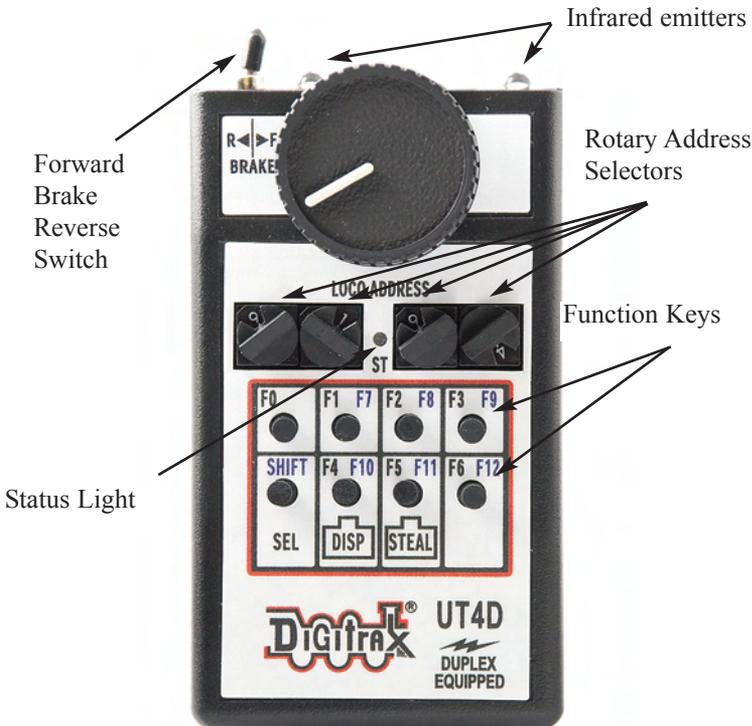


# UT4D Duplex Equipped Radio Utility Throttle User Manual



The UT4D is a low cost, simple-to-operate duplex equipped radio throttle:

- Duplex Equipped Radio operation with UR92 Duplex transceiver
- InfraRed operation with UR90, UR91 or UR92
- Supports 2 & 4 digit addressing
- Built for operation
- Features a large knob for precise speed control
- Features a three position toggle switch for Forward, Brake and Reverse
- Simple address selection with rotary selectors
- UT4D can't program decoders, turnoff layout power or throw turnouts



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### **Joining a Duplex Group For The First Time With UT4D:**

1. Insert a known good 9 volt battery into the UT4D.
2. Plug the UT4D into a LocoNet port on a layout equipped with a UR92 transceiver to join that layout's Duplex Group.
3. After the UT4D has joined a Duplex Group, any time a battery is inserted into the UT4D while it is unplugged, it will search for that Duplex Group. The UT4D will join the Group if it is within range.
4. When the throttle has re-joined the Group, the Status light will blink Green 5 times. The UT4D then will attempt to select the Loco address on the 4 rotary address selectors.
5. If the UT4D's Status light blinks red 5 times this means that no UR92 with the Group Name is within range. You may need to move closer to the UR92 for the Duplex group to re-join the Group or you can simply plug in to LocoNet to join another Duplex Group that is available.

### **Loco Selection: (Acquiring a locomotive address to operate on UT4D)**

1. Dial up the desired 2 or 4 digit address using the 4 rotary address selectors. Addresses from 0000 through 9983 are supported by UT4D. (2-digit addresses are entered in the 2 right hand selectors, example 0025)
2. If a Duplex Group has been joined wirelessly, simply press the SEL key to begin operating the loco address, otherwise plug the UT4D into a LocoNet port and automatic selection of the address will occur.
3. The Status light will blink Green about once per second to confirm the address selection.
4. If the Status light is blinking Red, this means the loco address shown on the address selectors is not selected or is already selected by another throttle (see Stealing below if you want to steal the loco from the other throttle).

If the selected loco is already moving, then the loco's speed will gradually match the current speed setting of the UT4D. This means that if you've selected a train that's moving forward at approach speed, and the UT4D throttle is set to zero, when selection occurs, the train will slowly come to a stop.

### **Forward/Brake/Reverse Control Switch**

Changing the Direction switch from 'Forward'(F) to the center 'Brake' position causes the loco to stop at the loco's programmed deceleration rate. Changing quickly from 'F' to 'R' causes the loco to stop at the programmed deceleration rate, then reverse direction and accelerate at the loco's programmed acceleration rate.

### **Release a Locomotive Address and Dispatch Address from UT4D:**

When you are finished running a particular locomotive address, you can release it from the UT4 by changing the position of the rotary address selectors. You can also Dispatch the address so that it is specially identified as the just released loco so that another user can take control of it.



**To release or dispatch, a loco under current UT4D control:**

**Duplex Radio Mode:** (not plugged in and joined to a UR92 Group)

1. Change the rotary address selectors to a different address. The Status light will change to blinking red showing that the loco address is *released*.
2. (Optional Dispatch Step) Press the Dispatch key if you wish to Dispatch this loco address and make it available for selection by another throttle as a Dispatched loco address.

**IR Mode:** (not plugged in)

1. Be sure the UT4D Infrared emitters are pointed at a UR panel. Change the rotary address selectors to a different address. The Status light will change to blinking red to show the loco address is *released*.
2. (Optional Dispatch Step) Press *and hold* the Dispatch key.
3. Plug the throttle into a LocoNet port *then release* the Dispatch key.

**Walkaround Mode:** (wired operation, plugged in to LocoNet)

1. Change the rotary address selectors to a different address. The Status light will change to blinking red to show the loco address is *released*.
2. (Optional Dispatch Step) Press the Dispatch key if you wish to also Dispatch this loco.

**Stealing:** Stealing is defined as acquiring control of a loco address that is being used currently by someone else on another throttle. To ensure the locomotive does not get conflicting speed and direction commands, it is best to ensure the other throttle has released this address.

**To ‘Steal’ a loco address:**

**Duplex Radio Mode:** (not plugged in and joined to a UR92 Group)

1. Change the address selectors to desired address
2. Press the Steal key . The Status light will start blinking green to show the loco is now selected after being stolen from another throttle.

**IR mode (no UR92) or Wired Mode :**

1. Release the loco address and unplug the UT4D from LocoNet.
2. Dial up the address of the loco you want to steal.
3. Press *and hold* the ‘STEAL’ key while plugging the throttle into a LocoNet jack. Note: To steal or dispatch another loco, you must unplug the UT4D and repeat the above sequence.



## Consisting (MU)

If the loco you select is the “top” loco in a consist the Status light will blink Green, and you have complete control over the consist speed, direction and the functions on the “top” loco.

When you’ve selected a consist member that is not the “top” loco, the status light will show steady Orange and the UT4D will control only the functions of the loco. You will not have throttle, forward/reverse direction or brake control of the consist. This is normal. The UT4D is not designed to make up or break up consists, but can control functions of individual consist members.

## The Function Keys: Controlling lights and sounds

There are 7 function keys and a SHIFT key on the UT4D for controlling functions F0-F12. Functions F0-F6 are controlled by pressing the corresponding key. F7-F12 are controlled by using the SHIFT key with the function keys. To use functions F7-F12 you must *press and hold down* the SHIFT key on the lower left row as you press the F7 through F12 key. The function keys toggle on and off with *each press*, except for F2, which is ON only when held down, and OFF when released. The F2 key has a ‘Hold’ feature that can be set by holding the F2 key down for 15 seconds. Tapping F2 again turns it off.

## Duplex Radio and Infrared Operation:

The UT4D has wireless Duplex radio capability for layouts that are equipped with one or more UR92 Duplex transceivers within range. The UT4D will not modify the UR92 Group Name or Channel#. UT4D will not work with UR91 simplex radio receivers in radio mode but can be used as infrared or walk-around on simplex radio layouts.

### Duplex operation:

1. Install a known good 9 volt battery into the UT4D.
2. Plug the UT4D into a LocoNet port to get the Group Name
3. When the UT4D is unplugged from LocoNet, the unit will automatically change to Duplex mode and generally operate as if it were plugged in.

### Infrared operation:

In addition to Duplex Radio capability, your UT4D is equipped with infrared emitters that allow it to work on layouts that are equipped with one or more operating UR90 and/or UR91 infrared receivers.

1. Install a known good 9 volt battery into the UT4D
2. With the UT4D plugged in to LocoNet, dial up the address using the 4 rotary address selectors and press SEL to acquire the locomotive address.



3. Unplug the UT4D from LocoNet. The throttle will automatically shift into infrared operation. Any UR90/91 unit that sees infrared commands will blink a red led to show the message was received OK.

In infrared mode you can control: Locomotive speed, Direction, Brake and, Functions F0-F8 (F9 and above are not available in IR mode). *You must plug in to select a new loco address while in IR mode.* To Select, Dispatch or Steal another loco when in IR mode *you must plug the throttle into a LocoNet.*

#### **UT4D Battery Conservation Mode (Sleep Mode):**

The UT4D has an automatic battery conservation mode when not connected to a LocoNet port. After about 8 seconds of no action, the normal Status light blink rate, either green or red, of about once per second will slow down to once every 3 seconds to show the UT4D is conserving battery power. Any user action will exit this mode automatically and the Status light will return to the faster blink rate.

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UT4D is covered covered by US patent 6,275,739 and others.

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

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UT4D

Duplex Equipped Radio Utility Throttle

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**Complete Train Control**

## Main Station

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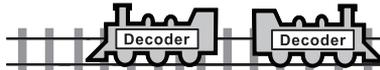
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## Locomotive Shops

Mobile Decoders  
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## More Fun For Everyone

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Universal Panels



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## Maintenance Of Way

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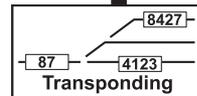
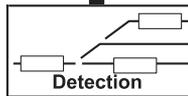
Stationary Decoders

Signals

## Computer Controls

Computer Interface  
Decoder Programmer  
Sound Programmer

## It All Adds Up To Complete Train Control

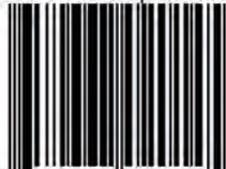


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