LNWI Advanced Options

Status LEDs:

The LNWI has two status LEDS Green ID indicator and a Red OPS indicator. The state of these indicators can be interpreted to provide status information and also some useful diagnostic insights.

Table 1: Status LEDs

LED Status	Indicates
Green ID indicator mostly lit, winking OFF every 3 seconds	LNWI is powered and connected to LocoNet
Green ID indicator mostly off, blinking ON every 3 seconds	LNWI is powered and LocoNet is not connected or sleeping
Green ID indicator winks OFF	LNWI received a good LocoNet Message
Red OPS indicator blinks ON	LNWI received a good Wi-Fi message
Green ID and Red OPS indicators alternating blinking ON	LNWI is in OPSW mode
Green ID indicator blinking steady OFF/ON, OPS indicator blinking slow OFF/ON	LNWI is receiving an IPL update
Green ID indicator is blinking steady OFF/ON	LNWI is waiting for an IPL update

Customizing your LNWI: Setting up Option Switches

The LNWI can be customized by setting option switches. The available option switches are located in Table 2: Option Switches. Option switches are set by using your Throttles SWITCH commands. Please refer to your throttle manual for instructions on your throttles SWITCH mode.

How to Read Back and Change LNWI Option Switches (OpSw):

1. Power up your LNWI and connect it to LocoNet
2. Connect a Digitrax throttle to one of the LNWI's LocoNet connectors
3. Press the OPS button. The Green ID and Red OPS indicators should start alternating blinking ON.
4. Go to SWITCH mode on your throttle and dial up the switch number you wish to change. Issue a thrown "t" command or a closed "c" command to set the OpSw. The OpSw is set once the command is issued.
5. Once all option switches are configured press the OPS button again to exit Option Switch mode.

OpSw	Functions	Default
01	Sets Net number 0-7: OpSw 1-2-3	c
02	t-t-t=0	c
03	c-t-t=1 t-c-t=2	c

	c-c-t=3 t-t-c=4 t-c-c=6 c-c-c=7	
04	Sets Wi-Fi Channel Number 1-11: OpSw 4-5-6-7 (Note: any combination not listed here will default to channel 1)	c
05		t
06	c-t-t-t = 1	t
07	t-c-t-t = 2 c-c-t-t = 3 t-t-c-t = 4 c-t-c-t = 5 t-c-c-t = 6 c-c-c-t = 7 t-t-t-c = 8 c-t-t-c = 9 t-c-t-c = 10 c-c-t-c = 11	t
10	t= allow release of unselected Loco c= disallow release of unselected Loco	t
11	t= allow change NetName on UR92 update c= disallow change NetName on UR92 update	t
12	t= allow change Channel # on UR92 update c= disallow change Channel # on UR92 update	t
13	t= allow change Net Number on UR92 update c= disallow change Net Number on UR92 update	t
14	t= enable SWITCH commands from WiFi devices	t

	c= disable SWITCH commands from WiFi devices	
15	t= enable FAST CLOCK settings from WiFi devices c= disable FAST CLOCK settings from WiFi devices	t
17	t=disable WPA2 security c=enable WPA2 security	t
18	t=use custom WPA2 passcode (digitraxXXXX) c=override WPA2 passcode to “digitrax1234”	t
40	c=Factory Reset all settings	t

Table 2: Option Switches

Enabling WPA2 Wi-Fi Security:

Enabling Wi-Fi security will allow you to prevent unauthorized users from connecting to your LocoNet by requiring a simple passcode. This is useful in multisystem environments when you may want to restrict access to your layout and LocoNet control.

To enable Wi-Fi security you must set OpSw 17 to Closed (c), and then configure the password. Setting OpSw 18 = c will force the LNWI passcode to “digitrax1234”. Alternately, the password can be customized using either a Duplex Radio Super Throttle in Net Setup mode with a UR92, or by using an attached computer and the DigiGroupSetup Utility available at www.digitrax.com/downloads.

To Customize your LNWI Passcode:

1. Enter Option Switch mode.
2. Set OpSw 17 = closed
3. Set OpSw 18 = thrown
4. Exit option switch mode
5. Use DigiGroupSetup to set the password key as XXXX or use a Duplex Radio Super Throttle and a UR92 to set the password key to XXXX. Follow the directions in your throttle or UR92 manual to change the passcode setting.
6. All active connections will close, and you will need to reconnect to the LNWI.
7. The LNWI network should now show up as a secured connection, the WPA2 password is “digitraxXXXX” where the XXXX equals the number set in step 5.

Note: If OpSw 18 = closed the passcode will always be “digitrax1234” regardless of customized settings. Customized passcodes are stored until they are changed, OpSW 18 = c simply forces the LNWI to use “digitrax1234”. If key is set to 0000 WPA2 security will not be active.

LNWI SSID: WIFI Channel #, Net Name, LNWI # and Net # configuration:

Each LNWI uses its SSID as a unique identifier, this also provides human readable configuration information. By default, your LNWI will use the SSID “Dtx1-LnServer_XXXX-7” where XXXX is the unique LNWI serial number. Each LNWI is shipped from the factory with a fixed unique LNWI serial number.

The LNWI SSID can be broken down as follows:

Fixed DTX ID	WiFi Channel #	Net Name	Unique LNWI serial #	Net #
Dtx	1-	LnServer	_XXXX	-7

If desired the SSIDs of each LNWI can be manually configured. Channel Number, Net Name, and Net number can all be customized. The LNWI serial number cannot be changed. The LNWI WiFi channel # and Net Name can be configured using a Duplex Radio Super Throttle in Net Setup mode with a UR92, or by using an attached computer and DigiGroupSetup. Net number must be set by OpSw 1-3. DigiGroupSeup is available at www.digitrax.com/downloads.

Note: When using either a Duplex Radio Super Throttle in NT Setup mode with a UR92, or by using an attached computer and the DigiGroupSetup Utility when customizations are sent they will apply to all UR92s and LNWIs attached to the LocoNet. Individual units would need to be isolated to set different customized SSIDs.

Customizing LNWI WiFi Channel Number:

The LNWI WiFi channel number can be changed using OpSw 4-7. Please refer to the OpSw table for appropriate settings.

Alternately, the WiFi Channel Number can be customized using either a Duplex Radio Super Throttle in Net Setup mode with a UR92, or by using an attached computer and the DigiGroupSetup Utility. DigiGroupSeup is available at www.digitrax.com/downloads. When using these methods, the channel number will correspond to the Duplex Group (RF) Channel setting minus 10. Valid RF settings are 11-21 corresponding to WiFi Channels 1-11.

Duplex Group (RF) Channel	**WiFi Channel #**
11	1
12	2
13	3
14	4
15	5
16	6
17	7
18	8
19	9
20	10
21	11

Follow the directions in your throttle or UR92 manual to change the Duplex Group (RF) Channel settings, or use the DigiGroupSetup utility. After applying changes, the LNWI will close all active connections and reset the SSID. You will need to reconnect any Wi-Fi Devices and apps you were using.

Customizing Net Number:

The LNWI Net Number can only be changed using OpSw 1-3. Please refer to the OpSw table for appropriate settings. Once you have made changes and exited OpSw mode, the LNWI will close all active connections and reset the SSID. You will need to reconnect any Wi-Fi Devices and apps you were using.

Changing this setting will modify the IP subnet that the LNWI uses. This is important to note that if you are using an app that does not automatically detect LNWI modules you will need to manually enter IP information. If you customize the Net Number the appropriate IP address to use will be 192.168.XX.1 where XX is equal to the customized Net Number. The port number will remain 12090.

Customizing Net Name:

The LNWI Net Name can only be customized using either a Duplex Radio Super Throttle in Net Setup mode with a UR92, or by using an attached computer and the DigiGroupSetup Utility.

Follow the directions in your throttle or UR92 manual to change the Duplex Group Name settings, or use the DigiGroupSetup utility. After applying changes, the LNWI will close all active connections and reset the SSID. You will need to reconnect any Wi-Fi Devices and apps you were using.

Updating the LNWI to the Latest Firmware:

Occasionally Digitrax makes updates and improvements to the operational code of its products. In order to update your LNWI you will need to have a computer to LocoNet interface, such as a DCS240 or PR3. You will also need the DigiIPLII utility and the latest firmware (.dmf) file. Complete update instructions and the latest firmware files visit http://www.digitrax.com/downloads/.

Note: If a firmware update is unsuccessful the LNWI can be forced into IPL mode by pressing both the OPS and ID buttons while powering the unit on.