DCS EXPLORER

WI-FI TRACK INTERFACE UNIT

USER GUIDE

MTH ELECTRIC TRAINS®

CONTENTS

Product Overview 3
Download and Install the DCS App 4
Using the MTH Network 5
Using your HOME Wi-Fi Network 6
- For Routers with WPS (Wi-Fi Protected Setup) 6
- Routers that Require Manual Set-up (no WPS feature) 6

Using a Wired Ethernet Network 8
LuCI (Web Interface) 9
- Accessing LuCI 9
- Updating WIU Firmware 11
- Changing the SSID and Network Key for MTH Wi-Fi Network Mode 13

APP Tour 15
- Title Screen 15
- Main Control Screen 16
- Engine List Screen 18
- Adding New Engines 19
- Seondary Control Screen 20
- Settings Screen 22
- Navigational Tips 24

Troubleshooting 26
Service & Warranty Information 27

Throughout the manual, you will notice large bold text in either purple, black, or red color. The color of the text indicates what it applies to in order to keep things simple.

PURPLE TEXT	Refers to the WIU. Everything in purple is part of the WIU itself.
BLACK TEXT	Refers to important text. Examples are passwords, search terms, network name, etc.
RED TEXT	Refers to the DCS app. Everything in red is in the app itself.

DCS EXPLORER
PRODUCT OVERVIEW

Reset button
Press and release for Reboot
Press and hold 10 seconds for factory reset

Track
Purple when track power and signals on

Red when track is overloaded

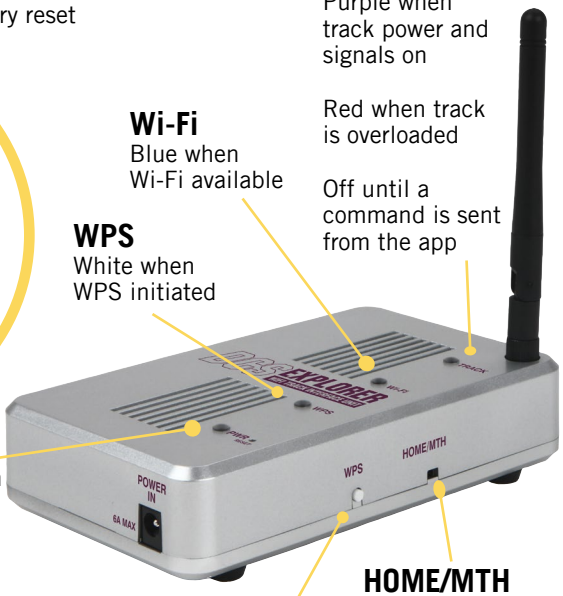
Off until a command is sent from the app

Wi-Fi
Blue when Wi-Fi available

WPS
White when WPS initiated



TRACK OUT
Connect directly to your track



POWER
Green when plugged in

HOME/MTH
Selects between HOME and MTH networks

WPS
"Wi-Fi Protected Set Up"
Press to connect to your WPS capable router

FUSE
Replaceable if necessary



USB
Connect to Ethernet (requires adapter)



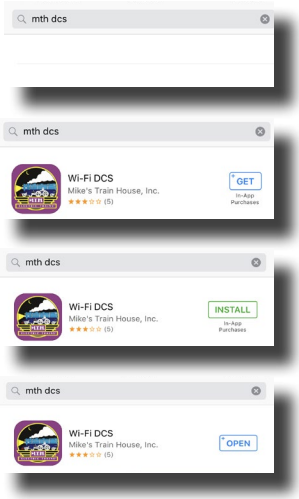
PWR
Connect wall adapter here

FOR MORE PRODUCT INFORMATION, INTRUCTIONS AND SUPPORT, VISIT WWW.MTHTRAINS.COM/50-1035

DOWNLOAD AND INSTALL DCS APP

for iOS and Android

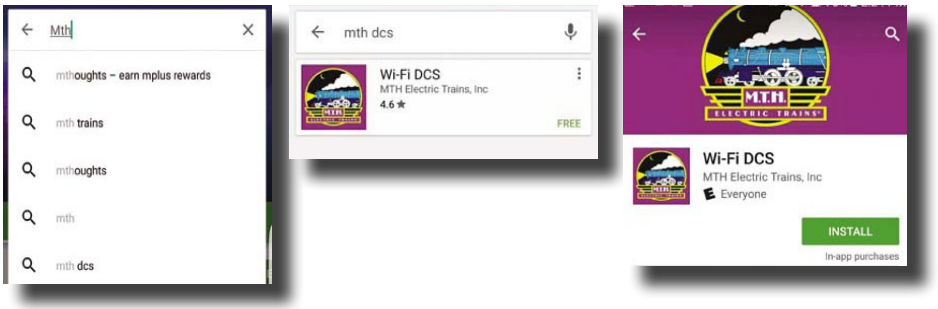
iOS: Get it on iTunes



1. Tap the App Store icon on your Apple device
2. In the lower right of the screen, tap the magnifying glass to search the app store
3. Tap the gray search bar at the top of the screen and type “MTH DCS” without the quotation marks.
4. Tap the blue search button in the lower right corner of the screen.
5. When the MTH Wi-Fi DCS app appears tap “GET” in the upper right area of the screen.
6. Once the app downloads, the “GET” box will change to “Install.”
7. Tap “Install” and the box will change to “Open.”
8. Tap Open to open the app.
9. There will now be an icon on your screen when you want to open the app in the future.

Android: GET IT ON Google play

1. Tap the Play Store icon on your Android device
2. Tap the white bar at the top of the page to bring up the search function.
3. Type “MTH DCS” into the search bar without the quotation marks.
4. Tap on the purple MTH logo for Wi-Fi DCS.
5. Tap on the Install button in the middle of the screen.
6. Once the app is installed, tap open to run your app.
7. There will now be an icon on your screen when you want to open the app in the future.



USING THE MTH NETWORK

In MTH network mode, your DCS Explorer 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 DCS Explorer.
2. Set the **HOME/MTH** selector switch to **MTH**.
3. Connect the DCS Explorer to the track using the red and black track connection included in your set.
4. Connect the included power supply into the DCS Explorer.
5. Plug the DCS Explorer into an AC wall outlet.
6. Wait 1 minute for the WIU to initialize. When ready, the **PWR** and **WI-FI LEDS** will be lit.
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. In your smart device, navigate to Wi-Fi settings 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 DCS Explorer.
9. Open the app and select your DCS system type. The choices are DCS Explorer or DCS WIU. You can change this later in app settings.
10. Tap **RUN MY TRAINS**.
11. Tap **CHOOSE OR ADD AND ENGINE** near the top of the screen and follow the prompts.
12. After adding an engine(s), tap **START UP** and enjoy running your trains in Wi-Fi DCS.

USING YOUR HOME WI-FI NETWORK

In HOME network mode, your DCS Explorer connects with your existing home Wi-Fi network. Just make sure your smart 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.

For Routers with WPS (Wi-Fi Protected Setup)

1. Attach the antenna to the DCS Explorer.
2. Set the **HOME/MTH** selector switch to **HOME**.
3. Connect the DCS Explorer to the track using the red and black track connection included in your set.
4. Connect the included power supply into the DCS Explorer.
5. Plug the DCS Explorer into an AC wall outlet.
6. Wait 1 minute for the DCS Explorer to initialize. When ready, the **PWR** and **WI-FI LEDS** will be lit.
7. Press the **WPS BUTTON** on your home Wi-Fi router and then press and release the **WPS BUTTON** on your DCS Explorer. Note, some routers may require you to press and hold the **WPS BUTTON** for several seconds. Check the manual for your specific router.
8. Wait until the white **WPS LED** on the DCS Explorer is on steadily. It will go off after a few minutes.
9. 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.
10. Make sure your smart device has Wi-Fi turned on and is connected to the Wi-Fi network of the router.
11. Open the app and select your DCS system type. The choices are DCS Explorer or DCS WIU. You can change this later in app settings.
12. Tap **RUN MY TRAINS**.
13. Tap **CHOOSE OR ADD AN ENGINE** the tap **ADD MTH ENGINE** and follow the prompts.
14. 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 WIU.
2. Set the **HOME/MTH** selector switch to **MTH**.
3. Plug the DCS Explorer into an AC wall outlet.
4. Wait 1 minute for the DCS Explorer to initialize. When ready, the **PWR** and **WI-FI LEDS** will be lit.
5. Using A PC 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 module.
6. When prompted, enter the network key **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. Select the **STATION MODE** tab along the top of the screen. Then, select **WIRELESS** from within that tab. Wireless is the only option under Station Mode.
10. In the **ESSID** field, enter the network name (SSID) you want to connect the module to. This is probably the same network you connect your phone or other devices to.
11. If your network is secured (requires a password) then select the encryption type from the drop down menu. If you don't know your encryption type, try the last choice which is mixed mode. If that doesn't work, you will need to obtain your specific encryption type from your router.
12. Enter your home network password in the **KEY** field. This is also known as your **NETWORK KEY**.
13. Click the **SAVE AND APPLY** button in the lower right part of the screen.
14. Remove power from the DCS Explorer and close your browser.
15. Set the **HOME/MTH** selector switch to **HOME**.
16. Follow the instructions for connection to your home network using WPS in the previous section, however, ignore steps 7 and 8. The WIU will now automatically connect to your home network each time it is powered up.

USING A WIRED ETHERNET NETWORK

If you prefer, the DCS Explorer can be hard wired to your network router using standard Ethernet cables and a USB to Ethernet apdapter. 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.

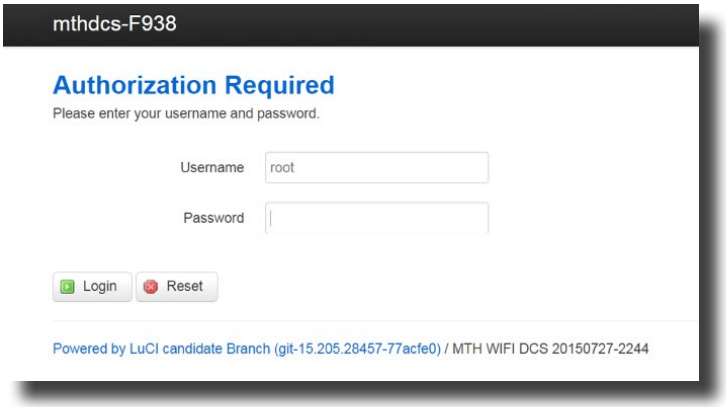
1. Attach the antenna to the DCS Explorer (It isn't necessary of course but, it's a great place to store it!).
2. Set the **HOME/MTH** selector switch to **MTH** (I know, it seems odd but, trust us).
3. Connect the DCS Explorer to the track using the red and black track connection included in your set.
4. Connect the DCS Explorer to your network router using a standard Ethernet cable and USB to Ethernet adapter.
5. Plug the DCS Explorer into an AC wall outlet.
6. Wait 1 minute for the DCS Explorer to initialize. When ready, the **PWR** and **WI-FI LEDS** will be lit.
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 DCS Explorer. Think of is as custom web page used exclusively for accessing advanced set up and features in your DCS Explorer unit. To operate Wi-Fi DCS, most people will not need to access LuCI. However, if MTH releases an update to your DCS Explorer firmware, you will want to meet her.

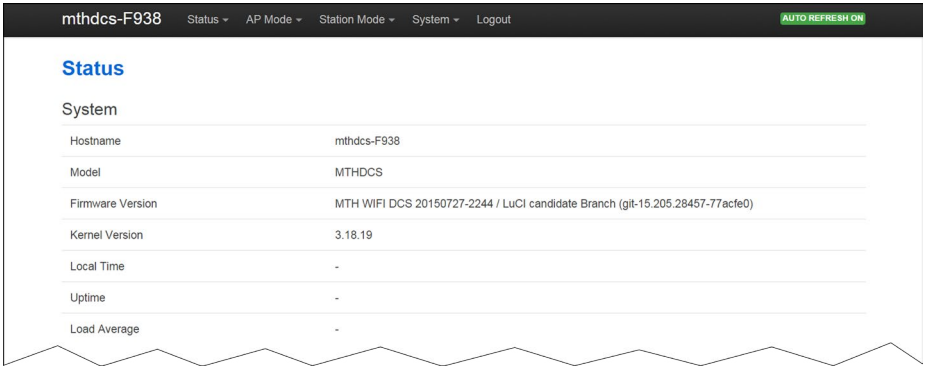
Accessing LuCI

1. Disconnect all cables from your WIU DCS Explorer.
2. Set the **HOME/MTH** selector switch to **MTH**.
3. Plug the DCS Explorer 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 module.
5. When prompted, enter the network key **mthdcswifi** all lower case. The network key is also printed on the bottom of your module.
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.



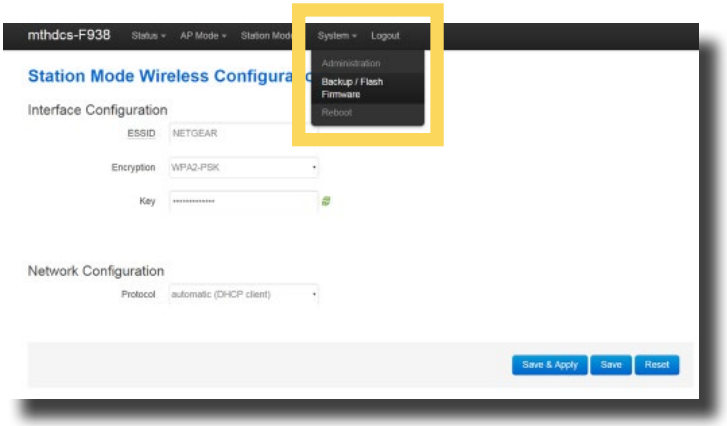
7. Enter the password **MTHDCS** and hit enter. Do not change the username from **ROOT**.

8. The home page of LuCI will be displayed.

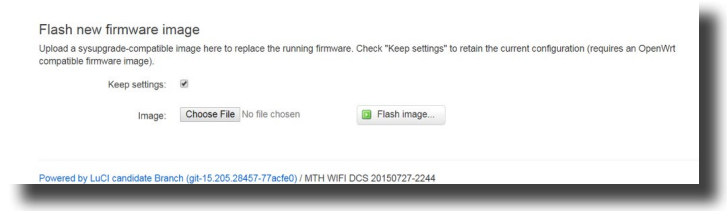


Updating DCS Explorer Firmware

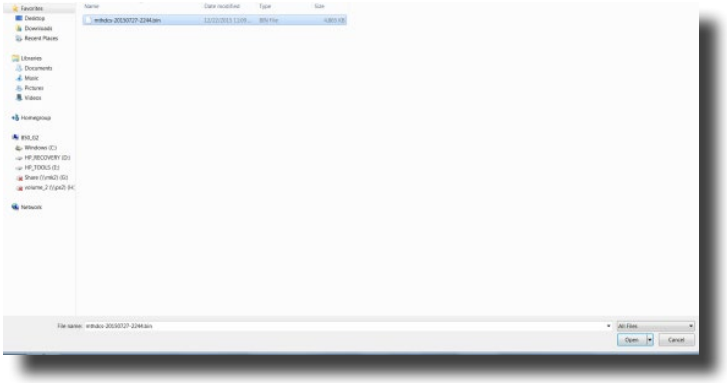
1. Access LuCI (see instructions above in this section).
2. Select the **SYSTEM** tab near the top of the page.



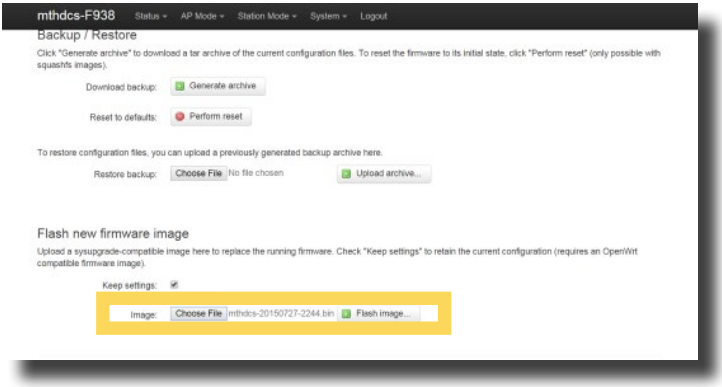
3. Select **BACK-UP/FLASH FIRMWARE** from the drop down list.
4. Scroll down the page until you see **FLASH NEW FIRMWARE IMAGE** near the bottom of the page.



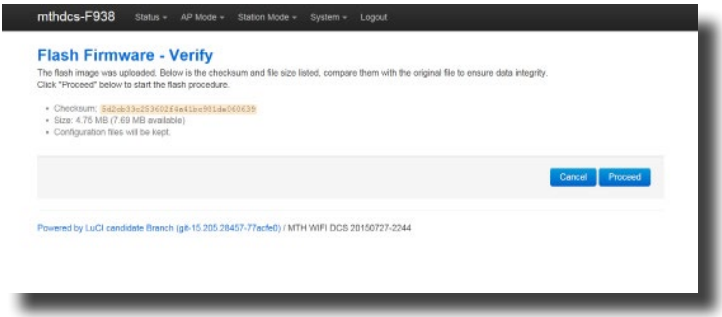
5. Leave the **KEEP SETTINGS** box checked. This saves your network settings.
6. Select **CHOOSE FILE** and navigate to the new firmware filename, select the file, and click **OPEN**.



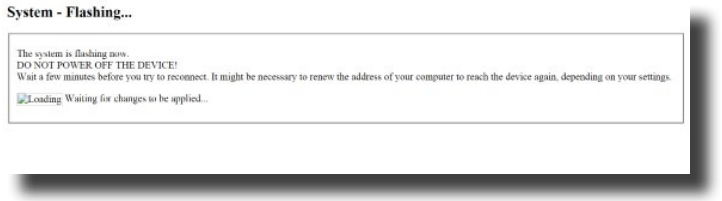
7. Wait until the file window closes (up to 15 seconds). Verify the filename selected is displayed next to the **CHOOSE FILE** button.



8. Select **FLASH IMAGE...**
9. When the **FLASH FIRMWARE - VERIFY** page is displayed, select the blue **PROCEED** button.



10. You should now see the **SYSTEM FLASHING SCREEN**.



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

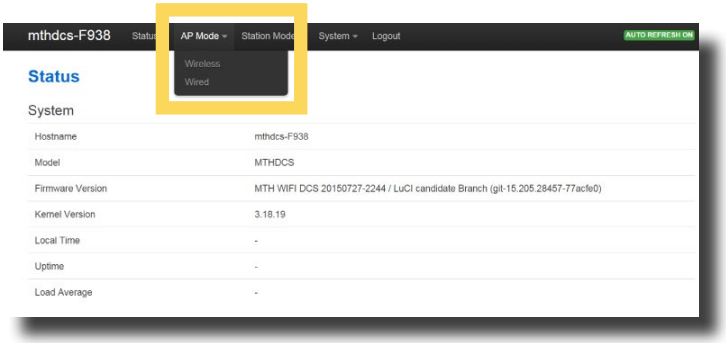
11. After waiting a full 3 minutes, it is now safe to remove power from the DCS Explorer and reconnect it to your layout.

Note: LuCI will never tell you that the step is complete. It will remain on the system flashing screen indefinitely. This is why you must wait 3 minutes.

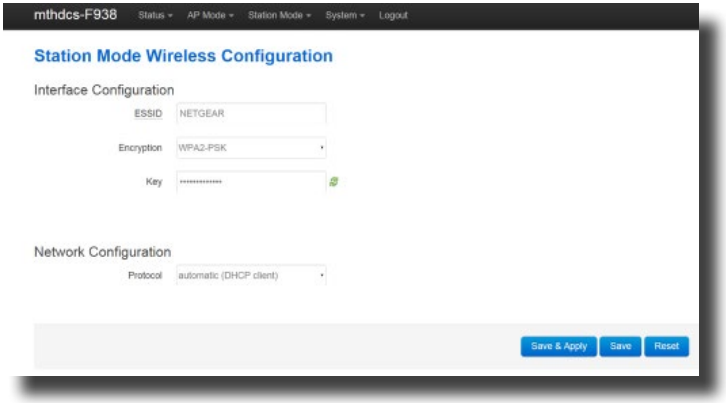
Changing the SSID and Network Key for MTH Wi-Fi Network Mode

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. Select the **AP MODE** tab at the top of the page.



3. Select **WIRELESS** from the drop down menu.
4. Scroll to the top of the page.
5. In the **ESSID** box, delete the contents and enter the new **SSID** or network name.



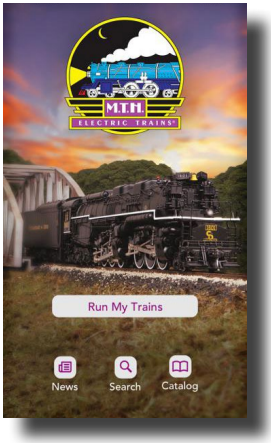
6. In the **KEY** box, delete the contents and enter the new **NETWORK KEY** or password.
7. Scroll down to the bottom of the page and select **SAVE & APPLY**.
8. Close LuCI.
9. Remove power from the DCS Explorer.
10. When power is reapplied, the **SSID** and **NETWORK KEY** (Network name and password) will be changed.

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

APP TOUR

TITLE SCREEN

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

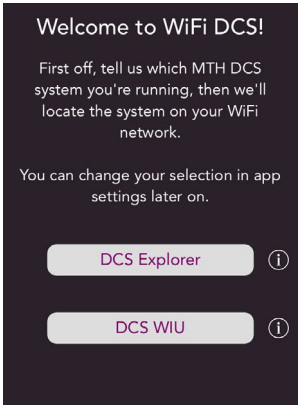


Run My Trains	**Run My Trains:** Tap here to take you to the **MAIN ENGINE CONTROL SCREEN**
	News: While connected to the internet, tap here to sign up for our newsletter or find out the latest happenings at MTH.
	Search: While connected to the internet, tap here to search for products.
	Catalog: While connected to the internet, tap here to browse through all of our catalogs.

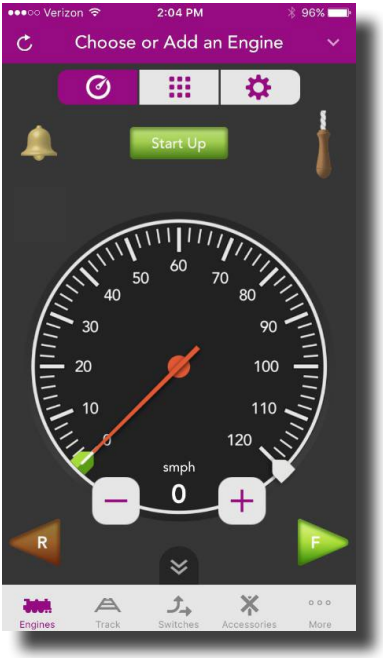
SECOND SCREEN

After selecting "Run My Trains," the next screen you will see is shown here. Select the system you'll be running which is "DCS Explorer."

The system selection screen will pop up when the app is first opened. Thereafter, the system selection screen will not reopen.



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':** 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:** 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.*



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.

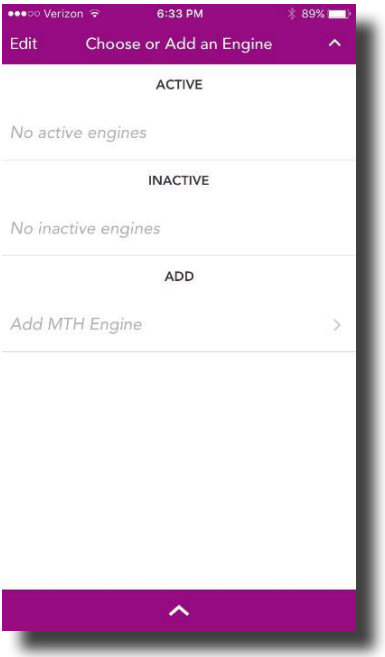
Reverse: Tapping here sets the direction of the engine to reverse.

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.

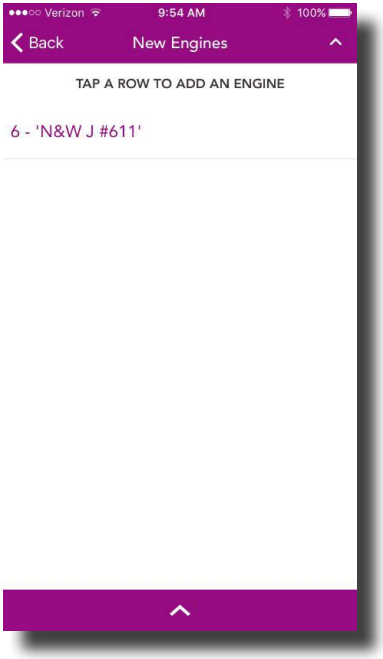


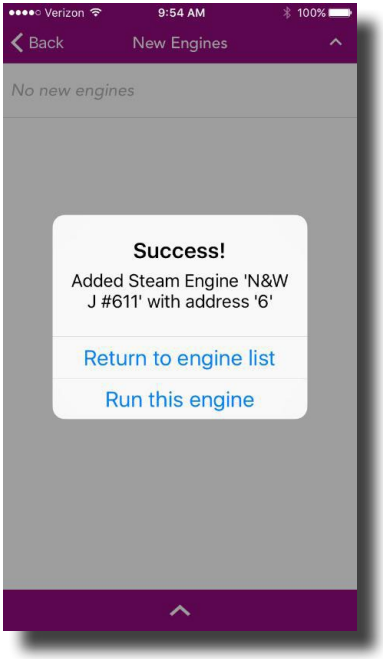
	**Up arrow:** Tapping here closes the **ENGINE LIST**
ACTIVE	**Active:** This section displays the currently active engines. These engines are available to run!
INACTIVE	**Inactive:** This section displays the currently inactive engines. These engines exist in your roster but currently, are not active and ready to run.
ADD	**Add:** Tap **ADD MTH ENGINE** and follow the prompts to add a new engine to your system. The SS app only allows 3 engines to be added to the 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.

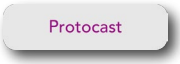
Note: If you are adding multiple engines, the additional option of ADD ANOTHER ENGINE appears. Tap to go back to the list of new engines to add.

SECONDARY CONTROL SCREEN

The Secondary 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.



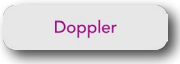
R	**Rear Coupler:** Tap to open the rear coupler (if so equipped)
F	**Front Coupler:** Tap to open the front coupler (if so equipped)
	Headlight: Tap to turn the headlight on or off
	Smoke: Tap to turn the smoke on or off
	Engine Sound: Tap to turn the engine sounds on or off (mute)



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



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



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



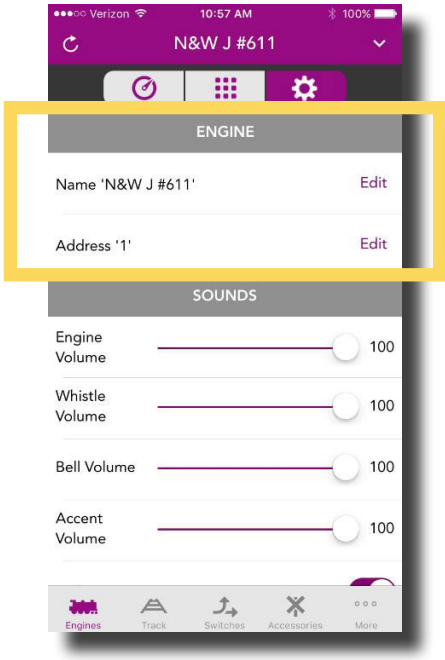
Master Volume Slider: In iOS, **tap, hold,** and **drag the circle** on the slider to set the master sound volume. In Android, **tap the bar** to set the master volume. The percentage is displayed on the right side of the slider.

SETTINGS SCREEN

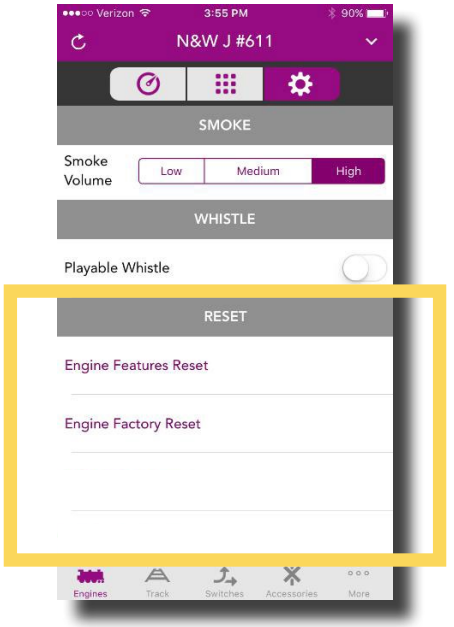
The Settings Screen is where you can tailor your engine's behavior to fit your operating preferences. Like many things in DCS, the settings available are unique to your engine so, there will be differences between steam and diesel engines, for example. Most of these settings are saved in the engine and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



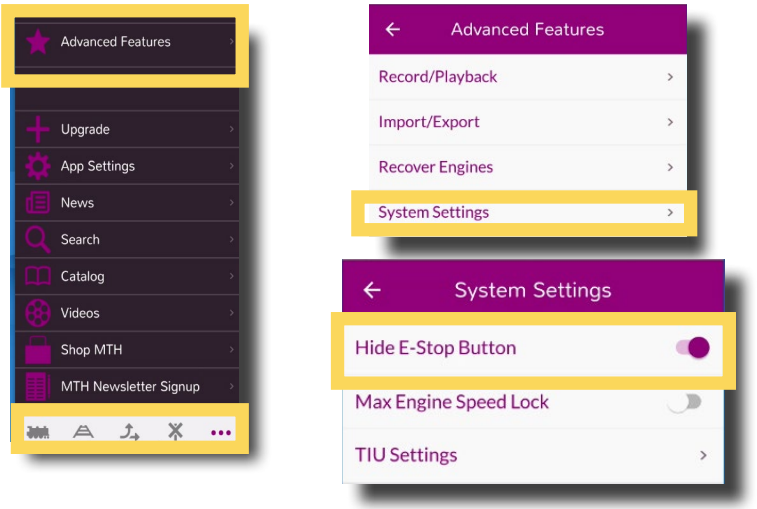
Reset Settings



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.

To Unhide or Hide the E-Stop Feature:
Unhiding E-stop, or Emergency Stop, displays an icon on the main control screen that when pressed for 1 second or more, removes power from the track.



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 and Secondary Control Screens



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

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 **SECONDARY CONTROL SCREEN**.
2. From the **SECONDARY 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.

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 normally allow you to navigate between major functionalities of the app. However, other than the More button, **none of these functions (Track, Switches, Accessories) are available when using the app with the DCS Explorer**. Clicking on the More button will give you access to select features that do function when the app is connected to the DCS Explorer.





Engines: Tap here for primary engine controls where you can add, edit, operate, and customize your



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 DCS Explorer Found	Make sure your smart device is connected to the same Wi-Fi Network as the DCS Explorer. In MTH mode, this is the MTH Wi-Fi Network. In HOME mode, this is your home network. Make sure the TIU 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.
Resetting your DCS Explorer	Use a paperclip or toothpick to press and hold the reset button for 10 seconds then release it. The unit must be powered.

Service & Warranty Information

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

When you suspect an item is defective, please check the operator's manual for standard operation and trouble-shooting techniques that may correct the problem. Additional information may be found on the M.T.H. Website. Should you still require service, follow the instructions below to obtain warranty service.

First, e-mail, write, call or fax a M.T.H. Authorized Service Center (ASC) in your area to obtain Repair Authorization. You can find the list of ASCs on the M.T.H. Website, www.mthtrains.com. Authorized Service Centers are required to make warranty repairs on items sold only from that store; all other repairs may-- or may not be done at the store's own discretion. If you did not purchase the item directly from the ASC, you will need to select a National Authorized Service Center (NASC). These centers are compensated by M.T.H. to perform warranty service for any customer whose repair qualifies for warranty service. A list of NASC retailers can be located on the M.T.H. Website or by calling 410-381-2580. Should the warranty no longer apply, you may choose either an ASC or NASC retailer to service your M.T.H. Product. A reasonable service fee will be charged.

CAUTION: Make sure the product is packed in its original factory packaging including its foam and plastic wrapping material to prevent damage to the merchandise. There is no need to return the entire set if only one of the components is in need of repair unless otherwise instructed by the Service Center. The shipment must be prepaid and we recommend that it be insured. A cover letter including your name, address, daytime phone number, e-mail address (if available), Return Authorization number (if required by the service center, a copy of your sales receipt and a full description of the problem must be included to facilitate the repairs. Please include the description regardless of whether you discussed the problem with a service technician when contacting the Service Center for your Return Authorization.

Please make sure you have followed the instructions carefully before returning any merchandise for service. Authorized M.T.H. Service Centers are independently owned and operated and are not agents or representatives of M.T.H. Electric Trains. M.T.H. assumes no responsibility, financial or otherwise, for material left in their possession, or work done, by privately owned M.T.H. Authorized Service Centers.

If you need assistance at any time email MTH Service at service@mth-railking.com, or call 410 381-2580.

Limited One-Year Warranty

All M.T.H. products purchased from an M.T.H. Authorized Retailer are covered by this warranty provided the product was manufactured within five years of the date of purchase. This warranty is for the original purchaser and is non-transferable.

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

M.T.H. products may be registered online in advance of warranty work at **www.mthtrains.com/warranty**. The original sales receipt and the conditions below must be met regardless of whether the product is registered on the M.T.H. website in order to obtain warranty service.

M.T.H. products manufactured within five years from the date of purchase are warrantied for one year against defects in material or workmanship, excluding wear items such as light bulbs, pick-up rollers, batteries, smoke unit wicks, and traction tires. We will repair, replace, or credit (at our option) the defective part without charge for the parts or labor if the following conditions are met: (1) the item is returned to an M.T.H. Authorized Service Center* (ASC) or M.T.H. National Authorized Service Center (NASC) or M.T.H. Electric Trains Service Department, (2) was manufactured within the previous five years and (3) was purchased within one year of the original date of purchase from an M.T.H. Authorized Retailer. Products manufactured after the five year cutoff from the date of purchase are not covered under any warranty by M.T.H. Electric Trains. The manufacture date of an item can be verified on the item's detail page "shipping date field" on the M.T.H. website (www.mthtrains.com). 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.

Items sent for repair must be accompanied by a return authorization number, a description of the problem, and a **copy of the original sales receipt from an M.T.H. Authorized Retailer**, which gives the date of purchase. If you are sending this product to an Authorized Service Center, contact that Center for their return authorization.

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.

*Authorized Service Centers (ASC) are only obligated to provide warranty service for any consumer who has purchased the specific M.T.H. item from them that requires service work.

Service Department:
M.T.H. Electric Trains
7020 Columbia Gateway Drive
Columbia MD 21046-1532