

# UR92CE

Works with Digitrax  
Duplex & InfraReady  
Throttles

## Duplex Transceiver/IR Receiver

CE Certified For Digitrax Duplex  
Equipped LocoNet Throttles in EU

### Features:

- LocoNet makes it easy to add Duplex Radio (UR92CE) to your layout. It works alongside Infrared (UR90) at the same time, so you can use both technologies together.
- Provides a Full Duplex link to/from the layout with Digitrax Duplex Equipped Throttles.
- Supports simplex InfraRed operation with all Digitrax InfraReady Throttles.
- Supports dozens of duplex throttles operating at the same time.
- One UR92CE provides adequate coverage for most layouts.
- Duplex range is approximately a 300 ft diameter circle.
- Group Name feature allows multiple Duplex Equipped layouts to operate independently in close proximity to each other, such as at a train show.
- CE/ETSI 300 compliant.

\* While the 2.4GHz band is in use worldwide, the UR92CE may only be operated in countries where it is certified or type accepted for use in that country.

### Parts List

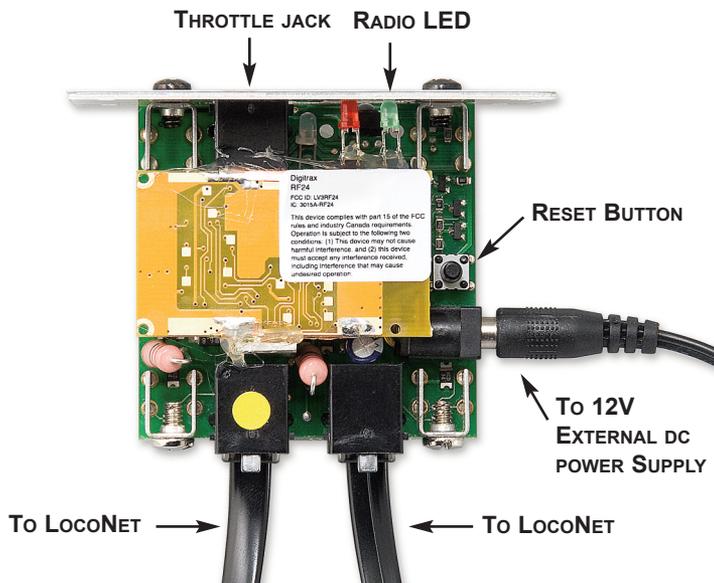
- 1 UR92CE Duplex Transceiver/IR Receiver Panel
- 1 2' LocoNet cable
- 1 This Instruction Sheet





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## UR92CE Installation/Quick Start



The UR92CE is simple to install and begin using on your LocoNet layout.

1. In most cases a UR92CE should be situated near the physical center of a layout. Its range is a circle of approximately 300 feet across, which will be adequate for most layouts. Some layouts may require additional UR92CEs for adequate signal coverage.
2. Connect the 12V External Supply to your UR92CE via the **2.1mm center positive DC power jack on the side of the UR92CE**. Plug the 12V External Supply into wall outlet. The green and red LEDs should blink and then the red LED should stay on.
3. Connect the UR92CE to your working LocoNet system using one of the RJ12 jacks at the rear of the UR92CE. The red LED will go off and the GREEN **RADIO** LED will blink at a 2-second interval to indicate that it is working and set up for duplex radio operation.
4. If your layout has UR90s installed, re-set the LocoNet ID by plugging in any DT402x throttle while holding down the **EDIT** Key. Release the **EDIT** Key. Use the R throttle knob to set the LocoNet ID (00-07) you want to use and press Enter to complete LocoNet ID set up. As infrared throttles plug in to LocoNet, they will log on to the LocoNet ID automatically and both technologies will work together.

**That's all that's required for installation of your UR92CE on LocoNet!**



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## Join Your Throttle to the Duplex Group

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1. Connect a DT402DCE Duplex Radio Throttle with a known good installed battery to the front RJ12 jack of an installed UR92CE for about 2 seconds until the throttle initializes.
2. Disconnect the DT402DCE from the LocoNet jack. The DT402DCE will briefly display an 8 character Duplex Group name and the Channel number being used by the UR92CE Group. The actual Duplex Group name is not important at this point, it is simply used by the DT402DCE to join this Duplex group on its particular Duplex channel (#11 through #26). If your throttle shows "Idle" at this point, simply plug in and allow the throttle to re-initialize.
3. Now that the DT402DCE has joined the Duplex group, it can be operated wirelessly as if it were plugged in to the LocoNet system.
4. Use the DT402DCE throttle to select one of the locomotives on your system. The UR92's GREEN **RADIO** LED will blink simultaneously to show that good duplex messages are being sent and received. If the RF transmissions are not acknowledged by the UR92CE, the DT402DCE will blink its white "flashlight" LED to show there is a duplex communication problem. This usually indicates a range or interference issue. (See troubleshooting section.)
5. DT402DCEs remember the last joined Duplex Group, even if the batteries are removed, so when re-powered they will automatically wirelessly rejoin this particular Group if it is within duplex radio range.

*This 'tethered' method of joining the UR92CE Duplex Group will always work to join any Duplex throttle to a particular Duplex Group. You can also join in wireless mode! See the DT402DCE manual for instructions on joining a Group without plugging in.*

## Troubleshooting Your Installation

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To get the best performance out of your duplex radio installation, walk around the layout and check Duplex operation to be sure you have adequate signal coverage.

Depending on the layout size, geometry and surrounding materials it is often possible to move the UR92CE(s) to better cover dead spots. Experimenting with UR92CE location will usually help you locate a position that is best for your layout. Note that DT402DCE orientation and body position of you and your operators may also affect the UR92CE's range and reception.

On very large layouts or layouts with problem areas, it is possible to add more than one UR92CE. Adding extra units will automatically provide space-diversity coverage and reliability. Adding multiple UR92CEs is covered in the Advanced Installation and Customization section of these instructions.

If duplex range is poor, it may be due to interference from a Wireless LAN or similar device operating continuously on the same channel. The next section outlines several ways to avoid interference and congestion from other devices.



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## **Advanced UR92CE Installation and Customization**

**Adding UR92CEs** will provide better signal coverage for complex layouts. If you are adding more than one UR92CE be sure to connect all of the units to LocoNet before changing the Duplex Group name or channel number. This will prevent the units from automatically re-negotiating these values with each addition.

1. Add the UR92CE(s) to your LocoNet. (See UR92CE Installation section.)
2. After adding extra UR92CEs, use the DT402DCE to turn OFF layout track power and then turn track power back ON. This forces all the UR92CEs to automatically negotiate a common Duplex Group name and channel number. (Your Group name may change with each UR92CE addition.)
3. Rejoin the DT402DCEs by either the tethered (described above) or untethered method (described in the DT402DCE manual) to use the newly established Duplex Group name and channel.

**Setting Duplex Group Name:** You can use the DT402DCE to edit the UR92CE's Duplex Group name to one you choose. This change is optional, and the UR92CE factory default will work out of the box with no change. You should have all UR92CEs connected to the layout before changing the Duplex Group Name or they will automatically renegotiate and may change the preferred name to a default.

1. Connect the DT402DCE to the front RJ12 jack of any UR92CE on the LocoNet.
2. On the DT402DCE press the **OPTN** key and then the **EDIT** key.
3. The 8 character Duplex Group name will appear in the display center.
4. Use the **R** Throttle knob to change the first character value. It will blink as it is changed. When the desired character is seen, use the **L** Throttle knob to move across and select a character to modify.
5. Press the **ENTER** key to update the current displayed characters as the new UR92CE Duplex Group Name. To skip making any changes, simply press the **EXIT** key.
6. After changing the Duplex Group Name, your other DT402DCEs will need to rejoin to use this new Group Name. **Note:** As long as Duplex Group Name is unique, it is generally possible to run dozens of different layouts on the same channel number in close proximity.

**Setting the Duplex Group Channel:** You can use this capability to move the duplex channel away from signal interference caused by other devices.

1. Connect the DT402DCE to the front RJ12 jack of any UR92CE on LocoNet.
2. On the DT402DCE press the **OPTN** key and then the **EDIT** key. The Group channel number (11-26) will now show in the lower left hand side of

the display.

3. Use the **Y / +** key to change to a higher channel in the available range of 11 through 26. The **N / -** key will change to a lower channel.
4. Press the **ENTER** key to update the currently displayed channel as the new UR92CE channel to be used with the Duplex Group Name.
5. After changing the channel all DT402DCEs will have to rejoin to use this new channel. To skip making any changes, simply press the **EXIT** key.

**Note:** If you suspect a Wireless LAN or other device is causing interference and limiting range, you can change the channel as above, and search through all available 16 channels to find one that gives the best coverage.

See additional resources at [www.digitrax.com](http://www.digitrax.com). There are additional utilities to let you scan the layout environment for any signals using the installed UR92's as scanners and to easily update your Duplex Group name, channel and to set up a Password to protect your Group from unauthorized access.

## Resetting Factory Defaults

You are unlikely to encounter a problem that will require a factory reset. One such instance may occur if you set a Password for your Duplex Group Name and forget what it is. Resetting to factory default condition is an easy way to correct the situation.

1. Disconnect the UR92CE(s) from the LocoNet. If you have more than one UR92CE in your layout, you must disconnect all of them to do a full factory reset on each unit as follows.
2. Disconnect any throttle that is plugged into the UR92CE.
3. Leave the 12V External Supply connected to the UR92CE and to the wall outlet.
4. Press and hold the button (next to the power supply jack) for two seconds or until both the red and green LEDs begin to blink. Release the button.
5. When the lights stop blinking, unplug the power supply.
6. Reconnect the 12V External Supply to the UR92CE. The green and red LEDs will blink and then the red LED will stay on.
7. Connect the UR92CE to your working LocoNet system using one of the RJ12 jacks at the rear of the UR92CE. The red LED will go off and the GREEN **RADIO** LED will blink at a 2-second interval to indicate that it is set up for duplex radio operation and is working.
8. The UR92CE is now set to the factory default Group Name of Dtxnnnn (where "nnnn" is the unit serial number) and Channel 11.



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## **EC Declaration of Conformity**

We: Digitrax Inc,  
2443 Transmitter Rd  
Panama City Florida, 32404  
USA

declare that our manufactured models:

### **Digitrax DT402DCE and UR92CE**

meet the intent of the EMC Directive 2004/108/EC and the Low Voltage Directive 2006/95/EC. Compliance was demonstrated by conformance to the following specifications, which have been listed in the Official Journal of the European Communities.

#### **EMC**

Emissions: EN55022 (2006) Radiated, Class B  
EN55022 (2006) Conducted, Class B  
ETSI EN 300 328 V1.7.1

Immunity: EN61000-4-2 (2005) Electrostatic Discharge  
EN61000-4-3 (2005) Electromagnetic Field  
EN 301 487-17

[Signature in Original Document]

AJ Ireland  
VP Engineering  
18 January 2011

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## Warranty

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Digitrax gives a one-year “no worries” warranty against manufacturing defects and accidental customer damage on all Digitrax products. That’s it! Simple, straightforward warranty, no tricky language!

All warranties on Digitrax products are limited to repair or replacement of Digitrax products at the discretion of Digitrax. Except to the extent expressly stated, there are no warranties, express or implied, including but not limited to any warranties of merchantability or fitness for a particular purpose.

For items that are no longer covered under warranty, whenever possible we will make repairs to units at fair and reasonable rates.

Please visit our warranty and repair page at [www.digitrax.com/warranty](http://www.digitrax.com/warranty) for warranty and repair information and procedures.

*Digitrax, Inc. reserves the right to make changes in design and specifications, and/or to make additions or improvements in its products without imposing any obligations upon itself to install these changes, additions or improvements on products previously manufactured.*

***Digitrax, Inc. is not responsible for unintentional errors or omissions in this document.***



UR92CE

Duplex Radio Transceiver/IR Receiver for LocoNet

# Go Beyond DCC With



# Complete Train Control

## Main Station

Starter Sets  
LocoNet®  
Power Supplies



Your Digitrax LocoNet® Starter Set is just the beginning of an exciting trip! Pick the one that's right for you!



LocoNet®  
The Digitrax Difference

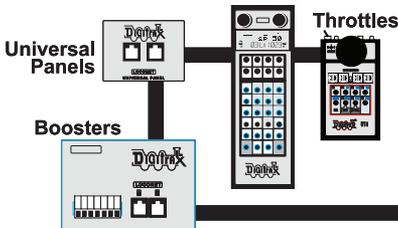
## Locomotive Shops

Mobile Decoders  
Function Decoders  
SoundFX™ Decoders



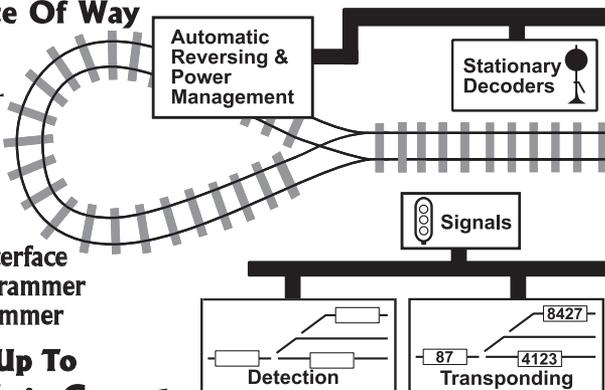
## More Fun For Everyone

Add More Boosters, Advanced & Simple Throttles, Universal Panels, IR and/or Radio for more trains and operators.



## Maintenance Of Way

Make your layout more fun & simpler to operate!



## Computer Controls

Computer Interface  
Decoder Programmer  
Sound Programmer

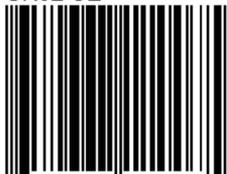
## It All Adds Up To Complete Train Control



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UR92 CE



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