

Note: *While the firmware image is being flashed, DO NOT TOUCH THE DEVICE (tablet, phone, PC, laptop) OR THE MODULE! WAIT A FULL 3 MINUTES. IF YOU DO NOT, THE MODULE COULD BE DAMAGED AND REQUIRE SERVICE!*

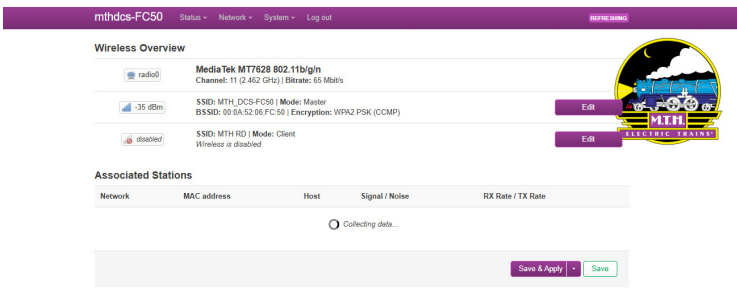
Changing the SSID and Network Key for MTH Wi-Fi Network Mode

For security purposes, like operating in a public setting, you may want to change the SSID and Network Key. These are also known as the Network Name and Password for those of us who are less technical. Either way, it's easy.

1. Access LuCI (see instructions above in this section).
2. Hover your mouse over the **NETWORK** pull down menu along the top of the page and click on **WIRELESS**.



3. Click the **EDIT** button to the right of SSID: MTH_DCS-XXXX - Mode: Master.



4. Scroll to the bottom of the page.

- In the **ESSID** box, delete the contents and enter the new **SSID** or network name.

Wireless Network: Access Point "MTH_DCS-FC50" (wlan0)

Device Configuration

General Setup

Status Mode: Master | SSID: MTH_DCS-FC50
-35 dBm BSSID: 00:0A:52:06:FC:50
Encryption: WPA2 PSK (CCMP)
Channel: 11 (2.462 GHz)
Tx-Power: 20 dBm
Signal: -35 dBm | Noise: 0 dBm
Bitrate: 65.0 Mbit/s | Country: 00

Operating frequency Mode Channel Width
N 11 (2462 Mhz) 20 MHz

Interface Configuration

General Setup

ESSID

Encryption

Key

Dismiss Save

- In the **KEY** box, delete the contents and enter the new **NETWORK KEY** or password.

Note: The Encryption box should remain on WPA2-PSK.

- Click the green **SAVE** button. This will save your changes and return you to the Wireless Overview window.

mthdcs-FC50 Status Network System Log out REFRESHING

Wireless Overview

| | | |
|----------|---|--|
| radio0 | MediaTek MT7528 802.11b/g/n Channel: 11 (2.462 GHz) Bitrate: 65 Mbit/s | |
| -35 dBm | SSID: MTH_DCS-FC50 Mode: Master BSSID: 00:0A:52:06:FC:50 Encryption: WPA2 PSK (CCMP) | |
| disabled | SSID: MTH RD Mode: Client Wireless is disabled | |

Associated Stations

| Network | MAC address | Host | Signal / Noise | RX Rate / TX Rate |
|--------------------|-------------|------|----------------|-------------------|
| Collecting data... | | | | |

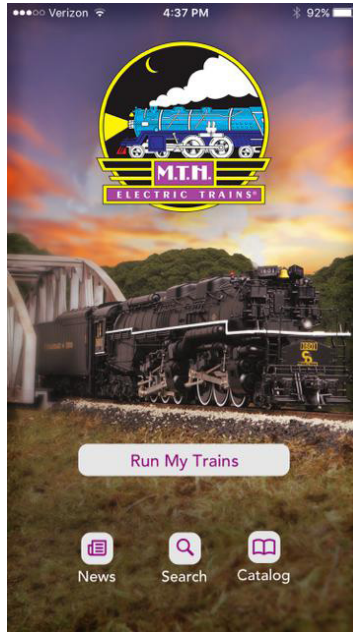
Save & Apply Save

- Click the purple **SAVE & APPLY** button in the lower right to finalize your changes.
- Close LuCI.
- Remove power from the WTUIU.
- When power is reapplied, the **SSID** and **NETWORK KEY** (Network name and password) will be changed.

Note: The Encryption box should be left on WPA2-PSK.

Title Screen

When you first open the MTH DCS app, this is the screen you will see. You have several options described below.



Run My Trains

Run My Trains: Tap here to take you to the **MAIN ENGINE CONTROL SCREEN**



News: While connected to the internet, tap here to sign up for our newsletter or find out the latest happenings at MTH.

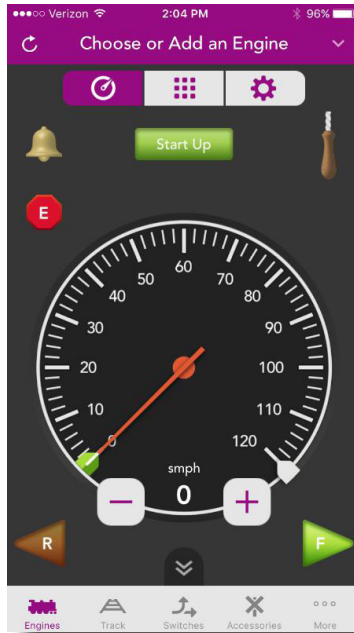


Search: While connected to the internet, tap here to search for products.



Catalog: While connected to the internet, tap here to browse through all of our catalogs.

Main Control Screen



Refresh: Tap here to read the track and refresh your app to the current state of your layout

Choose or Add an Engine

'Choose or Add an Engine': Tap here to add your engines to the app and run them!



Down Arrow: Tap here to pull down your engine list



Bell: Tapping here turns the bell on and off

Start Up

Start Up: Tapping here starts up the engine currently displayed



Whistle: Touch, hold, and drag downward to play the whistle. For engines with playable whistles, see **Whistle Settings** in the **Setting Screen** section.

Note: For diesel and electric engines, the whistle pull is replaced by a horn icon. Tap and hold the horn icon to blow the horn.



E-Stop: Tap and hold here to shut down all power to the layout.



Speedometer: There are several ways to control the speed of your locomotives.

Tap once anywhere around the circular bezel once to set the speed. The engine will accelerate or decelerate at the default rate. (See Page 53 in the DCS Manual)

Tap twice anywhere around the circular bezel to set the speed at faster rate.

Touch, hold, and drag from the tip of the speed indicator needle around the circular bezel in either direction to select the desired speed.

Regardless of how you set the speed, the digital speed is displayed between the “-” and “+” icons. Incidentally, speeds are in actual scale miles per hour (smph) in DCS!



- icon: Tapping here decreases speed in increments of 1 smph.



+ icon: Tapping here increases speed in increments of 1 smph.



Reverse: Tapping here sets the direction of the engine to reverse.

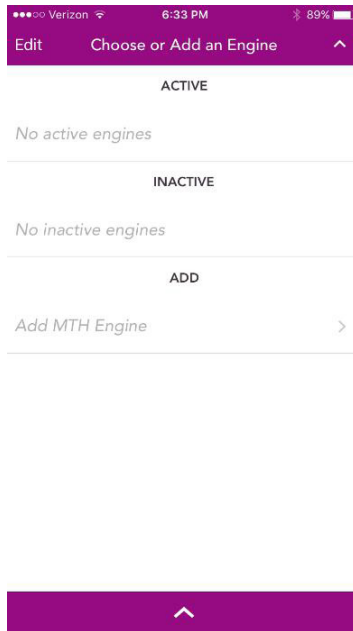


Forward: Tapping here sets the direction of the engine to forward.

Note: If you are moving in forward, tapping reverse is a good way to bring the engine to a stop. The same is true if you tap forward while moving in reverse. Go ahead. Try it.

Engine List Screen

On the **MAIN CONTROL SCREEN**, tapping **CHOOSE OR ADD AN ENGINE** or the down arrow, takes you to the **ENGINE LIST SCREEN**. This screen is used to manage your engine roster. From here, engines can be added or deleted. You can also see the list of currently active and inactive engines.



Up arrow: Tapping here closes the **ENGINE LIST**

ACTIVE

Active: This section displays the currently active engines. These engines are available to run!

INACTIVE

Inactive: This section displays the currently inactive engines. These engines exist in your roster but currently, are not active and ready to run.

ADD

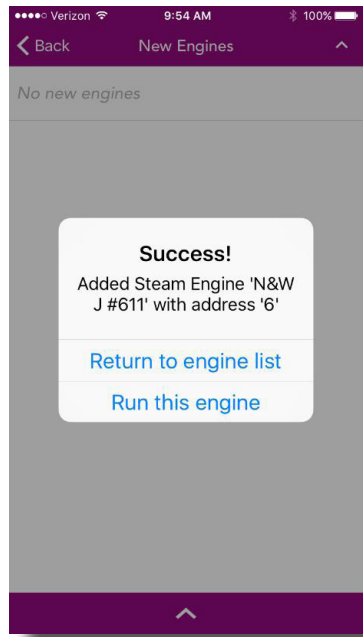
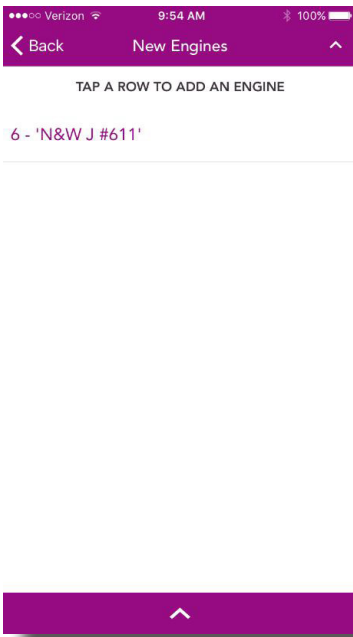
Add: Tap **ADD MTH ENGINE** and follow the prompts to add a new engine to your system.

Note: Engines should be added to your system one at a time. Never try to add multiple engines that have the same address!

Adding New Engines

After tapping **ADD MTH ENGINE** from the **ENGINE LIST SCREEN**, a list of new engines found will be displayed.

From this screen, simply tap the engine name you would like to add. This will bring up the Confirmation screen.

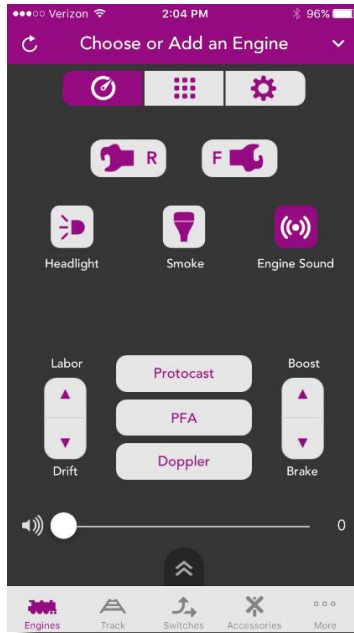


From here, you can tap **RETURN TO ENGINE LIST** which will take you back to your **ENGINE LIST** or **RUN THIS ENGINE** which will take you to the **MAIN CONTROL SCREEN** for the newly added engine.

*Note: If you are adding multiple engines, the additional option of **ADD ANOTHER ENGINE** appears. Tap to go back to the list of new engines to add.*

Alternate Control Screen

The Alternate Control Screen provides quick access to features commonly used while running trains. This screen is common to all engines so, some features may not be present on all engines.



Rear Coupler: Tap to open the rear coupler (if so equipped)



Front Coupler: Tap to open the front coupler (if so equipped)



Headlight: Tap to turn the headlight on or off



Smoke: Tap to turn the smoke on or off



Engine Sound: Tap to turn the engine sounds on or off (mute)



Labor/Drift: Tap and hold the up or down arrow to activate labor or drift chuffing sounds in steam locomotives.

Note: Diesel engines will display Rev Up/Rev Down on this button. Tapping the up or down arrow will increase or decrease the sound of the engine rev level. (See Page 25 in the DCS Manual)

Protocast

Protocast: Tap to activate the Protocast feature. (See Page 29 in the DCS Manual)

PFA

PFA: Tap to activate the Passenger or Freight Announcements. (See Page 30 in the DCS Manual)

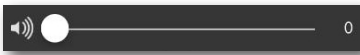
Doppler

Doppler: Tap to activate the “one shot” Doppler feature. (See Page 31 in the DCS Manual)



Boost/Brake: Tap and Hold to temporarily increase or decrease the speed. When released, the engine will return to the previously set speed.

Note: The Brake button can be held until the engine comes to a stop.



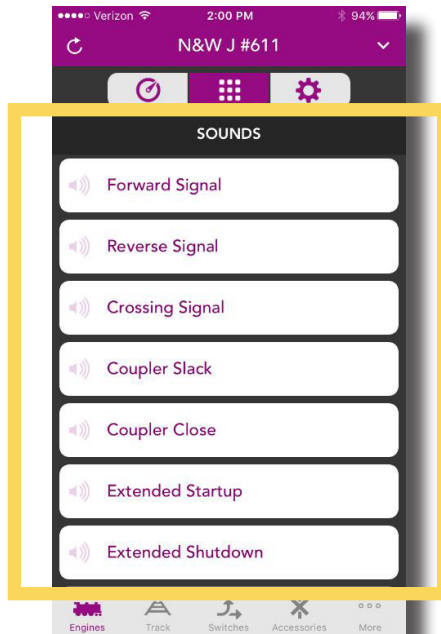
Master Volume Slider: Tap, Hold, and Drag the circle on the slider to set the master sound volume. The percentage is displayed on the right side of the slider.

Softkey Screen

The Softkey Screen is a list additional sound, lighting, and functional features available in each particular engine. While some are common to all MTH engines, others may be unique. For example, steam engines generally do not include ditch lights while most modern diesel do. So, a ditch light control softkey is only found on diesel engines that include this feature.

Sounds

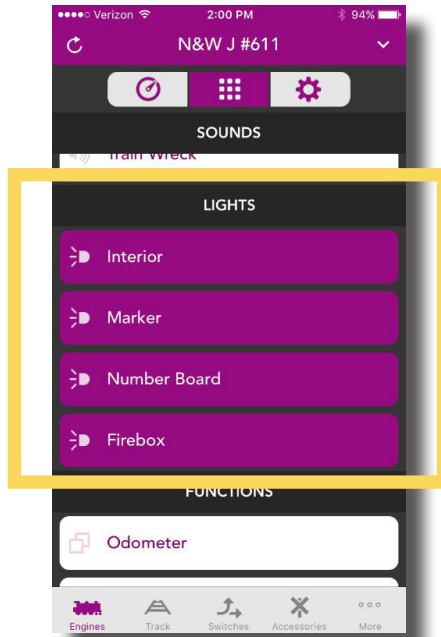
This group of softkey is pretty self-explanatory. Just tap the button and the corresponding sound will be played. If you aren't familiar with some of them, don't worry, just tap it to listen and find out!



Lights

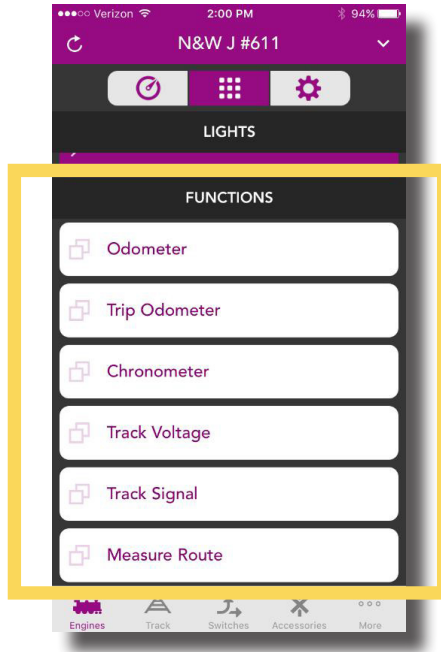
The lighting group of softkeys is probably the most unique as lighting features vary widely between engines. As with the sound group, the lighting buttons are self-explanatory. If you're not sure, go ahead and try them. You can't hurt anything!

Note: The lighting buttons turn purple when the light is on and white when it is off.



Functions

This group of softkeys is where you can find interesting functional type features available in your engine. Some brief explanation follows below however, for a more detailed understanding, you should refer to the DCS or engine manual.



Odometer: Tap to display the current odometer reading for your engine displayed in scale miles per hour.

Trip Odometer: Tap to display how far your engine has traveled since it was last powered up.

Chronometer: Tap to display the total time your engine has been powered up.

Track Voltage: Tap to display the track voltage as measured at the engines location. You can do this as the engine is moving around the track to check the power distribution on your layout.

Track Signal: Tap to display the quality of the DCS track signal on your layout. Like track voltage, this can be done with the engine moving to identify any areas of dirty track, etc. The signal quality is displayed as a number between 1 and 10 with 10 being the highest. Don't worry if your layout isn't all 10s. DCS works perfectly well with signals of 5 or higher.

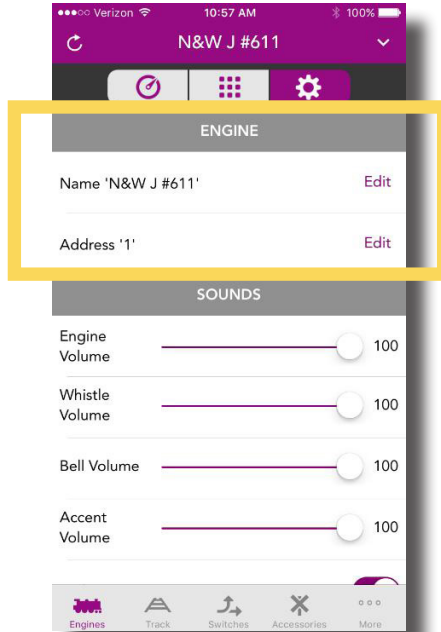
Measure Route: Tap to measure a specific route or distance on your layout in accurate scale miles. Have you ever wondered how long a route is in scale miles? Now you can find out!

Settings Screen

The Settings Screen is where you can tailor your engine's behavior to fit your operating preferences. Like many things in DCS, the settings available are unique to your engine so, there will be differences between steam and diesel engines, for example. Most of these settings are saved in the engine and remain until you change them again. Don't worry, included in the Settings Screen is the ability to reset your engine or TIU to their original state.

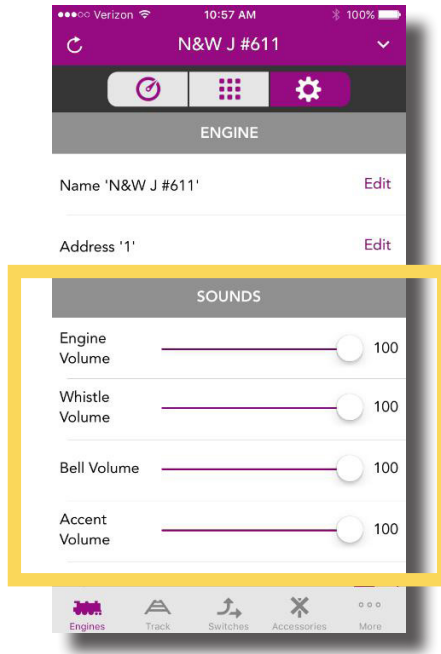
Engine Settings

You can edit the engine name or address by simply tapping **EDIT** shown to the right of both. You can name your engine whatever you like up to 16 characters. You can change your engine address to any available address that is not already assigned to another engine.



Sound Settings

You can edit a variety of sound features to optimize your experience with the DCS sound system. A little more detail follows below each screen shot.



Engine Volume: Tap, Hold, and Drag to adjust primary engine sound volume.

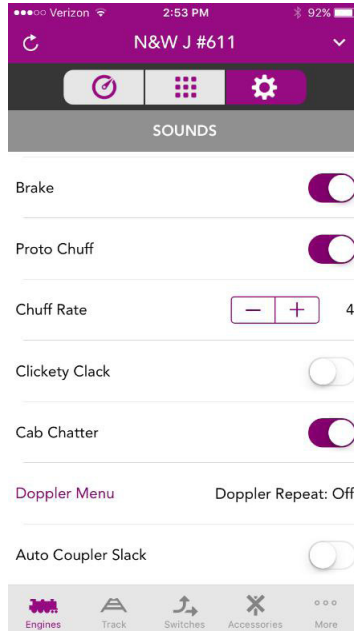
Whistle Volume: Tap, Hold, and Drag to adjust whistle (or horn) volume.

Bell Volume: Tap, Hold, and Drag to adjust the bell volume.

Accent Volume: Tap, Hold, and Drag to adjust the accent sounds volume. These are typically voices and other environmental sounds found in various sound features.

Note: The individual volume settings above remain relative to one another regardless of the overall master volume setting. Think of these settings as being able to customize how your engine's sound features are in relation to one another regardless of the overall master volume.

More Sound Settings



Brake: Tap to toggle the automatic brake sounds on or off.

Proto Chuff: Tap to toggle the Proto Chuff sounds on or off. Proto Chuff automatically plays labor of drift chuffing sounds if you are under heavy acceleration or deceleration (steam engines only).

Chuff Rate: Tap the “-” or “+” to increase or decrease the number of exhaust chuffing sound per revolution of the engines drive wheels (steam engines only).

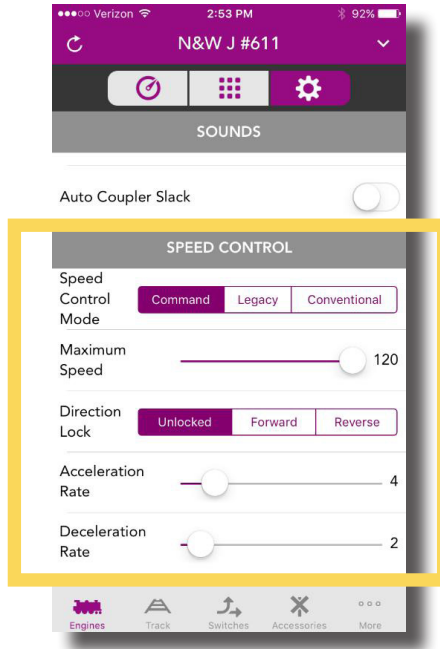
Cab Chatter: Tap to toggle the cab chatter sounds on or off. Cab chatter is voices typically heard when engines are stopped and idling.

Doppler Menu: Tap the Doppler Menu text to open a sub menu that allows you to set a Doppler Loop so the engine will sound as though it is coming from a distance and then traveling away again, off into the distance. For more information, try it or, refer to the DCS manual.

Auto Coupler Slack: Tap to toggle auto coupler slack sounds on or off. Auto coupler slack is the sound of loose couplers being pulled tightly together as the engine pulls away. Setting this to auto results in the sound playing each time the engine pulls away after being brought to a stop.

Speed Control Settings

How your engine moves around the rails can also be customized to your particular operating preferences.



Speed Control Mode: Tap to select Command, Legacy, or Conventional. Command mode is the default digital speed control mode. See the DCS manual for details of Legacy and Conventional.

Maximum Speed: Tap, Hold, and Drag to set the maximum speed for the current engine. The maximum speed will also be indicated on the speedometer on the **MAIN CONTROL SCREEN**.

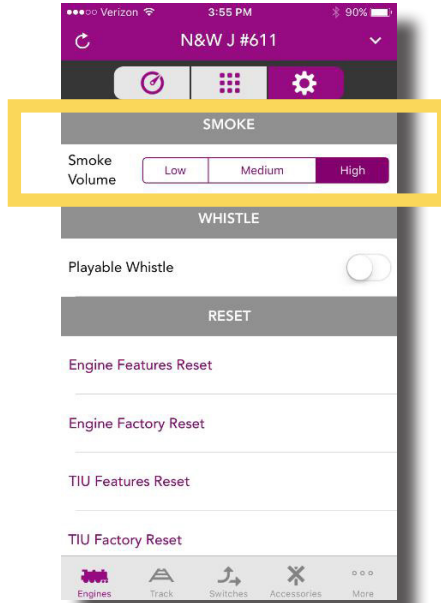
Direction Lock: Tap Forward or Reverse to lock your engine into one direction only. Tap Unlock to return to normal operation.

Acceleration Rate: Tap, Hold, and Drag to set the rate at which the engine accelerates.

Deceleration Rate: Tap, Hold, and Drag to set the rate at which the engine decelerates.

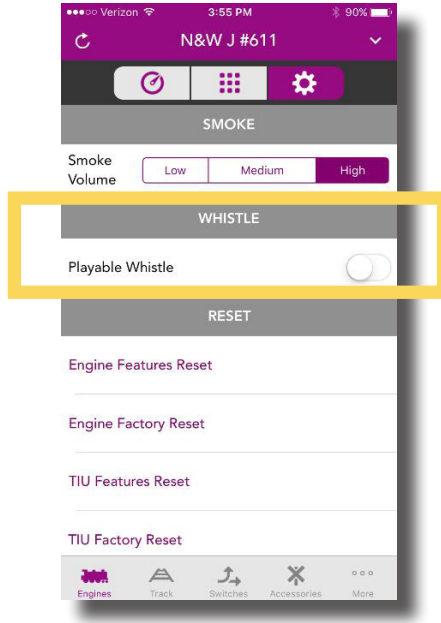
Note: Accel and Decel rates are in increments of scale miles per hour/second. So, the higher the number, the more responsive the engine will be to speed adjustments. Try setting these rates to a low number to simulate the momentum of a long train.

Smoke Settings



Tap Low, Medium, or High to select the desired amount of smoke output.

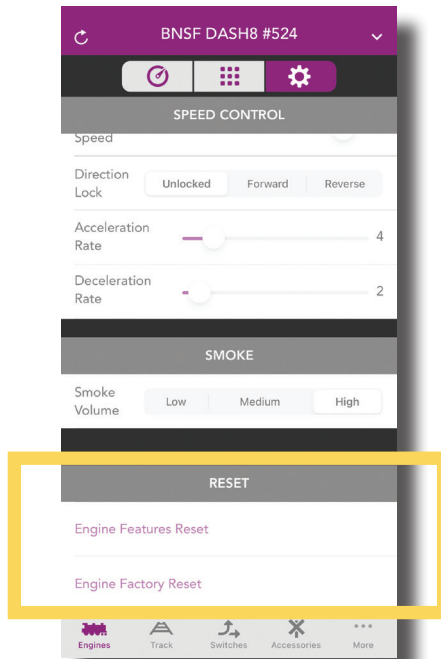
Whistle Settings



Tap to turn the playable whistle on or off (if so equipped). The Playable Whistle state is not stored when the engine is powered down so, you will need to turn it off and back on in the app each time you power up your engine. Your engine's whistle will not play if set to playable and is actually in the default whistle mode.

You can also select the playable whistle by double tapping the whistle rope icon on the main control screen. When selected, the rope turns from white to purple. Double tap a second time to toggle the feature off. The rope will turn white when the playable whistle feature is off.

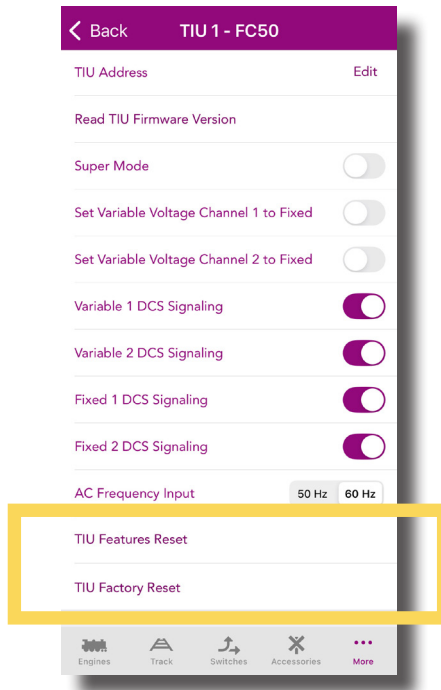
Engine Reset Settings



Engine Features Reset: Tap to reset all features of your engine except the address and custom name.

Engine Factory Reset: Tap to reset the engine to factory defaults.

WTIU Reset Settings



WTIU Features Reset: Tap to reset the WTIU without changing the TIU address. For WTIU reset options tap **MORE** → **ADVANCED FEATURES** → **SYSTEM SETTINGS** → **WTIU SETTINGS** and select the WTIU you want to reset.

WTIU Factory Reset: Tap to factory reset the WTIU.

Navigational Tips

Like any app, once you know the general layout and how to move around, things get much easier. So, here are a few tips to help you find your way around.

Engine Selection

There are several ways to select engines. We've made this simple and intuitive for you.

1. Tapping the **ENGINE NAME** at the top of the screen will toggle between the current engine and the last engine ran.

*Note: If there is only one active engine, tapping the engine name will open the **ENGINE LIST**.*

2. Tapping the **DOWN ARROW ICON** in the upper right of the screen will pull down the **ENGINE LIST**.
3. From the **ENGINE LIST**, tapping any active engine will take you to the **MAIN CONTROL SCREEN** for that engine.
4. From the **ENGINE LIST**, tapping the **UP ARROW ICON** in the upper right of the screen or at the bottom center of the screen will return you to the previous screen.

Main Control, Softkey, and Settings Screens

From any of these screens, a one-finger swipe left or right will move you to the next screen over. If you notice, the three large icons at the top of these screens indicate which screen you are on by turning purple. You can also tap any one of these icons to jump immediately to that screen if you prefer.



Ctrl Icon: Tapping here takes you to the **MAIN CONTROL SCREEN**



Softkey Icon: Tapping here takes you to the **SOFTKEY SCREEN**



Settings Icon: Tapping here takes you to the **SETTINGS SCREEN**

Main Control and Alternate Control Screens

These two screens are probably the most common screen you will use while operating your trains. You can easily switch back and forth between these screens in a couple of different ways.

1. From the **MAIN CONTROL SCREEN**, swipe upward or tap **DBL DOWN ARROW ICON** to move down to the **ALTERNATE CONTROL SCREEN**.
2. From the **ALTERNATE CONTROL SCREEN**, swipe upward or tap **DBL UP ARROW ICON** to move up to the **MAIN CONTROL SCREEN**.

Refresh (Read)






You can Refresh the app to reflect your current operating state in a couple of ways. If you are familiar with DCS, Refresh is essentially the same function as pressing Read on the DCS Remote. This updates the app with the current WTIU/TIU combinations, AIUs, and Engines presently available in the system.

1. Tap the **REFRESH ICON** in the upper left of the screen to update the app with the current status of your layout.
2. From the **ENGINE LIST**, swipe down and release to update the app with the current status of your layout.

Tab Bar

Across the bottom of the screen is the tab bar. The icons on this bar allow you to navigate between major functionalities of the app.



| | |
|--|---|
|  | Engines: Tap here for primary engine controls where you can add, edit, operate, and customize your engines and control preferences. |
|  | Track: Tap here for control of variable power to tracks and DCS signaling preferences. This feature is only available in the premium version of the MTH DCS app. |
|  | Switches: Tap here for control of switches and routes. These features are only available in the premium version of the MTH DCS app. |
|  | Accessories: Tap here for control of operating accessories. These features are only available in the premium version of the MTH DCS app. |
|  | More: Tap here to upgrade your app, access app information, and find links to news, videos, product searches, catalogs, and more! |

Troubleshooting

| CONDITION | POSSIBLE CAUSE(S) |
|--|--|
| No WTIUs Found | Make sure your smart device is connected to the same Wi-Fi Network as the WTIU. In MTH mode, this is the MTH Wi-Fi Network. In HOME mode, this is your home network. |
| | Make sure the WTIU has power applied. Confirm the green power LED is lit. |
| Engine Inactive - will not move to active list | Make sure the engine is on the track and track power is applied. |
| Whistle does not work | Make sure the playable whistle switch position matches the state of the engine. Try again after tapping the switch. |
| The Forward, Reverse, and Crossing signal sounds do not play | Make sure the playable whistle switch position matches the state of the engine. Try again after tapping the switch. |

Service & Warranty Information

Limited One-Year Warranty

M.T.H. products purchased within one year from the date of manufacture are warranted against defects in material or workmanship, excluding wear items such as light bulbs, pick-up rollers, batteries, smoke unit wicks, and traction tires. M.T.H. Authorized Retailers will replace, refund, or credit the defective item if:

- The item was manufactured within the previous year
- It was purchased from M.T.H. directly by an M.T.H. Authorized Retailer or directly from an M.T.H. Distributor by an M.T.H. Authorized Retailer

IMPORTANT NOTE: This warranty does not cover damages caused by improper care, handling, or use. Transportation costs incurred by the customer are not covered under this warranty.

Purchases from eBay or other online auction or selling sites will NOT be covered under warranty unless the seller is an M.T.H. Authorized Retailer.

See our website at www.mthtrains.com to identify an M.T.H. Authorized Retailer near you.

This warranty gives you specific legal rights, and you may have other rights that vary from state to state. Specific questions regarding the warranty may be forwarded to M.T.H. directly.

M.T.H. Electric Trains
7393 Washington Blvd
Suite 101
Elkridge, MD 21075

How to Get Service Under the Terms of the Limited One-Year Warranty

This item carries a one-year warranty from the date of manufacture for the M.T.H. Authorized Retailer who sold the product. The defective item should be returned to the dealer where purchased.

If the dealer has trained service techs, they can offer to repair the item (M.T.H. will supply warranty parts as needed free of charge. If parts are not available a refund will be given to the dealer).

M.T.H. will no longer provide repair service on any products at its corporate headquarters.

If an item is defective and cannot be repaired, it needs to be returned to the original purchasing dealer and the end-user can obtain a refund from the retailer. The original purchasing dealer will then return the item to M.T.H. for credit.

Customers may want to request that their items are tested by the retailer prior to taking the item home. All items are tested by M.T.H. Electric Trains prior to shipment from our production facilities.